Music, Education and ADHD
An exploratory multiple case study

Eva Margaret Wilde

Thesis submitted for the degree of
Doctor of Philosophy

UCL Institute of Education

2018
Declaration

I, Eva Margaret Wilde, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.
Dedication

As promised, this thesis is dedicated to Tim and Jan. These two young boys, both brilliant musicians, were my initial inspiration and the vital spark for conducting this study and researching into music, education and ADHD.
Acknowledgements

First and foremost, I wish to express my heartfelt gratitude to Professor Graham Welch. From our very first meeting until the completion of this study, he has been an endless source of inspiration, encouragement, support and guidance. His thought provoking and wise words have enabled me to be a critical thinker and keen observer. Also, I have great admiration for his unmatched dedication and service to the field of music education. He is truly a role model to me. Last but not least, this journey would not be as joyful without his great humour and lightness in all aspects.

I would also like to thank all study participants, parents, teachers, tutors and schools, without whom this study would not have been possible. I am very grateful for their enthusiasm and willingness to contribute to this research.

I also wish to thank the people that I have encountered during my studies. All of them have been supportive and very encouraging. In particular, I am deeply grateful for Family Guo-Fisher, Penny and the un-cat-like cat Ozzie who all have given me shelter and welcomed me very warmly into their lives.

Special heartfelt thanks go to all my students who have been very understanding and cheering me on during this time, not least by sending me loads of good wishes and chocolate.

To my family, I am deeply grateful for their eternal support and love.
Abstract

There is a substantial body of research to indicate the potential wider benefits of sustained, effective musical activity on children’s intellectual, social and emotional development, including children with special needs. However, there is limited research evidence concerning music education and young people diagnosed with Attention Deficit Hyperactivity Disorder (ADHD), whose symptoms can negatively affect behaviour and development at both home and school.

Accordingly, following an exploratory pilot action case study, the intention of this multiple case study approach was to investigate how and to what extent ADHD behaviour is evidenced in a music education context. The methodology of the main study included structured observations in three different case studies, including between- and within-case contrasting settings. Real-time observational data were gathered overall several weeks, supported by video, and subjected to analysis and synthesis in terms of both musical behaviours and development and ADHD profiles. Observational contexts embraced small group music-making, one-to-one studio-based lessons, group instrumental lessons and orchestra rehearsals of Primary and Secondary school-aged pupils with a formal assessment of ADHD across several school terms.

Overall, the three core attributes of ADHD (inattention, hyperactivity and impulsivity) were evidenced at different moments during the case study music education programmes. However, data analyses suggest that ADHD symptoms can be less entirely absent in the actual musical acts of playing and performing. Furthermore, analyses of the data suggest that the perception of ADHD in music is likely to be related to the pedagogical approach and the way that the educational experience is set up. In particular, the evidence suggests that an effective and inclusive musical strategy can integrate ADHD behaviour into successful individual and collective music making. Conversely, negative attitudes towards ADHD behaviour can hinder teachers’ effective practices and enhance an adverse perception of such behaviour. Additionally, it was noted that all non-ADHD participants occasionally showed ADHD symptoms in their music classes.

Consequently, the research findings suggest that, in spite of ADHD’s generally impairing symptoms, it is possible for an individual with ADHD to engage successfully in music and acquire musical skills. Moreover, when the pedagogy is effective, ADHD need not be a hindrance, but can be integrated into active music making.
Impact Statement

This study was rooted in a general lack of research literature reporting how children and young people with a formal diagnosis of Attention Deficit Hyperactivity Disorder (ADHD) engage in music education. This limited knowledge base embraces both ADHD learning in music and also on appropriate pedagogy to support their music learning.

The overall aim of this study has been to provide an understanding of if children and young people diagnosed with ADHD can engage in musical activities over time. The findings on music learning are generally positive, although tempered by context. The findings of this study suggest that there may be diverse contextual factors that impact positively as well as negatively on these individuals’ musical experiences. Having a formal diagnosis of ADHD need not be a barrier to musical behaviour and development, as it has been observed that ADHD-type behaviours can be integrated into the music making process and also seem to be absent in the moment when such individuals are actively musically engaged.

Nevertheless, engagement and success appear to be closely related to the quality of the music education provided. These, in turn, are linked to teacher perception and pedagogical approach, in line with research findings on what counts as effective music education with neurotypical as well as neurodiverse children and young people. The findings add to our understanding of music education in the context of special educational needs and disabilities (SEND). The study provides positive research data that can be useful to professionals in the field of music education as well as parents and carers of pupils with ADHD. Firstly, ADHD pupils have an ability to engage successfully in music education despite their diagnosis and any indications that they may not achieve highly academically. Secondly, as in music education with other groups (and in general), this study confirms the importance of effective pedagogical practice, including the need for teachers to have positive attitudes towards teaching such individuals. Furthermore, the findings imply that these individuals can gain from systematic education in music, not least because they can experience moments of non-ADHD symptoms whilst engaging actively in the music making process. This insight can also inform practitioners and policy makers of the likely nature of education in and through music for children and young people with ADHD and who, in turn, can use this to enable access to music education, including instrumental learning, for pupils with ADHD who might otherwise not get the opportunities. In addition, this study offers insights into the extent to which ADHD manifests itself in individuals whilst engaging in
systematic music education and, by extension, promote fruitful debates of how these music-related findings might inform general educational provision for pupils ADHD.

This research’s findings and limitations provide a basis for future research into education in music and ADHD, as well as hopefully supporting the need for additional research into education in music for those with other special educational needs and disabilities as well as neurotypical individuals.
Table of Contents

Declaration ..................................................................................................................................... 2
Dedication ..................................................................................................................................... 3
Acknowledgements ..................................................................................................................... 4
Abstract ....................................................................................................................................... 5
Impact Statement .......................................................................................................................... 6
Table of Contents .......................................................................................................................... 8
List of Figures ................................................................................................................................ 15
List of Tables ................................................................................................................................ 19

Part 1 Introduction and Literature

Chapter 1 Introduction and Context

1.1 Introduction .............................................................................................................................. 20
1.2 Research aims and research questions to this study ................................................................. 23
1.3 Background to the study ......................................................................................................... 24
1.4 Overview of the thesis ............................................................................................................. 25

Chapter 2 The Characteristics of Attention Deficit Hyperactivity Disorder (ADHD)

2.1 The presence and prevalence of ADHD .................................................................................. 26
2.2 Early depictions of ADHD ...................................................................................................... 31
2.3 History of terminology ............................................................................................................ 33
2.4 Classification and recognized symptoms of ADHD ................................................................. 34
   2.4.1 The Diagnostic and Statistical Manual of Mental Disorders (DSM) ................................. 34
   2.4.2 The International Statistical Classification of Diseases and Related Health Problems (ICD) ........................................................................................................................................... 37
2.5 The diagnosis of ADHD .......................................................................................................... 43
2.6 Comorbidity .............................................................................................................................. 45
2.7 ADHD in the course of a lifespan ............................................................................................ 46
2.8 Treatments ................................................................................................................................. 48
2.9 The neuroscience of ADHD .................................................................................................... 49
2.10 Living with ADHD (RQ3) ...................................................................................................... 50
   2.10.1 Living with ADHD – an educational perspective ........................................................... 50
   2.10.2 ADHD in the classroom – effective teaching and learning practice ............................ 52
2.11 ADHD and special education ................................................................................................. 58
Chapter 3 Music Education and Special and Educational Needs and Disabilities (SEND)

3.1 Wider benefits of music on children and young people’s development (RQ 2)...........60
3.2 Education through and in music for young people with SEND (RQ 1, 2, 3).............64
  3.2.1 Music therapy – An education through music...............................................64
  3.2.2 Education in music ..................................................................................71
3.3 The Sounds of Intent Musical Development Framework for Children and Young People with Special Needs and Disabilities (RQ 1).................................................................74
  3.3.1 The history of the establishment of the Sounds of Intent framework .............74
  3.3.2 The Sounds of Intent framework design....................................................81
3.4 Effective practice in music education (RQ 3).........................................................85
  3.4.1 Office for Standards in Education, Children’s Services and Skills...............85
  3.4.2 The Inspire-Music effective practice framework ............................................90
  3.4.3 The Every Child Achieving their Potential programme..................................94
  3.4.4 Synthesis of frameworks of good and effective music education practice ......98
3.5 Urban and social environment, learning space and (musical) behaviour (RQ 3) ....101
  3.5.1 Urban societies and music education.........................................................102
  3.5.2 Classroom environment.............................................................................103
  3.5.3 Potential distractors in instrumental lessons for pupils with ADHD .............104
3.6 The under-represented area of research in music education for children with ADHD (RQ 1, 2, 3).................................................................................................105
  3.6.1 Research on effects from music on ADHD characteristics.........................105
  3.6.2 ADHD and music therapy............................................................................112
  3.6.3 ADHD and education in music ....................................................................116
    (a) Example 1.................................................................................................116
    (b) Example 2 .................................................................................................119
    (d) Example 3 .................................................................................................122

Part 2 Research Design and Findings

Chapter 4: Research Aims and Methodology

4.1 Summary and conclusion of Part 1 ......................................................................127
4.2 Research aims and research questions (RQ 1, 2, 3)...........................................129
4.3 The researcher’s lens .......................................................................................130
4.4 Research approach ............................................................................................................................................. 132
  4.4.1 A multiple case study design .......................................................................................................................... 133
4.5 A preliminary exploratory action case study – a pilot study ........................................................................... 138
  4.5.1 Aims of exploratory pilot action case study .................................................................................................. 138
  4.5.2 Methods ....................................................................................................................................................... 138
  4.5.3 Findings ....................................................................................................................................................... 141
  4.5.4 Conclusion .................................................................................................................................................... 143
  4.5.5 Implications for the main study approach .................................................................................................... 144
4.6 Data collection strategies (RQ 1, 2, 3) ............................................................................................................... 145
  4.6.1 Observations ................................................................................................................................................ 145
  4.6.2 Formal documents ...................................................................................................................................... 146
  4.6.3 Open ended informal conversations ........................................................................................................... 147
4.7 Analysis (RQ 1, 2, 3) ......................................................................................................................................... 147
  4.7.1 Analytical considerations .............................................................................................................................. 147
  4.7.2 The Application of the Sounds of Intent framework ....................................................................................... 149
  4.7.3 Video analysis of recorded lessons-statistical considerations ...................................................................... 149
  4.7.4 The analysis of effective music provision .................................................................................................... 151
4.8 Research Phases ................................................................................................................................................. 153
  4.8.1 Phase 1: Initial explorations and preparations .............................................................................................. 153
  4.8.2 Phase 2: A preliminary exploratory action case study – a pilot study .......................................................... 154
  4.8.3 Phase 3: Main study data collection ............................................................................................................. 154
  4.8.4 Phase 4: Data analyses and reporting ............................................................................................................ 155
4.9 Selection of cases – choice of settings and recruitment of participants ............................................................. 155
4.10 Ethical Considerations ..................................................................................................................................... 158
4.11 Validity of the study ......................................................................................................................................... 158

Chapter 5. Case Analyses of Simon and Kevin

5.1 Description of the case environment and framework of instrumental learning (RQ 3) 160
  5.1.1 Learning and teaching environment ........................................................................................................... 160
  5.1.2 Concept of instrumental tuition provision .................................................................................................. 161
  5.1.3 Programme content, learning space and lesson proceedings ....................................................................... 162
5.2 Academic and medical (ADHD) profiles of case individuals ........................................................................... 166
  5.2.1 Simon’s medical and academic profile ......................................................................................................... 166
  5.2.2 Kevin’s medical and ADHD profile ............................................................................................................. 169
5.3 Analyses of musical abilities and engagement using the SOI framework (RQ 1) 172
5.3.1 Analyses of Simon’s musical abilities and engagement ........................................... 172
   (a) Reactive musical behaviours ............................................................................. 172
   (b) Proactive musical behaviours .......................................................................... 174
   (c) Interactive musical behaviours ......................................................................... 177
   (d) Summary ........................................................................................................ 179
5.3.2 Analyses of Kevin’s musical abilities and engagement ........................................ 180
   (a) Reactive musical behaviours ............................................................................. 181
   (b) Proactive musical behaviours .......................................................................... 183
   (c) Interactive musical behaviours ......................................................................... 185
   (d) Summary ........................................................................................................ 187
5.4 Analyses of ADHD profiles during the music programmes (RQ 2, 3) ....................... 188
5.4.1. Simon’s ADHD profile as perceived during the programme ............................... 188
   (a) Simon’s ADHD-like behaviour in aggregate ..................................................... 188
   (b) ADHD behaviour in the act of engagement in music ....................................... 195
   (c) Simons actions in aggregate ............................................................................ 198
   (d) Lesson Example ............................................................................................... 200
5.4.2 Kevin’s ADHD profile during the programme ................................................... 206
   (a) Analyses of Kevin’s ADHD-like behaviour in aggregate ................................. 206
   (b) ADHD behaviour in the act of engagement in music ....................................... 212
   (c) Kevin’s actions in aggregate ............................................................................ 214
   (d) Lesson Example ............................................................................................... 217
5.5 Analysis of the teaching and learning context and effectiveness of music provision in this programme (RQ 3) .............................................................. 223
5.5.1 Rating of the programme’s content ................................................................ 224
5.5.2 Rating of the programme’s teaching ............................................................... 225
5.5.3 Rating of the programme’s learning ............................................................... 228
5.5.4 Rating of the Music Provision Overall ......................................................... 231
5.6 Summary .......................................................................................................... 232

Chapter 6. Case Analyses of Daniel (Setting 1)

6.1 Description of the case study environment and framework of the instrumental learning programme (RQ 3) .............................................................. 234
6.1.1 Learning and teaching environment ............................................................... 234
6.1.2 Concept of instrumental tuition provision ..................................................... 235
6.1.3 Programme content, learning space and lesson proceedings ....................... 236
6.2 Daniel’s academic and ADHD profile ............................................................... 239
6.3 Analyses of Daniel’s musical profile and abilities, engagement and development using the SOI Framework (RQ 1) .......................................................... 242
6.3.1 Reactive musical behaviours .......................................................... 243
6.3.2 Proactive musical behaviours ......................................................... 245
6.3.3 Interactive musical behaviours ......................................................... 247
6.3.4 Summary ....................................................................................... 249
6.4 Daniel’s ADHD profile during the programme (RQ 2, 3) ...................... 250
6.4.1 Analyses of Daniel’s ADHD-like behaviour in aggregate ....................... 250
6.4.2 ADHD behaviour in the act of engagement in music .......................... 253
6.4.3 Daniel’s actions in aggregate .......................................................... 253
6.4.4 Lesson Example ............................................................................. 256
6.5 Analysis of the teaching and learning context and the effectiveness of the music provision in percussion lessons (RQ 3) .................................................. 262
6.5.1 Rating of the programme’s content .................................................. 262
6.5.2 Rating of the programme’s teaching ............................................... 263
6.5.3 Rating of the programme’s learning ............................................... 264
6.5.4 Rating of the music provision overall ............................................ 266
6.6 Summary ....................................................................................... 266

Chapter 7 Case Analyses of Daniel (Setting 2)

7.1 Description of the case environment and framework of instrumental learning programme (RQ 3) .......................................................... 268
7.1.1 Learning and teaching environment and concept of music ............... 268
7.1.2 Programme content, learning space and lesson proceedings .......... 270
7.2 Analyses of Daniel’s musical abilities, engagement and development using the SOI framework (RQ 1) .......................................................... 273
7.2.1 Reactive musical behaviours .......................................................... 274
7.2.2 Proactive musical behaviours ......................................................... 276
7.2.3 Interactive musical behaviours ......................................................... 278
7.2.4 Summary ....................................................................................... 280
7.3 Daniel’s ADHD profile during the programme (RQ 2, 3) ...................... 282
7.3.1 Analyses of Daniel’s ADHD-like behaviour in aggregate ....................... 282
7.3.2 ADHD behaviour in the act of engagement in music .......................... 287
7.3.3 Daniel’s actions in aggregate .......................................................... 290
7.3.4 Lesson Example ............................................................................. 292
7.4 Analysis of the teaching and learning context and effectiveness of music provision in this programme (RQ 3) .......................................................... 298
Part 3 Discussion, Summary and Conclusions

Chapter 8 Discussion

8.1 Introduction ................................................................. 306
8.2 Musical behaviours of children and young people diagnosed with ADHD (RQ 1) .... 307
  8.2.1 Musical behaviours in the Reactive domain .......................................... 308
  8.2.2 Musical behaviours in the Proactive domain ........................................... 310
  8.2.3 Musical behaviour in the Interactive domain ........................................... 312
  8.2.4 Reactions to the pupils' spontaneously exhibited musical behaviours .......... 314
8.3 Discussion of ADHD profiles and types of behaviours in the study (RQ 2, 3) .......... 316
  8.3.1 The various ADHD profiles in this study ................................................. 316
  8.3.2 The exhibited symptoms in this study ..................................................... 317
8.4 ADHD in and through music (RQ 2) .................................................................. 319
  8.4.1 ADHD occurrence in the process of musical engagement ......................... 319
  8.4.2 Integration of ADHD behaviour into the music making ............................. 320
8.5 Factors to impact on behaviour (ADHD) and musical outcomes (RQ 3) ............ 321
  8.5.1 External stimuli to impact on challenging behaviour .................................. 321
  8.5.2 Teaching context as influencing factor for musical and personal behaviour .... 323

Chapter 9 Summary and Conclusion

9.1 Summary of the study ............................................................................. 326
9.2 Revisiting the research questions (RQ 1, 2, 3) ........................................... 328
  9.2.1 (RQ 1) Can pupils diagnosed with ADHD engage successfully in music education? ................................................................. 328
  9.2.2 (RQ 2) Do presentations of ADHD change through engagement in music, and, if so, how? ................................................................. 328
  9.2.3 (RQ 3) Does the educational context and type of pedagogy shape their musical experience and attainments? ................................. 330
9.3 Implications of the study ......................................................................... 331
9.4 Limitations of the study and methodological issues ...................................... 331
9.5 Recommendations for policy and practice ............................................... 332
9.6 Recommendations for future research ................................................................. 334
9.7 Conclusions ........................................................................................................... 334
  9.7.1 Summary of key findings ................................................................................. 330
  9.7.2 Summary of recommendations and implications ........................................... 330

Bibliography .................................................................................................................. 337

Appendices ..................................................................................................................... 363
Appendix 1: Instrumental tuition for young people with SEND in the context of group
  tuition with non-SEND pupils .................................................................................. 363
Appendix 2: The Sounds of Intent Framework descriptors ........................................ 368
Appendix 3: The Sounds of Intent session form .......................................................... 369
Appendix 4: The Sounds of Intent Framework ............................................................. 370
Appendix 5: Section on effective music pedagogy from Ofsted’s report ‘Making more
  of music: An evaluation of music in schools 2005/08’ ............................................. 371
Appendix 6: Section on effective music pedagogy from Ofsted’s report ‘Music in
  schools: wider still, and wider’ ............................................................................... 377
Appendix 7: The Inspire-Music effective practice framework ...................................... 383
Appendix 8: Excerpt of observation grid for video analyses ....................................... 387
Appendix 9: Excerpt of observation grid and analysis codebook ................................. 388
Appendix 10: Transcript of percussion lesson ............................................................. 389
Appendix 11: Example of Sounds of Intent session form for Simon ............................ 396
Appendix 12: Exemplar consent form ....................................................................... 397
Appendix 13: Exemplar information sheet for participants’ parents/carers ................. 399
List of Figures

Figure 3.1 The representation of the SoI domains.................................................................81
Figure 3.2 The representation of the six developmental stages within each domain........82
Figure 3.3 The representation of the six developmental stages with descriptions..........83
Figure 3.4 Key factors and their relationship generating effective music education provision......101
Figure 4.1 The structure of an activity system..................................................................131
Figure 4.2 The effective music education provision scale..................................................153
Figure 5.1 Seating arrangement A.....................................................................................164
Figure 5.2 Seating arrangement B.....................................................................................164
Figure 5.3 Seating arrangement C.....................................................................................165
Figure 5.4 Seating arrangement D.....................................................................................165
Figure 5.5 Simon’s observed musical behaviours in the Reactive domain..................174
Figure 5.6 Simon’s invented rhythmical pattern with names of note length................175
Figure 5.7 Example of a keyboard exercise.......................................................................175
Figure 5.8 The programmes instrumental piece Beethoven’s Ode to Joy.......................176
Figure 5.9 The programme’s instrumental piece ‘Go for It!’.............................................176
Figure 5.10 Simon’s composed piece................................................................................176
Figure 5.11 Observed musical behaviours in the Proactive domain.............................177
Figure 5.12 Observed musical behaviours in the Interactive domain.........................178
Figure 5.13 Representation of the Sounds of Intent Framework data of Simon’s behaviours embracing all three dimensions.................................................................180
Figure 5.14 Kevin’s observed musical behaviours in the Reactive domain...............182
Figure 5.15 Advanced fingering of the beginning of one keyboard exercise..................183
Figure 5.16 A raw beginner’s fingering of the beginning of one keyboard exercise.........183
Figure 5.17 Illustration of the repetition of keys and names of notes...............................184
Figure 5.18 Kevin’s invented rhythmical pattern with names of note length................184
Figure 5.19 Kevin’s observed musical behaviours in the Proactive domain.................185
Figure 5.20 Kevin’s observed musical behaviours in the Interactive domain...............186
Figure 5.21 Representation of the Sounds of Intent Framework data of Kevin’s behaviours embracing all three SoI dimensions..................................................187
Figure 5.22 The frequency of Simon’s ADHD symptoms.................................................189
Figure 5.23 Simon’s behaviour in a moment of disruption [13.03.17].............................190
Figure 5. 24 Simon’s ADHD behaviour and non-ADHD behaviour in aggregate..........194
| Figure 6.5 | Representation of the Sounds of Intent Framework data of Simon’s behaviours embracing all three dimensions. | 249 |
| Figure 6.6 | The frequency of Daniel’s ADHD symptoms in his percussion lessons | 250 |
| Figure 6.7 | Daniel’s behaviour in a moment of discussion with his tutor (16.05.2017) | 252 |
| Figure 6.8 | Daniel’s ADHD behaviour in percussion lessons in aggregate | 252 |
| Figure 6.9 | Example rating of Daniels’s non-ADHD behaviour when playing the instrument [13.06.2017] | 253 |
| Figure 6.10 | Daniel’s profile of actions in aggregate over one school term | 254 |
| Figure 6.11 | Severity and moments of symptoms | 255 |
| Figure 6.12 | Daniel’s ADHD profile in percussion lesson [16.05.2017] | 256 |
| Figure 6.13 | Figure Daniel’s behaviours as a % in relation to each other [16.05.2017] | 259 |
| Figure 6.14 | Daniel’s actions in lesson [16.05.2017] | 260 |
| Figure 6.15 | Tutor’s actions in lesson [16.05.2017] | 261 |
| Figure 6.16 | Overall rating for the content domain | 262 |
| Figure 6.17 | Tutor’s actions in aggregate | 263 |
| Figure 6.18 | Overall rating for the teaching domain | 264 |
| Figure 6.19 | Daniel’s actions in aggregate (playing and non-musical actions) | 264 |
| Figure 6.20 | Overall rating for the learning domain | 265 |
| Figure 6.21 | Overall rating for the music provision by creating mean rate | 266 |
| Figure 6.22 | Overall rating for the music provision by considering overall grades | 266 |
| Figure 7.1 | Typical setup of the orchestra for an improvisation workshop | 271 |
| Figure 7.2 | Original setup of orchestra for a main rehearsals | 272 |
| Figure 7.3 | Daniel’s observed musical behaviours in the Reactive domain | 276 |
| Figure 7.4 | Daniel’s observed musical behaviours in the Proactive domain | 278 |
| Figure 7.5 | Daniel’s observed musical behaviours in the Interactive domain | 280 |
| Figure 7.6 | Representation of the Sounds of Intent Framework data of Daniel’s behaviours embracing all three dimensions | 282 |
| Figure 7.7 | The frequency of Simon’s ADHD symptoms | 283 |
| Figure 7.8 | Daniel’s ADHD behaviour in orchestra rehearsals in aggregate in % | 287 |
| Figure 7.9 | Example rating of Daniel’s non-ADHD behaviour when conducting | 288 |
| Figure 7.10 | Example rating of Daniel’s non-ADHD behaviour when playing the instrument and listening | 288 |
| Figure 7.11 | Daniel’s Actions in aggregate [orchestra rehearsals] | 290 |
Figure 7.12 Severity of ADHD symptoms and moments of symptoms in orchestra rehearsals

Figure 7.13 Daniel’s ADHD profile in orchestra rehearsal [16.07.2016]

Figure 7.14 Simon’s behaviours in percental relation to each other for lesson 16.07.2016

Figure 7.15 Daniel’s actions in rehearsal [16.07.2016]

Figure 7.16 Lesson sections of rehearsal [16.07.2016]

Figure 7.17 Lead tutor’s actions in rehearsal [16.07.2016]

Figure 7.18 Overall rating for the content domain

Figure 7.19 Rehearsal sections in aggregate

Figure 7.20 Overall rating for the teaching domain

Figure 7.21 The amount of Daniel’s actions in % in aggregate in orchestra rehearsals

Figure 7.22 Overall rating for the learning domain

Figure 7.23 Overall rating for the music provision by creating mean rate

Figure 8.1 Representation of the Sounds of Intent Framework data of Simon, Kevin and Daniel’s behaviours embracing all three dimensions

Figure 8.2 Simon, Kevin and Daniel’s observed musical behaviours in the Reactive domain

Figure 8.3 Simon, Kevin and Daniel’s observed musical behaviours in the Proactive domain

Figure 8.4 Simon, Kevin and Daniel’s observed musical behaviours in the Interactive domain

Figure 8.5. Presence of certain ADHD symptoms in different lesson phases
List of Tables

Table 2.1 Possible presentations of ADHD with severity according to DSM-V..........................36
Table 2.2 Possible presentations of Hyperkinetic Disorder..........................................................37
Table 2.3 A synthesis of recognised symptoms and characteristics of ADHD ..........................40
Table 2.4 Symptoms and characteristics of ADHD as per DSM-V..........................................41
Table 2.5 Symptoms and characteristics of ADHD as per ICD-10/ICD-11..................................42
Table 3.1 Concept and representation of Ofsted’s ‘Judging Music Provision framework’ (excerpt, Ofsted, 2009, p.72) for good and inadequate teaching.................................................................87
Table 3.2 Concept and representation of Ofsted’s ‘Characteristics of good and outstanding instrumental / vocal programmes framework’ (excerpt, Ofsted, 2009, p.75).........................87
Table 3.3 Representation of the inspire-music effective practice framework (excerpt)...............92
Table 3.4 Quality of teaching and learning observation form (excerpt).......................................97
Table 4.1 Outline of the cases and contexts ..............................................................................157
Chapter 1 Introduction and Context

1.1 Introduction

This thesis reports a multiple case study that investigates musical engagement of children and young people diagnosed with Attention Hyperactivity Disorder (ADHD) in a music education context. Given the current debates and presence in social media with regard to treating and educating children with ADHD (ADDitudeMag, 2018, online1, CHADD, 2018, online2, ADHD Foundation UK online, 20183) it seems surprising that there is limited research evidence to provide an understanding of the various aspects of ADHD and music education.

ADHD is defined by specific problematic behaviour, the exact manifestation of which can vary depending on the subtype, which is defined by the particular constitution of a cluster of symptoms attributed to inattention, hyperactivity and impulsivity (World Health Organisation, 20184; American Psychiatric Association, 2013). The characteristically challenging behaviour that is associated with ADHD can adversely affect young individuals both at home and school. Furthermore, its prevalence is not to be underestimated. For example, according to the National Health Interview Survey (NCHS), in the years 2013-2015, approximately 10.4 percent of children between 5-17 years in the United States were regarded as having an official statement of Attention Deficit Hyperactivity Disorder (National Center for Health Statistics, 2017). Customarily, such individuals are seen as being impeded by their challenging behaviour and are at risk of academic failure and social exclusion (Tarver et al, 2014; American Psychiatric Association, 2013, DuPaul, Weyandt & Janusis, 2011). This poses a matter of serious concern for parents, carers, teachers and other educators involved in these young individual’s lives.

Drawing upon existing literature, there is a wealth and breadth of research evidence to suggest that successful engagement in music entails potential wider benefits on individuals’ health and wellbeing. In this respect, findings suggest that engaging in music can generate

1 See https://twitter.com/ADDitudeMag
2 See https://twitter.com/CHADD_ADHD
3 See https://www.adhdfoundation.org.uk/
4 See online: https://icd.who.int/browse11/l-m/en#/http%3a%2f%2fid.who.int%2ficode%2fentity%2f821852937 retrieved September 2018
benefits in multiple aspects, such as physical and mental health, self-regulation, cognition, social inclusion and academic performance. Active music making can enhance musical as well as non-musical abilities and nurture competences that are regarded to be important for social and emotional wellbeing (Welch & McPherson, 2018; Ockelford, 2012).

There is also evidence to indicate that the wider benefits of music are also seen in the framework of a group activity (Creech, 2016; Hallam, 2015; MacDonald, 2009, Welch et al, 2014). For example, research findings suggest that musical group interactions and improvisations can impact on socio-emotional competence and self-regulation and, therefore, help children in developing a greater sense of empathy (MacDonald, 2013; Rabinowitch, Cross & Burnard, 2013, Cross et al, 2012). Furthermore, there are studies that offer evidence to suggest that musical training may enhance school performance, as well as improve pupils’ experience of the quality of school life (Eerola & Eerola, 2013; Wetter et al, 2009).

Moreover, neurochemical changes and the effects from neuroplasticity-induced development from musical activities are widely suggested to, for example, impact on health by reducing stress (Fancourt et al., 2015; Khalfa et al., 2003, Kreutz et al. 2004), and releasing dopamine and causing a sensation of joy and euphoria (Altenmüller, 2004, Keitz et al., 2003, cited in Altenmüller & Schlaug, 2013; Salimpoor et al., 2011). Furthermore, it is reported that playing an instrument can improve musically relevant motor and auditory skills (Chen et al, 2012; Pantev & Herholz, 2011). In other words, engagement in music does not only seem to develop certain skills, but listening to music and active music making also enhances these (Welch & Ockelford, 2015). Hence, it can be summarised that engagement in music can not only advance musical competencies and foster musical development, but, by extension, also brings about other-than-musical advantages.

However, even though the positive impacts of music education on individuals are becoming more widely recognised, children and young people with special needs are still relatively under-reported in research in the fields of music education and music psychology (Jellison, 2000). What is more, there is still a commonly prevailing (mis)understanding that music education for such people is synonymous with music therapy (Ockelford, 2012, 2000).

Yet, music education is distinct from music therapy. Whereas, music education focuses on the learning and teaching of musical skills, music therapy generally uses sound and musical elements as tools to develop greater physical and mental wellbeing (Ockelford, 2012).
Notwithstanding such a dichotomy, studies related to music education for pupils with SEND suggest that despite their physical and/or mental predispositions, that they can successfully learn in music as well as through music (cf. Welch et al., 2018; Ockelford 2015, Welch et al, 2015; Welch & McPherson, 2012; Ockelford & Matawa, 2010; Ockelford, Pring, Welch, & Treffert, 2006).

Against this backdrop, it can be assumed at least hypothetically that there should be no reason for ADHD children not to engage in formal music education, irrespective of any individual predisposition to be impaired by certain ADHD characteristics. Yet, systematic training in music is virtually unreported for these individuals.

The interest in conducting this research on ADHD and music education with various related aspects is rooted in a general lack of research literature in this field. Although there is a widespread interest in understanding the needs and experiences of children and young people diagnosed with Attention Deficit Hyperactivity Disorder, little to no attention has been devoted to their musical abilities and the possible impact of music education on their health and wellbeing, cognitive skills, social and emotional development, and academic performance. Likewise, there is limited literature on the provision of systematic music education or best practice for such individuals – i.e., approaches and teaching strategies – in order for them to be enabled to develop musically to their fullest potential, notwithstanding their behavioural difficulties.

It has been shown in a number of studies that engaging in successful musical activities can improve personal development, promote health and wellbeing, and help cope with social exclusion (see MacDonald, Kreutz & Mitchell, 2012; Hallam, 2015; Welch et al 2014). As someone who teaches and performs music professionally, the researcher was aware of such benefits of music on individuals on a daily basis. The researcher’s professional work with children and young people suggested that this is also evidenced in those with special educational needs and disabilities (SEND). In particular, personal experience suggests that pupils with ADHD – in spite of their parents’ and teachers’ initial scepticism towards engaging in music and learning an instrument – have been observed to show a great musical understanding and make the remarkable musical progresses and personal developments. This experience aroused personal and professional interests and so the researcher started to look into this matter in more detail. However, there was hardly any publicly accessible literature in this field.
Subsequently, both the positive musical experience of young people diagnosed with ADHD and the lack of in-depth knowledge about the relation between ADHD-behaviour and music led to the pursuit of doctoral research on this and to investigate how children and young people with ADHD engage in music education in the hope that ultimately, such research can contribute to a new understanding of the relationships and interactions between these two topics – ADHD and music education.

A prime focus of this study was to investigate and understand how ADHD might present itself in real life music education contexts. Furthermore, it sought to explore the perception of ADHD in these contexts in order to gain insight of what might be seen as effective pedagogical practice. In particular, this research sought to uncover (a) how ADHD individuals engage in systematic music education and learn music, given their reported challenging behaviour and socio-emotional difficulties, and (b) whether their ADHD profiles might change and be perceived differently in the context of a music lesson and also through their engagement with music. Moreover, the study aimed to investigate how particular music provisions for ADHD pupils were presented, and the nature of any relationship between particular teaching approaches and strategies, and the relative success of (instrumental) music programmes with and for pupils diagnosed with ADHD. In short, the intention was to explore ADHD in music as well as through music.

1.2 Research aims and research questions to this study

Given that there is limited research related to sustained music education for pupils diagnosed with ADHD, the aim of this study was to investigate the nature of these individuals’ engagement in systematic music education contexts. The following research questions (RQ’s) were formulated:

RQ 1  Can pupils diagnosed with ADHD engage successfully in music education?

RQ 2  Do presentations of ADHD change in the moment of engagement in music and, if so, how?

RQ 3  Does the educational context and type of pedagogy shape their musical experience and attainments?
1.3 Background to the study

This study is rooted in the researchers own teaching experiences with instrumental and general music students of all ages, both with and without ADHD in many contexts in Germany and the UK. In her experience, the effect of music on various aspects of life was greatly underestimated. As someone who teaches and performs music professionally, she is aware of the benefits of music on individuals and their behaviour on a daily basis. Amongst all her students, however, it was the children and young people diagnosed with ADHD who particularly stood out.

Not only were such children regarded as very challenging or even unteachable at school, but, in many instances, they were also advised against learning a musical instrument due to a perceived inability to stay on task and to learn complex musical processes and motion sequences that are inherent to the learned instrument. Anecdotal experience suggested, however, that against all odds, these same children could absorb the musical information being provided as well as other neurotypical children in their age group. Their joy, motivation and learning of the skills to make music and listen to it yielded positive results. Anecdotally, it seemed that functions such as memory, learning and motor coordination had improved. Furthermore, these individuals possessed a good understanding of musical elements, such as pitch, rhythm and harmony, and were able to express themselves musically. Unfortunately, these abilities and improvements seemed to be rarely appreciated by their parents and teachers, who seemed to focus only on negative aspects of behaviour. On the contrary, parents of these students tended regularly to apologise for their child’s misbehaviours – occasionally even in advance – but which, however, rarely happened in the actual lesson. Consequently, some of these students stopped believing in themselves and their abilities. The researcher felt somewhat powerless in trying to promote (instrumental) music education for pupils with ADHD, in that it was difficult to persuade the parents or teachers that education in music for these children and young people was successful. This was the point at which the researcher wanted to know more about ADHD and education in music. Unfortunately, there was no literature available that addressed this topic both in general, and in particular, related to effective pedagogical practice. The latter aspect was motivated by the researcher’s interest into why, against all contrary beliefs, lessons with these pupils were successful. The dissatisfaction with the lack of literature provided a motivation to investigate for herself and start this research project in the framework of a doctoral study.
1.4 Overview of the thesis

This thesis contains nine chapters in total. Chapter 1 discusses the overall research issues against the backdrop of the study’s topic, and its perceived relevance and aims, as well as the researcher’s professional background and the rationale of conducting this research.

Chapter 2 reviews the literature related to Attention Deficit Hyperactivity Disorder (ADHD). It seeks to inform the reader of its process of diagnosis, characteristics, history, impacts on the affected individuals, and educational perspectives concerning the condition. Relevant literature is presented on each of these aspects. This chapter is intended to be broad in scope in order to ensure that a reader with limited or no knowledge about ADHD gains an understanding that can inform the subsequent fieldwork reports.

Chapter 3 presents an overview of current literature on the reported wider benefits of music on neurotypical and neuro-diverse individuals. In this chapter, therapeutic approaches (as education through music) and educational aspects of and benefits from active musical engagement (education in music) are illustrated. In addition, existing effective music education practice frameworks are discussed. Subsequently, the nature of the relatively limited existing literature on ADHD and music is described.

Chapter 4 addresses this study’s selected methodological framework that was regarded to be the best match in answering each of the research questions (RQ 1, 2, 3). The choice of a multiple case study, the design of the specific methods and analytical techniques are presented. The particular research procedure, type of participants and ethical issues are also discussed, as well as the details of the pilot study and its implications for the main study.

Chapters 5, 6 and 7 present data analyses from the main fieldwork. The case study contexts (RQ 3), case individual’s medical profiles and musical behaviours (RQ 1) are reported before moving on to analyses of the nature of music education and ADHD (RQ 2, 3). In Chapter 5, two case individuals are described who engaged in the same music education programme. Chapters 6 and 7 report on one individual, but in two separate music education settings.

Chapter 8 presents the discussion of this thesis’s findings (discussing and answering RQ 1, 2, 3), including data comparison across the four cases (pilot and main studies), with links to the literature reviews. Chapter 9 reflects on the research questions (RQ 1, 2, 3), application of methodological concepts, contribution to knowledge and limitations, as well as making recommendations for policy and practice, and future research.

The thesis concludes with the bibliography and appendices.
Chapter 2 The Characteristics of Attention Deficit Hyperactivity Disorder (ADHD)

2.1 The presence and prevalence of ADHD

In both this literature review chapter (Chapter 2) and the one that follows (Chapter 3), the evidence base is drawn from a variety of sources. These embrace empirical research (80%) as reported in scholarly and refereed sources (peer reviewed journals; 47.3%) and other scholarly texts embracing academic synthesis and commentary (academic book chapters; 33%). In addition, there is a small proportion of references overall related to news items publicly available on the web from reputable sources (7.4 %), official government and related agency reports (e.g., DfE, NHS, NICE, NiMH = 9.7%), and popular press (2.6%). The rationale for embracing this variety is to ground the research study in the multi-voiced perspectives that surround ADHD and its perception, as well as appropriate coverage of the relatively limited research literature on music and ADHD.

In recent years, there has been an increasing awareness of the existence of Attention-Deficit Hyperactivity Disorder (ADHD) and its impact on both individuals and society. The widespread presence of ADHD-related articles, books, scientific works and discussions on social media suggest that there is a significant interest and demand for more enlightenment and information on this condition. Not least, in 2016 ADHD was echoed by the media in the context of the American Olympic swimmer Michael Phelps, who won his 28th Olympic medal at the 2016 Olympic Games in Rio de Janeiro and became the most decorated Olympian of all times. Despite being diagnosed with ADHD at the age of 13 and experiencing challenges at school, he has shown that he was able to pursue a career and achieve highly. His teacher said that ‘he'll never succeed at anything’ and told his mother that ‘her son would never succeed at anything because he couldn't focus on anything for a long enough time’ (Wedge, 2016, cited in Psychology Today, retrieved online). Today, he is regarded as an ‘ADHD Role Model’ (Dutton, 2007). Nevertheless, the concept ADHD is complex and there is no agreed and uniform definition and nomenclature for the same set of symptoms and behaviour patterns underlying what is most commonly known as ADHD.

---

6 See https://www.additudemag.com/michael-phelps-adhd-advice-from-the-olympians-mom/?tos=accepted Retrieved online, October 2018
Consequently, this chapter section, aims to introduce ADHD and its definitions and descriptions drawing on a wide range of sources.

For instance, ADHD, together with ‘other-than-normal’ behaviour, is found to be listed amongst mental health problems and is characterized by symptoms such as inattention, motor restlessness or hyperactivity and impulsivity with underlying symptoms, and most often addressed in the context of children’s disorders (cf Mental Health Foundation, 2015; NICE clinical guideline 72, 2013). As ADHD is most commonly associated with abnormal behaviour in children, psychopathology⁷ as a topic has entered schools’ discourse, and mental health issues have become part of a ‘parlance of childhood’ (Harwood & Allan, 2014). The NHS for example, refers to ADHD as a mental disorder that is reported to be affecting one in ten school-aged children:

The best available estimates of the prevalence of mental disorders amongst children and young people are those from the Office for National Statistics surveys in 1999 and 2004. These found one in ten children aged between 5 and 16 years has a mental disorder. About half of these (5.8%) have a conduct disorder, 3.7% an emotional disorder (anxiety, depression), 1-2% have severe Attention Deficit Hyperactivity Disorder (ADHD) and 1% have neurodevelopmental disorders. The rates of disorder rise steeply in middle to late adolescence and the profile of disorder changes with increasing presentation of the types of mental illness seen in adults. (NHS, 2014 in Health Committee, 2014, retrieved online January 2016).

Taking the percentage of the reported 1–2% of affected school-aged children and matching it with the school population in the UK⁸, this would imply that approximately up to 162,000 children and young people were affected by ADHD in the UK at that time. Other estimates indicate that ADHD is prevalent in about 3–9% of both children and young people in the UK and approximately 2% of adults worldwide (NICE clinical guideline 72, 2013; Bergey, Filipe, Conrad & Singh, 2018). In contrast, according to the National Health Interview Survey (NCHS), in the years 2013–2015, approximately 10.4 % of children between 5-17 years in

---

⁷ Psychopathology, also called abnormal psychology, the study of mental disorders and unusual or maladaptive behaviours. An understanding of the genesis of mental disorders is critical to mental health professionals in psychiatry, psychology, and social work. One controversial issue in psychopathology is the distinction between dysfunctional, or aberrant, and merely idiosyncratic behaviours (Encyclopædia Britannica, 2016)

the United States were regarded as having an official statement of Attention Deficit Hyperactivity Disorder (National Center for Health Statistics, 2017).

In their systematic review, Polanczyk et al. (2007) had reviewed textbooks and reference lists of selected studies in order to ‘determine the possible causes of the varied worldwide estimates of the disorder and to compute its world-wide-pooled prevalence’ (Polanczyk et al., op cit., 2007). They report that the worldwide-pooled prevalence of ADHD/HD is 5.29%. Geographic location was associated with significant variability between estimates from North America and both Africa and the Middle East. No significant differences were found between Europe and North America. Whereas geographic location was not positively associated with prevalence, age and gender were. Related to gender, there are studies to suggest that more males are diagnosed with ADHD than females (cf Brown, 2013; Ramtekkar, Reiersen, Todorov, & Todd, 2010). Ramtekkar, Reiersen, Todorov, & Todd et al, (2010) have examined data related to ADHD in n=9380 individuals aged 7 to 29 years. They found that

[...] the prevalences [sic] of current inattentive and combined DSM-IV-like ADHD subtypes [are] significantly higher in males than females within each age group’ and further, for the hyperactive-impulsive DSM-IV-like ADHD subtype, the difference was statistically significant only in children. The ratios of DSM-IV-like inattentive and combined type ADHD prevalences in males versus females fell approximately between 2:1 and 3:1 and were highest in adolescents. For the predominantly hyperactive-impulsive subtype, the male: female ratio was about 2:1 in children, but was lower in adolescents and adults. [...] older age was significantly associated with current inattentive subtype diagnosis in children, while younger age was associated with current inattentive subtype diagnosis in adults. Also, younger age was associated with current combined subtype in adolescents. (Ramtekkar et al., 2010, p. 221)

Furthermore, the authors suggest that the lower number of females may derive from an under-diagnosis of this group (Ramtekkar, Reiersen, Todorov, & Todd, op. cit.). The discrepancy in the prevalence of ADHD among females and males might derive from referral bias (i.e., boys being more likely to be referred because of being perceived as ‘prototypical’ ADHD individuals), a low number of female participants in (non-clinical) studies, and under-diagnosis in females (Brown, 2013; Bruchmuller, 2012; Ramtekkar, Reiersen, Todorov, & Todd, 2010).
Furthermore, ‘studies based on DSM-III-R or ICD-10 criteria, respectively, have significantly lower ADHD/HD prevalence rates than those using DSM-IV criteria ($p=0.02$ and $p=0.005$, respectively)’ (Polanczyk et al., op cit., 2007, p. 945) A more recent study suggests a higher global prevalence of 7.2% (Thomas et al., 2015).

Consequently, a discrepancy in the size concept of ADHD might be assumed to lie in its repeated difference in terms of global prevalence and estimation. Hence, these numbers should be regarded with some caution because, at the time of finishing this thesis (Autumn 2018), no more recent data were available and it must be considered that numbers may have changed. Furthermore, there are factors to make an estimation difficult. Not only may different diagnostic criteria influence the number of diagnoses – as will be mentioned in Section 2.4 – but also the means for obtaining prevalence estimates can vary across studies (i.e., parents’ surveys or clinicians’ databases, or other sources), which in turn can impact on the estimations (Bergey, Filipe, Conrad & Singh, op. cit.). Consequently, the data regarding ADHD prevalence should be considered as indicators rather than representing current numbers of diagnoses.

In this context, ‘medicalization’\(^9\) is an important coexisting topic, which is often discussed when focusing on behavioural and mental health problems and the means of their therapy. It is being reported that ADHD ‘could become the leading childhood disorder treated with medications across the globe’ (Scheffler et al., 2007, p. 456). In this respect, it has been observed that children are being ‘medicated at earlier stages than ever before’ (Harwood and Allan, 2014, p. 2) and prescriptions of stimulant medicaments have risen, including prescriptions of stimulant drugs for ADHD. Whereas in 1998, approximately 22,000 prescriptions were made in England for stimulant drugs, the number of prescriptions had almost doubled by 2004 (NICE, 2006). Furthermore, reports indicate that methylphenidate hydrochloride is the leading medicine used in the treatment of ADHD. Its use has increased steadily since 2004. In contrast, the use of dexamphetamine, ‘which is used as an alternative treatment but is also used in narcolepsy, has fallen’ (Health and Social Care

---

\(^9\) Medicalization ‘is the process by which human conditions and problems come to be defined and treated as medical conditions, and thus become the subject of medical study, diagnosis, prevention or treatment. Medicalization can be driven by new evidence or hypotheses about conditions; by changing social attitudes or economic considerations; or by the development of new medications or treatments’ (Cram101 Textbook Reviews, 2012) or: A concept made fashionable by Ivan Illich and Michel Foucault, the term commonly denotes the spread of the medical profession’s activities, such as their increasing involvement in the processes of birth and dying. Greater power is usually assumed to follow increased pervasiveness. For that reason, the term may also be used to imply expansionist, imperialist strategies (Marshall, 1998).
Information Centre, 2015, p. 139). The recently updated NICE ADHD guideline (2018) offers advice for professionals and recommends the following medication for children aged five and over or young people:

[...] methylphenidate (either short or long acting) for children aged 5 years and over and young people if their ADHD symptoms are still causing a persistent significant impairment in at least one domain after their parents have received ADHD-focused information [...] lisdexamfetamine [...] dexamfetamine [...] atomoxetine. (NICE, 2018, retrieved online in 2018)\textsuperscript{10}

In addition to the aforementioned terms ‘mental disorder’ (National Institute of Mental Health, retrieved online, 2014\textsuperscript{11}) and ‘brain disorder’ (National Institute of Mental Health, retrieved online, 2018\textsuperscript{12}), ADHD has also been described as a neurodevelopmental disorder (Nussbaum, 2013, p. 194), or a heterogeneous behavioural syndrome (NICE clinical guideline 72, 2013). Additionally, ADHD is variously described as a psychiatric disorder (DSM-V, 2013), a neurodevelopmental disorder (Nussbaum, 2013, p. 194) and a heterogeneous behavioural syndrome (NICE clinical guideline 72, 2013). Furthermore, ADHD is also defined as syndrome of chronic impairments of various executive functions (Brown, 2013, p.22), and known as Hyperkinetic Disorder (HKD). It must be added that these terms and definitions of ADHD must be treated with caution. As can be seen above, the definition of ADHD on the National Institute of Mental Health’s website changed from ‘mental disorder’ to ‘brain disorder’ within a period of four years. This was noticed by the researcher whilst revisiting sources that were obtained in the early stages of this research. This indicates that – with every new insight into ADHD – definitions are likely to change over time. Therefore, the definitions mentioned in this study should perhaps be taken rather as illustrations of the complexity of ADHD rather than definite statement as to what ADHD is and what its causes are.

\textsuperscript{10} https://www.guidelines.co.uk/mental-health/nice-adhd-guideline/454106.article#footnote2

However, the phenomenon may be named, it is reported to impede the affected children and adolescents in different ways and across the lifespan (Tarver et al., 2014). The resultant impairment can be serious and result in low self-esteem, emotional and social problems and regular underperformance (Brown, 2013, Chandler, 2012, NICE, 2006; DSM, V, 2013; DSM-III, 1980; DSM-IV-TR, 2000; National Collaborating Centre for Mental Health, 2009).

For comprehensibility and uniformity in this thesis text, it was decided to confine the concept label to the term ADHD and assume that it comprises all the definitions rather than excluding some. Moreover, by acknowledging all these terms, there is no need to commit to what ADHD is or is not, as the causes are still unknown (see Chapter 2). The choice of the term ADHD is, next to hyperkinetic disorder, the most commonly known label that is used in public. Moreover, in taking all the definitions into account, it enables ADHD to be seen as a specific set of behavioural patterns with a set of particular underlying symptoms.

To conclude, ADHD seems to be complex in nature. Given that there is no globally and universally standardised nomenclature and definition of this set of various specific underlying symptoms, it is difficult to state what ADHD really is. Only the symptoms appear to be agreed across all definitions and countries, and the condition is reported to affect a not insignificant number of people, and its impacts can be severely impairing.

2.2 Early depictions of ADHD

Phrases such as ‘he’s ADHD’ or ‘that’s so ADHD’ (Harwood and Allan, 2014, p. 2) are reported to be very common. This seems remarkable, taking into account that the term did not exist until relatively recently. Therefore, it seems essential first to look at ADHD and explore its terminology from an historical perspective.

‘But fidgety Phil, he won’t sit still; he wriggles and giggles […] the naughty restless child growing still more rude and wild.’ (Hoffmann, 1846, p. 18). This description of fidgety behaviour is to be found in the popular story of Fidgety Philip, which is a children’s story in the illustrated book “Struwwelpeter” by the German physician Heinrich Hoffmann from the middle of the nineteenth century. This tale illustrates a family conflict that is caused by the fidgety, overactive behaviour of the son Philip, who cannot sit still. The tense atmosphere escalates and the story ends with Philip falling over together with the tablecloth, food and crockery. This tale clearly describes some attributes of children’s particular behaviour, which is credited to what is nowadays known as Attention Deficit Hyperactivity Disorder.
(ADHD). Although the term ‘ADHD’ is quite new, children with symptoms of ADHD had been described in medical and social literature during the last two centuries and many of the illustrated behavioural patterns correspond to the modern diagnostic criteria for ADHD (Lange et al., 2010).

One of the possibly first ever references of ADHD-like behaviour in medical literature is the descriptions of Melchior Adam Weikard in his textbook “Der Philosophische Arzt”. This book was published in 1775 and contains descriptions of many of the symptoms, which are now associated with the inattentive aspect of ADHD. ‘An inattentive person won’t remark anything but will be shallow everywhere. [...] They treat everything in a light manner since they are not attentive enough to feel denigration or disadvantages’ (cited in Barkley and Peters, 2012, p.627).

Another scientist, who described inattentiveness as a mental state and a kind of disorder, was the Scottish-born physician Sir Alexander Crichton. In 1798, he published his work “An inquiry into the nature and origin of mental derangement: comprehending a concise system of the physiology and pathology of the human mind and a history of the passions and their effects” in a series of three books. In one of the chapters, he defines attention and states that inattention is not necessarily pathological, but can be caused by nervous disorders. “It may be either born with a person, or it may be the effect of accidental diseases.” (Crichton, 1798, p.271). He also observed that a kind of congenital incapacity for attending becomes evident at a very early stage of life (Lange et al., 2010).

In March 1901, the British paediatrician Sir George Frederick Still held lectures at the Royal College of Physicians in London, namely “The Goulstonian Lectures: On Some Abnormal Psychical Conditions in Children”. In the framework of those lectures, Still described cases of a number of children with self-regulation difficulties and problems with sustained attention. He gave this phenomenon the umbrella term and description ‘Defect of Moral Control” as a result of neurobiological affliction. Moreover, he characterized the behaviour as ‘aggressive, passionate, lawless, inattentive, impulsive and overactive’ (Still, 1902, cited by Barclay, 1997, p.4). Still’s descriptions indicate that children at that time, too, showed symptoms potentially attributable to ADHD and, therefore, scientists are reported to consider the lectures to be the scientific beginning of the history of ADHD (Palmer and Finger, 2001 and Barkley, 2006a, cited in Lange et al., 2010), although the current term was not used at that time.
2.3 History of terminology

Whereas the symptoms of inattention, hyperactivity and impulsivity have previously been described and portrayed in historical literature, the whole concept of ADHD as defined in today’s classification systems is relatively new. Additionally, the terminology has changed and been modified throughout the last two centuries. For example, children affected by brain inflammation during a pandemic of encephalitis lethargica in 1917 were reported to have a tendency to be overactive, distractible and impulsive when they recovered. This residual effect was named ‘postencephalitic behaviour disorder’ (Barkley, 2006a, cited by Lange et al., 2010, p.246) and its presence aroused an interest in hyperactivity in children. Resulting findings of subsequent research were reported as essential to the further conceptualization of ADHD (Rafalovich, 2001).

Later, scientists such as the German physicians Hans Pollnow and Franz Kramer observed cases with similar symptoms and speculated that, whenever the particular behaviour pattern occurred, it may be the cause of a resulting or existing kind of damage to the brain (Bergey, Filipe, Conrad, Singh, 2018; Lange et al., 2010). Finally, a claimed correlation between behaviour disorders and brain damage became well established in the discourse (Barkley, 1997). Thus behavioural problems, which fit into the image of contemporary ADHD, were summarized in the terminology on brain damage (Lange et al., 2010). Subsequently, terms such as ‘brain injured child syndrome’, ‘minimal brain damage’, or ‘minimal brain dysfunction (MBD)’ evolved and changed throughout the following years (Barkley, 1997, p. 5).

However, in the 1960s critics questioned the argument that every child with ongoing abnormal behaviour was supposed to have minimal brain damage (Birch 1964, cited in Lange et al, 2010). They argued that the term ‘damage’ implied that there must had been an episode of injury with following anatomical change, but evidence for an injuring process and anatomical damage to the brain was often absent and, therefore, the term was not necessarily appropriate. So, eventually, the term was replaced by the term minimal brain dysfunction (MBD) (Ross & Ross 1976; Rothenberger & Neumärker 2005, cited in Lange et al., 2010). In addition, there was an attempt to create subgroups to differentiate between the different symptoms. A national task force to work on terminology and identification stated:

The term minimal brain dysfunction refers to children of near average, average or above average general intelligence with certain learning or behavioural disabilities
ranging from mild to severe, which are associated with deviations of function of the central nervous system. These deviations may manifest themselves by various combinations of impairment in perception, conceptualisation, language, memory and control of attention, impulse or motor function. (Clements 1966, cited in Lange et al, 2010, p. 251)

Finally, the concept of the main ADHD-characterizing symptoms, i.e., hyperactivity, inattention and impulsivity together, was defined and established and summarized in the definition ‘MBD’. This created the basis for future conceptualizations of ADHD (Clements, 1966, cited in Lange et al, p.201), a term which subsequently appeared in the late 1980s.

2.4 Classification and recognized symptoms of ADHD

These changes in perspective gave rise to further research and consequently new terms evolved such as ‘hyperactive child syndrome’ (Weiss & Hechtmann, 1979, p. 1348). In addition to the neurological perspective, it was now believed that children’s mental disorders arose as a consequence of and reaction to various environmental factors.

2.4.1 The Diagnostic and Statistical Manual of Mental Disorders (DSM)

In order to diagnose a (mental) disorder with certain underlying symptoms, a classification is needed that describes symptoms according to stated criteria and categories.

In current use, there are two main sets of diagnostic criteria. On the one hand, there is the ‘Diagnostic and Statistical Manual of Mental Disorders (DSM)’ (American Psychiatric Association, 2013) and on the other there is the ‘International Statistical Classification of Diseases and Related Health Problems (ICD)’ (World Health Organization, 2018). Whereas the first is mainly used in America, the latter is used more frequently in Europe (Chandler, 2010, p. 40).

The DSM is a guideline and categorical classification system for the diagnosis of psychological disorders. The categories are prototypes, and a person with a close approximation to the prototype can officially be diagnosed with that disorder. It is a reference guide and reported as being used by doctors, researchers, health insurances, the legal system and policy makers (Browne, 2017). In addition, it is consulted by alternative Classification Systems such as the ICD, created by the World Health Organization (WHO), to enable a more precise diagnosis. But since research is continuously presenting new
findings, these classification systems have to be constantly reviewed, modified and updated. In this respect, there have been several versions of the DSM (DSM-I, 1952; DSM-II, 1968; DSM-II seventh printing, 1974; DSM-III, 1980; DSM-IIIR, 1987; DSM-IV, 1994; DSM-IVTR, 2000, DSM-V 2013)\(^3\).

When the second edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-II, American Psychiatric Association, 1968) was completed, childhood disorders were categorized as reactions. This was the time when MBD was replaced by the term Hyperkinetic reaction of childhood (Barkley, 1997). The definition included the inclusion of inattention and distractibility, alongside hyperactivity and restlessness (Barkley, 1997).

This disorder is characterized by overactivity, restlessness, distractibility, and short attention span, especially in young children; the behaviour usually diminishes in adolescence. If this behaviour is caused by organic brain damage, it should be diagnosed under the appropriate non-psychotic organic brain syndrome. (DSM-II, 1968, p. 50)

Although scientists observed that many of the diagnosed children showed attention deficits without any evidence of additional hyperactivity, some thought that the criteria were not detailed enough (Anastopoulos & Shelton, 2001). However, the term appears to have been universally applied.

In the 70s, new research focused on problems with sustained attention and impulse control in addition to hyperactivity. At that time, significant problems in moral development were being associated with the disorder and a number of further studies on attention, impulsiveness and other following cognitive sequelae led to retitling the disorder as “attention-deficit disorder (ADD)” in the third version of DSM (DSM-III) (Barkley, 1997).

Now, DSM-III made a distinction between two types of ADD. On the one hand there was Attention-Deficit Disorder with existing hyperactivity and on the other hand the same disorder without it. In addition to this conception of ADD, several studies were conducted that examined the existence of more subtypes (Barkley, 2006a, cited in Lange et al., 2010). Each type was now examined separately. Moreover, hyperactivity and impulse control were seen as essential to differentiating the disorder from other conditions and, therefore,

---

the term ADD eventually expired with the revision in 1987 (DSM-III-R). The disorder was renamed Attention-deficit/hyperactivity disorder (ADHD) in 1987 (American Psychiatric Association, 1987).

In 1994, the DSM-IV presented three subtypes to the main concept of ADHD. These were the combined subtype, the predominantly hyperactive-impulsive subtype and the predominantly inattentive subtype (American Psychiatric Association, 2000). Those three subtypes were identified ‘on the basis of structured diagnostic interviews of multiple informants and of validation diagnoses’ (Lange et al, 2010, p. 253). Moreover, ADHD was finally recognized as a disorder, which is not exclusively a childhood disorder, but rather a persistent disorder that is considered possibly to remain into adulthood (Owens et al., 2017; Klein et al., 2012; Lange et al., 2010). In 2000, a text revision of the fourth edition (DSM-IV-R) was undertaken in order to correct any identified errors in the previous version. Nevertheless, the definition of ADHD was not changed (Fischer and Barkley, 2007).

The fifth edition of DSM was published in May 2013. It is stated that symptoms must be apparent in multiple settings for at least six months and present to a much greater degree than in others of the same age group. In addition, the symptoms must cause problems in the affected person’s academic, social or work life (American Psychiatric Association, 2013). Furthermore, ADHD could since then be specified by identifying its severity. The categories consist of a mild, moderate and severe impairment (American Psychiatric Association, 2013) (see Table 2.1).

Table 2.1 Possible presentations of ADHD with severity according to DSM-V (APA, 2013)

<table>
<thead>
<tr>
<th>ADHD DSM-V Types and Severity</th>
<th>Predominantly Inattentive Subtype</th>
<th>Predominantly Hyperactive-Impulsive Subtype</th>
<th>Combined Type</th>
<th>Otherwise Specified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild Impairment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderate Impairment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Severe Impairment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2.4.2 The International Statistical Classification of Diseases and Related Health Problems (ICD)

In May 1990, the forty-third World Health Assembly declared their approval of the ICD-10 and in 1994 it came into use in WHO Member States.

The International Classification of Diseases (ICD) is the standard diagnostic tool for epidemiology, health management and clinical purposes. This includes the analysis of the general health situation of population groups. It is used to monitor the incidence and prevalence of diseases and other health problems, proving a picture of the general health situation of countries and populations. (World Health Organization (WHO), retrieved online in 2014)

The ICD is used to translate diagnoses of diseases and other health problems into an alphanumeric code, which allows storage, retrieval, and analysis of the data. The ICD has become the international standard diagnostic classification for all general epidemiological and many health management purposes. These include analysis of general health situations of population groups, monitoring of incidence and prevalence of diseases, and other health problems in relation to other variables, such as the characteristics and circumstances of the affected individuals. (World Health Organization, retrieved online in 2018)

The ICD-10 gave the whole concept of ADHD and its symptoms the name Hyperkinetic Disorder. In addition, the term hyperkinetic conduct disorder is applied when a conduct disorder is present. Furthermore, Hyperkinetic Disorder can be subdivided into ‘disturbance of activity and attention’, or ‘other hyperkinetic disorders’ and ‘unspecified hyperkinetic disorders’ (World Health Organization, retrieved online in 2016) (Table 2.2).

Table 2.2 Possible presentations of Hyperkinetic Disorder

<table>
<thead>
<tr>
<th>Hyperkinetic Disorder</th>
<th>Disturbance of Activity and Attention</th>
<th>Other Hyperkinetic Disorder</th>
<th>Unspecified Hyperkinetic Disorder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hyperkinetic Conduct Disorder</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


15[https://icd.who.int/browse11/content/refguide.ICD11_en/html/index.html#1.1.0Part1purposeandmultipleusesofICD|part-1-what-is-icd-11|c1](https://icd.who.int/browse11/content/refguide.ICD11_en/html/index.html#1.1.0Part1purposeandmultipleusesofICD|part-1-what-is-icd-11|c1) Retrieved October 2018

In more detail, Hyperkinetic Disorder is classified as a psychiatric disorder of the neurodevelopmental disorder type (World Health Organization, op. cit.) which is characterized by ‘early onset; a combination of overactive, poorly modulated behaviour with marked inattention and lack of persistent task involvement; and pervasiveness, over situations and persistence over time of these behavioural characteristics’ (World Health Organization, 1993, p. 206, retrieved April 2016\textsuperscript{17}). Unlike the DSM, the consequences and influence of the disorder on the individual’s social life, which is an important issue in ADHD, are not referenced in the ICD-10 Criteria (Chandler, 2010). In addition, the ICD-10 approaches psychiatric disorders as a multiaxial classification system. It consists of six axes (Purtscher, retrieved online 2014; Remschmidt et al., 2012). The first axis addresses the clinical-psychiatric syndrome and the purpose is the acquisition of symptoms. The purpose of the second axis is the clarification of developmental disorders. Here, conspicuousness in perception, motor skills, concentration and language faculty are assessed. The third axis deals with the assessment of the intelligence level. The intelligence level is seen as important for diagnosing a possible developmental disorder. The fourth axis codes physical symptoms. It is essential to exclude physical causes for the psychiatric disorder. The fifth axis states the associated current abnormal psychosocial circumstances or social strains. The sixth axis deals with psychosocial behaviour in general and communication with others.

In June 2018, the World Health Organisation introduced an advance preview of the International Classification of Diseases 11th Revision (ICD-11), a revised version of the ICD-10 (WHO, 2018\textsuperscript{18}). It is stated that ‘the ICD can therefore be used to classify data recorded under headings such as ‘Diagnosis’, ‘Reason for admission’, ‘Conditions treated’ and ‘Reason for consultation’, which appear on a wide variety of health records from which statistics are derived, for treatment, prevention, or patient safety’ (WHO, 2018, op. cit.). Changes mainly concern the coding scheme and wording used in the classification system as well as the addition of a new chapter. ADHD/Hyperkinetic Disorder is now part of the grouping “neurodevelopmental disorders” which comprises mental retardation, disorders of psychological development, and behavioural and emotional disorders with onset usually occurring in childhood and adolescence. The term ‘attention deficit hyperactivity disorder’ is also listed and referred to ‘hyperkinetic disorders’ (WHO, 2018).

\textsuperscript{17} World Health Organization. The ICD-10 Classification of Mental and Behavioural Disorders. Retrieved April, 2016, from www.who.int/entity/classifications/icd/en/bluebook.pdf
\textsuperscript{18} See https://icd.who.int/ retrieved October 10, 2018
All the particular changes in the ICD-11, however, cannot be discussed in more detail as it would go beyond the scope of this thesis. Due to its novelty, there is hardly any literature available of ADHD/ Hyperkinetic Disorder in the context of ICD-11. Therefore, the literature presented in the framework of this thesis addresses the late ICD-10 classification.

As a complement to the ICD, there exists another official international classification system of the WHO called ‘The International Classification of Functioning, Disability and Health (ICF)’, which includes a list of environmental factors ‘as the functioning and disability of an individual occurs in a context’ (World Health Organization, retrieved online in 2014\(^{19}\)).

It can be used for describing and measuring health and disability. Furthermore, it analyses ‘functioning in relation to a health condition in terms of (1) body functions and body structures, (2) activities of the person and participation of the person in society, and (3) contextual factors such as environmental factors and personal factors’ (Ustün, 2007, p. 132). In separating the symptoms and their impact on social life, it is argued to be easier to understand the pathophysiology and the consequences of a disability (Ustün, 2007).

Compared to the DSM, the ICD has more stringent criteria and fewer people are being diagnosed. In the USA, for example, a study reported that of all investigated children with ADHD diagnosed via DSM-IV criteria, only 25 percent of these children met the ICD - 10 criteria (Santosh et al, 2005 in Chandler, 2010, p.47). Consequently, it may be that the ICD-10 criteria may cause an underrepresentation of ADHD or conversely, the DSM-IV may result in an overestimation. (Levy, 2014; Biederman & Faraone, 2005 in Chandler 2005, p. 47; Polanczyk et al., 2007). Irrespective of particularly which criteria or classification system is used, it ‘may be used alone or in conjunction with a range of rating scales’ (ADHD Educational Institute, 2016, retrieved online)\(^{20}\).

Whilst the main difference is their approach to the diagnosis, the classification systems’ listings of symptoms mainly overlap, and appear to agree with each other and also supplement each other. The following tables (Tables 2.3, 2.4, 2.5) represent a synthesis of the reviewed literature (i.e., classification systems and literature on ADHD).

---


### Table 2.3 A synthesis of recognised symptoms and characteristics of ADHD

<table>
<thead>
<tr>
<th>Inattention</th>
<th>Hyperactivity</th>
<th>Impulsivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>- does not pay attention</td>
<td>- fidgets</td>
<td>- talks excessively</td>
</tr>
<tr>
<td>- avoids sustained effort</td>
<td>- leaves seat in class</td>
<td>- blurts out answers</td>
</tr>
<tr>
<td>- doesn’t seem to listen when spoken to</td>
<td>- runs/climbs excessively</td>
<td>- cannot wait turn</td>
</tr>
<tr>
<td>- fails to finish tasks</td>
<td>- cannot play/work quietly</td>
<td>- interrupts others</td>
</tr>
<tr>
<td>- can’t organize</td>
<td>- always “on the go”</td>
<td>- intrudes on others</td>
</tr>
<tr>
<td>- loses things</td>
<td>- talks excessively</td>
<td></td>
</tr>
<tr>
<td>- forgetful</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- easily distracted</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Chandler, C, 2010, p.6)

| | Hyperactive-Impulsive Behaviour (Disinhibition) |
| | |
| - unable to sustain attention | - difficulties with fidgetiness |
| - unable to respond to tasks | - difficulties in staying seated when required |
| - cannot play activities as long as others of the same age group | - moving about |
| - unable to follow through on rules and instructions | - running and climbing more than others |
| - disorganised | - playing noisily |
| - distracted | - talking excessively |
| - forgetful | - interrupting other’s activities |
| - does not listen | - less able than others to wait in line or take turns |
| - cannot concentrate | - as if driven by a motor |
| - is easily distracted | - incessantly in motion |
| | - always on the go |
| | - unable to wait for events to occur |
| | - more active than other children |
| | - less mature in controlling motor overflow movements |
| | - considerable difficulties with stopping an ongoing behaviour - talk more than others |
| | - interrupt others’ conversations |
| | - less able to resist immediate temptations and delay gratification |
| | - responds too quickly and too often when required to wait and watch for events to happen |

<table>
<thead>
<tr>
<th>DSM-V criteria</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inattention</strong> <em>(Predominantly Inattentive Type)</em></td>
<td><strong>Hyperactivity and Impulsivity</strong> <em>(Predominantly Hyperactive-Impulsive Type)</em></td>
</tr>
<tr>
<td>Six or more of the following symptoms must have been present for at least six months. For adolescents and adults (from age 17) at least five symptoms must be present:</td>
<td>Six or more of the following symptoms must have been present for at least six months. For adolescents and adults (from age 17) at least five symptoms must be present:</td>
</tr>
<tr>
<td><strong>Combined Type</strong></td>
<td></td>
</tr>
<tr>
<td>- does not give close attention to details or makes careless mistakes</td>
<td>- fidgets with hands or feet or squirms in seat</td>
</tr>
<tr>
<td>- trouble keeping attention on tasks or play activity</td>
<td>- gets up from seat when remaining there is expected</td>
</tr>
<tr>
<td>- does not seem to listen when spoken to</td>
<td>- runs about or climbs when and where not appropriate</td>
</tr>
<tr>
<td>- does not follow instructions and fails to finish schoolwork or other duties (not due to oppositional behaviour or failure to understand instructions)</td>
<td>- has trouble playing or enjoying leisure activities quietly</td>
</tr>
<tr>
<td>- trouble organising activities</td>
<td>- often “on the go”, “driven by a motor”</td>
</tr>
<tr>
<td>- does not like/avoids things that take a lot of mental effort</td>
<td>- often talks excessively</td>
</tr>
<tr>
<td>for a long period of time</td>
<td>- blurs out answers before</td>
</tr>
<tr>
<td>- loses things</td>
<td>- questions have been finished</td>
</tr>
<tr>
<td>- often easily distracted</td>
<td>- has trouble waiting one’s turn</td>
</tr>
<tr>
<td>- often forgetful in daily activities</td>
<td>- often interrupts or intrudes on others</td>
</tr>
</tbody>
</table>

(DSM-V criteria, 2013) (DSM-V criteria, 2013)
Table 2.5 Symptoms and characteristics of ADHD as per ICD-10/ICD-11

<table>
<thead>
<tr>
<th>Hyperkinetic Disorders ICD-10 (F 90)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The symptoms must be met in more than one context and inattention, hyperactivity and impulsivity must all be present (only ‘combined-type ADHD’ qualifies). Onset of the disorder is no later than the age of 7 years. The symptoms cause clinically significant distress or impairment in social, academic or occupational functioning.</td>
</tr>
<tr>
<td>Exclusion criteria: the diagnosis of hyperkinetic disorder is not made when criteria for certain other disorders, including anxiety states, are met unless it is plain that hyperkinetic disorder is additional to the other disorder. (National Collaborating centre for Mental Health, 2009, adapted from ICD-10: Classification of Mental and Behavioural Disorders, 1992)</td>
</tr>
</tbody>
</table>

- Often fails to give close attention to details, or makes careless errors in school work, work or other activities
- Often fails to sustain attention in tasks or play activities
- Often appears not to listen to what is being said to him or her
- Often fails to follow through on instructions or to finish school work, chores or duties in the workplace (not because of oppositional behaviour or failure to understand instructions)
- Is often impaired in organising tasks and activities
- Often avoids or strongly dislikes tasks, such as homework, that require sustained mental effort
- Often loses things necessary for certain tasks and activities, such as school assignments, pencils, books, toys or tools
- Is often easily distracted by external stimuli
- Is often forgetful in the course of daily activities

| - Often fidgets with hands or feet or squirms on seat |
| - Often leaves seat in classroom or in situations in which remaining seated is expected |
| - Often runs about or climbs excessively in situations in which it is inappropriate (in adolescents or adults, only feelings of restlessness may be present) |
| - Often unduly noisy in playing or has difficulty in engaging quietly in leisure activities |
| - Often exhibits a persistent pattern of excessive motor activity that is not substantially modified by social context or demands |

| - Often blurts out answers before questions have been completed |
| - Often fails to wait in lines or await turns in games or group situations |
| - Often interrupts or intrudes on others (for example, butts into others’ conversations or games) |
| - Often talks excessively without appropriate response to social Constraints |
2.5 The diagnosis of ADHD

Again, since the symptoms mainly correspond, the thesis text uses the term ADHD, as it is more commonly used and known. Both terms ADHD and hyperkinetic disorder appear to be interchangeable.

In summary, the classification systems and their categories and criteria for ADHD have been constructed to help clinicians, doctors, paediatricians and psychiatrists to diagnose ADHD (cf Swanson, 2003; WHO, 2018, DSM-V, 2013). In addition, they are seen as important guidelines for health insurance companies, pharmaceutical companies, the legal system and policy makers.

Symptoms tend to be noticed in early childhood when they become more obvious when compared to peers in the same age group (NHS choices, 2014; Arbeitsgemeinschaft ADHS, 2007; ICD-10 in Chandler, 2010, pp. 43-44; National Health Statistics Reports, 2015; Visser et al., 2015, retrieved online; National Collaborating Centre for Mental Health; 2009), particularly when engaging in school activities (DSM-IVTR, 2000, p. 89). However, most cases are diagnosed in children between the age of six and twelve (NHS choices, 2014).

Often, it is the school teachers who are the first to notice a characteristic symptom of ADHD and the related behaviour. Children may seem constantly unfocused, inattentive and appear to have trouble following rules. Moreover, they may show ‘developmentally inappropriate inattention, impulsivity and hyperactivity (DSM-III, 1980, p. 43). They are easily distracted, restless and show an overactive behaviour (National Institute of Mental Health, retrieved 1 November 2014). Parents then may contact the child’s paediatrician, who then passes on the issue to a specialist.

There is no single test reported in the literature that can diagnose a person as having ADHD. Instead, various assessments have to be done and information must be gathered about the child, who shows symptoms of the said disorder. Normally, assessment is conducted by either a licensed health professional such as a mental health specialist with

---


experience in ADHD, a child and adolescent psychiatrist, a paediatrician or learning
disability expert with specialised training and experience in ADHD (NICE, 2006 & 2018).

Rating scales are used as measures and aids to help to make a better assessment and
diagnosis. Rating scales or questionnaires – which are based on commonly accepted ADHD
criteria (see Section 2.4) – are seen as very important tools since they involve the clinician’s
assessment of the particular individual’s behaviour, the patient’s statements (self-reporting
scale), as well as ratings from family members and teachers. Although the rating scales can
vary in scope and format, they have in common that they follow a mainly qualitative
design, meaning that questions regarding the occurrence of ADHD-related behaviour may
follow a Likert scale format, comprise yes-no questions, or require text responses, e.g.,
comments on particular behaviours attributed to ADHD (ADHD Institute, 2018; Chandler,
2005). Among others, the most common scales are the ‘Conners Scale’, ‘Wender Utah
Rating Scale’, ‘The Child Behaviour Checklist’ and ‘Parental Account of Childhood
Symptoms’ (Chandler, 2010, pp. 57-62; Brock & Clinton, 2007, pp. 78-81). Other rating
scales that measure the behaviours associated with ADHD and the severity or frequency of
symptoms are, for example, the ADHD Rating Scale-IV and the SNAP-IV Teacher and Parent
Rating Scale). Both follow a four-point Likert scale with variables ranging from “never or
rarely=0”, “sometimes=1”, “often=2”, to “very often=3”, or from “not at all=0”, “just a
little”, “quite a bit”, to “very much” (Hirschtritt & Bedoya, 2011; Pappas, 2006; Swanson,
2003). A final rating (indicator for the particular type of ADHD is normally derived from
calculating all scores (Likert scale points for each question/statement) by, e.g., summing
the scores and dividing them by the total number of items/statements/questions (e.g.,
Swanson, 2003). A detailed description of how ratings are calculated for each rating scale
lies beyond the scope of this thesis and, therefore, cannot be discussed in more depth.

In order to make the most accurate and reliable diagnosis, it is considered to be crucial to
rule out other causes for the symptoms first (National Institute of Mental Health, retrieved
1 November 2014). This includes a physical examination and a series of interviews with the

---

23 https://www.nice.org.uk/guidance/ng87/chapter/recommendations#diagnosis Retrieved September 5, 2018
25 (Chandler, 2010, p.61)
26 (Chandler, 2010, p.61)
27 (Chandler, 2010, p.60)
28 (Chandler, 2010, p.61)
29 See: https://www.crfht.ca/files/8913/7597/8069/SNAPIV_000.pdf
child, its parents and other significant people, such as teachers. Moreover, it is reported to be vital to identify other possible co-occurring disorders or impairments, which is not unusual to be the case. Only then it is appropriate to make further detailed assessments to eventually diagnose the disorder (National Health System, 2014).

Additionally, stays in special clinics can be an option for diagnosing ADHD or assessing the severity and progress of the disorder (Klinik Lüneburger Heide, retrieved online). Furthermore, specialists from various medical and psychiatric disciplines with expertise in ADHD can assist in explaining the disorder and its characteristics to patients. They specialise in creating individual treatment plans, therapy concepts and adjusting medication when needed. In this respect, these experts can help the affected person with their approach to the disorder. In some cases, it is suggested that a residential stay can be an option to have a rest from conflicts within the family and close environment (Klinik Lüneburger Heide, op. cit.).

### 2.6 Comorbidity

ADHD rarely exists on its own (NICE, 2018; Brown, 2013; Chandler, 2010; NICE guideline in National Collaborating Centre for Mental Health, 2009). It has been suggested that most young people and adults with ADHD ‘also meet criteria for at least one additional psychiatric disorder’ (Brown, 2013; p.130). It is often comorbid with other disorders, which means that two or more disorders overlap or co-occur. ‘The two most common comorbidities are Oppositional Defiant Disorder (ODD) and Conduct Disorder (CD)’ (Chandler, 2010, p. 66). The Oppositional Defiant Disorder (ODD) co-occurs in approximately half of the children with the combined type and a quarter with the predominantly inattentive type (American Psychiatric Association, 2013). The Conduct Disorder (CD) co-occurs in about a quarter of young people with the combined type of ADHD (American Psychiatric Association, op. cit.). Other comorbid disorders may be disruptive mood dysregulation disorder, specific learning disorder, anxiety disorder or obsessive-compulsive disorder. Since the symptoms very often match each other, it is very difficult to assign causality to a disorder (Chandler 2010). Furthermore, ADHD can co-occur with autistic spectrum disorder (ASD) (Leitner, 2014). Individuals with ASD can also present

---

with inattention, hyperactivity, and impulsivity. Since the DSM-V version is available, ADHD can be diagnosed for ‘individuals diagnosed with a disorder on the autistic spectrum’ (Brown, 2013, retrieved online). As importantly perhaps, as the symptoms overlap, ADHD can be mistaken for Asperger syndrome, which is an autism spectrum disorder, and can make it difficult to accredit the symptoms to either of the disorders (Costello, 2016, retrieved online; Holland, reviewed 2013).

Another similarity exists between children diagnosed with ADHD and children with low working memory. In both groups, there is a significant overlap in high levels of inattention and, additionally, similarities in cognition can be observed (Holmes et al. 2014). What makes ADHD and its diagnosis even more complex is the reported fact that a comorbidity can even modify the symptoms, shape the appearance of ADHD and exacerbate ADHD-caused impairments (Brown, 2013, p.132).

However, it is still unclear whether a comorbidity is simultaneously present with ADHD or develops as a consequence (BBC, 2013). For example, Oppositional Defiant Disorder may be developed as a reaction to constantly being told off. More, it is believed that this particular behaviour could simply be ‘a possible way of coping when they are being criticized for behaviour they simply cannot help’ (BBC, 2013).

2.7 ADHD in the course of a lifespan

Whereas in past decades it was believed that ADHD disappeared when the patient grew older, it is claimed today that ADHD cannot be ‘cured’, but persists into adulthood (Owens et al., 2017; Klein et al., 2012; Lange et al., 2010; National Collaborating Centre for Mental Health, 2009). In providing the patient with treatments, the symptoms can only be controlled (Brown, 2013, Chandler, 2010, American Psychological Association, 2013).

34 The advisory research team for this documentary have been contacted, but there has not been any reply regarding this documentary’s statements yet (date of submission of thesis).
Regardless of therapy or treatment, ADHD symptoms may change and ‘extend into other areas’ (Farrington, 1995; Barkley et al., 1990, cited in National Collaborating Centre for Mental Health, 2009, p. 88), or may be renamed when the affected person gets older and changes their social environment. Hyperactivity in pre-school age may display extremes of activity and be present in the shape of an inability to stay still when expected and then turn into inner restlessness in adult life (NICE, 2009; p. 17). Affected adults are reported to have a history of school failure, underachievement and psychosocial difficulties. In addition, an increased likelihood of traffic accidents, alcohol and drug misuse can be found amongst such people (Chandler, 2010). Although, for instance, the DSM criteria for ADHD in adults are the same as for children, the World Health Organisation together with a workgroup from the New York University Medical School and Harvard Medical School have created a self-reported questionnaire for adults to assist in the diagnosis of ADHD in Adults (Kessler et al., 2005). The Adult ADHD Self-Report Scale (ASRS) Symptom Checklist is a Likert-type scale and consists overall of eighteen questions in two parts which must be answered in the form of ticking one of five possible answers ranging from "Never" to "Very Often". The answers are scored as either positive or negative and more than four out of six answers in part A indicate symptoms of ADHD (Kessler et al., 2005).

Most of the ADHD children’s behaviour is reported to be first recognized during the Primary school age when they have to follow certain rules and are expected to behave as other children in their age group. However, the German online self-help association ‘ADHS Deutschland e.V.’ reports that ADHD in babies can be noticed in very frequent and apparently inexplicable crying. In addition, such babies may show sleeping difficulties or coordination disturbances. Furthermore, another early indicator of ADHD might be their refusal of body contact and a low frustration tolerance (Arbeitsgemeinschaft ADHS der Kinder - und Jugendärzte e.V., 2007, cited in ADHS Deutschland e.V.). According to the self-help association, the children’s restlessness is more distinctive as they grow older. They are observed to have tantrums and a high rate of accidents with resulting injuries.

Affected children of nursery school age are reported to have a lack of acceptance in following rules and also display greater impulsivity than their peers. In addition to the symptoms described by the DSM and ICD, the self-help association claims that children in Primary school have low self-esteem and a lack of drive.

---

Teens, on the other hand, show other symptoms to a greater extent. For example, whereas hyperactivity disappears, girls for example show symptoms of depression, anxiety and eating disorder (ADHS Deutschland e.V, first retrieved online December 2014). As adults, the affected may suffer from listlessness or a turbulent life, as exampled by many cases with depressive and anxious people concerned and reports of high accident rates regarding ADHD (ADHS Deutschland e.V., retrieved online). In addition, a constant flow of words and a search for stimuli can be observed (ADHS Deutschland e.V, op.cit.). All in all, the ADHD symptoms are reported to persist, with inattention, impulsivity, disorganisation, emotional instability and a low frustration tolerance perhaps leading to a constant underachievement dropping out of studies or work.

2.8 Treatments

Once a child is diagnosed with ADHD, the literature suggests that there are several possibilities to reduce the symptoms and improve the child’s wellbeing. In the eighteenth century, Melchior Adam Weikard recommended that:

[…] the inattentive person is to be separated from the noise or any other objects; he is to be kept solitary, in the dark, when he is too active. The easily agile fibres are to be fixated by rubbing, cold baths, steel powder, cinchona, mineral waters, horseback riding, and gymnastic exercises. (cited by Barkley 2012, pp. 627-628)

Today, treatments include different types of psychotherapy, education and training, medication and the combination of treatments (National Institute of Mental Health, retrieved 2016). The aim is to enable a better focus, to try to reduce aggression and to help handle the impairment in the family environment.

Psychological therapies are reported to be very common in treating ADHD (e.g., a talk therapy that focuses on helping to learn more constructive ways to deal with certain difficulties and problems). On the one hand, psychological treatment aims to reduce suffering by alleviating the impairment. On the other, it aims to improve functioning (Brown, 2013, p. 98). Psychological therapies can include behavioural therapy,
interpersonal psychotherapy (IPT), family therapy or school-based interventions (NIMH, 2016; NICE, 2009, p. 30).

Next to psychological therapies, medication is seen to be very effective, in the sense that symptoms are attenuated and effects become apparent very quickly. Whereas it cannot cure ADHD medication is reported to reduce the features of the impairment and improve substantial functioning for about 80% of the affected (Brown, 2013). However, treating ADHD with medicaments can have resulting side effects (Shaw et al., 2012). Although the active substance methylphenidate, or better known as the trade name “Ritalin”, is reported to work (cf Cortese et al., 2018; Banaschewski et al., 2016; Klöckner & Lüdemann, 2013; Brown, 2013, Chandler, 2011), children report that they feel sedated and limited in their thoughts (Klöckner & Lüdemann, 2013). In order to link to the example in Section 2.1, the successful Olympic swimmer with ADHD has reported that he felt that ‘Ritalin is a crutch’ (Michael Phelps cited in Wedge, 2016). Stimulants like methylphenidate ‘improve performance on effortful but tedious tasks [...] through indirect stimulation of dopamine and norepinephrine receptors.’ (Malenka, Nestler & Hyman, 2009, cited in Sydor and Brown, 2009; p. 266). Furthermore, stimulants cause ‘transient modifications of the dynamics of the chemistry of the brain’ (Brown, 2013; p. 99). Nevertheless, it is reported that stimulants like Ritalin can significantly change the brain’s metabolism and lead to a habituation to the medication and weakening of its effect (Die Welt, 2013). Since medication seems to influence brain functions or particular processes, it is important to understand what kind of neurological abnormality there might be that causes ADHD behaviour and how the particular processes differ from other people’s brains.

2.9 The neuroscience of ADHD

ADHD is associated with functional impairments in some of the brain’s neurotransmitter systems, such as those which involve dopamine for example (National Institute of Mental Health (NIMH), 2016, op. cit.; Brown et al., 2013; Chandler, 2010; Wu et al., 2012; Bymaster et al., 2001). Electrical impulses encounter a number of junctions between neurons, which they must jump while travelling along neural networks. But in the case of ADHD, the required release of microdots of the neurotransmitter chemical when the jump happens is

reported to be impaired (Brown, 2013). Stimulant medication such as methylphenidate is reported to improve this kind of communication between neurons (Swanson et al., 2010).

Moreover, it has been observed that grey matter and brain volume of ADHD patients is reduced (Stoodley, 2014; Carmona et al., 2005; Depue, 2010) and that is a little smaller than the peer group controls Geurts et al., 2013; Nakao, Radua, Rubia, & Mataix-Cols, 2011; Chandler, 2010). The area with the highest reduction of white matter is the corpus callosum – which connects the left and right hemispheres and is responsible for transmitting neural messages between both – and significant reduction of grey matter in the subcortical regions, which are all connected by dopamine (Kar, 2013; Chandler, 2010; p. 139). Furthermore, MRI studies indicate that in ADHD patients the cerebellum, which is associated with movement and cognitive functioning, shows a smaller tissue volume of tissue (Chandler, 2010; p. 139).

2.10 Living with ADHD (RQ 3)

2.10.1 Living with ADHD – an educational perspective

ADHD is heterogeneous and can have a significant impact on a person’s life within a multitude of contexts and settings. Difficulties can arise in numerous areas, such as in social skills and peer relationships, and in academic performance, as well as psychological variables embracing emotional and cognitive functioning (Owens et al., 2017; Tarver et al, 2014; Klein et al., 2012). Particularly in children and young people, ADHD can pose an impediment with severe consequences, both at home and at school (Additude, retrieved online39, ADHS Deutschland e.V., retrieved online 40; Tarver et al., 2014; Kewle in National Collaborating Centre for Mental Health, 2009, p. 87). Thus, not only does the diagnosed person have to cope with any impediments that the symptoms cause, but also family members, friends, peers and teachers are likely to be affected.

As mentioned above (Section 2.5), very often ADHD-like behaviour becomes evident in educational settings where pupils’ development and behaviour can be observed and compared to peers in the same age group. Affected children stand out and deficits in

school, such as in academic underachievement (DuPaul, Weyandt & Janusis, 2011) and a low acceptance by peers, necessitate action.

It has been observed that such children can display conduct problems and generally are not able to regulate their emotions in peer situations in an appropriate way (Shaw, 2014). Furthermore, hyperactivity and impulsivity can add to a lack of restraint and overbearing behaviour that makes such children ‘aversive to peers’ (Andrade and Tannock, 2012; Hoza, 2007). In addition, the label of “ADHD” itself may evoke a negative attitude towards the diagnosed children (Hoza, 2007, p. 655, p.659). Eventually, together with low self-esteem, negative self-perceptions and thinking poorly of themselves (e.g., Scholtens, Rydell, Yang-Wallentin, 2013; Diamantopoulou, 2005), ADHD children can be at high risk of rejection, exclusion and victimization (National Collaborating Centre for Mental Health, 2009).

Once having been diagnosed with ADHD, there should be access to officially provided help. However, there are two sides to this coin. On the one hand, a knowledge about the disorder can justify an understanding of the particular behaviour and provide means of treatment, which can give hope for future improvement. On the other hand, it can be hypothesized that the label itself can be an impediment for the person’s personal and social development, in that social or academic expectations may be lower than for those not affected by ADHD. Although individuals diagnosed with ADHD are eligible for special treatment, with ADHD being labelled as a mental disorder, it may make it more likely for the child to be excluded from society and be stigmatized by the public (Mather, 2012; Martin, Pescosolido, Olafsdottir & McLeod, 2007; Kellison, Bussing, Bell & Garvan, 2010; Walker, Coleman, Squire & Friesen, 2008). As a result, self-stigma can follow (McKeague et al., 2015; Mueller et al., 2012). Moreover, social conflicts can arise because ADHD-diagnosed children are reported to not always be aware of their negative behaviours and their effect on their environment (Institute for Marital Healing, retrieved online).

In contrast to earlier perceptions of ADHD, it is currently believed that the affected individuals may outgrow their impairments. Whereas hyperactive and/or impulsive behaviour can improve, it is reported that inattention does remain (Brown, 2013). It is believed that some individuals find a way to cope with persistent weaknesses, and others may not (Brown, op.cit., p.5). Since childhood and early adolescence shape a person’s perception of relationships and social behaviour, this period in life is crucial.

---

In addition, school performance often provides the basis for a future career. It had been observed that poor performance and limited academic achievements of children diagnosed with ADHD in Primary school continue into adolescence and young adulthood (e.g., Owens et al., 2017; Klein, 2012; Young et al., 2005). Furthermore, the National Collaborating Centre for Mental Health (2009) argue that children with ADHD have fallen further behind by the end of Primary school in comparison to their peers with no observed behavioural problems. Hence, the probability of a lifelong persistence of symptoms and the possibility of lasting impairments (psychological, social, and academic) is not to be underestimated.

Consequently, since successful performance, inclusion, good peer relationships and a nurturing social environment are essential for a child’s well-being, the role of education and schooling is particularly important. School accompanies a child’s life for a long period of time and plays a significant role in their development (Sylva et al., 2010; Pressley et al., 2006; Cole, Upton & Visser, 1998; Sylva, 1994). School provides a setting where various skills and competences can and should be developed and nurtured for later life. But it is also an environment where pupils are expected to sit still for longer periods of time. Hence, inattentive and hyperactive pupils require a positive and specially designed teaching approach as an additional commitment from the teacher’s side. Therefore, simply being indifferent and saying that there is ‘not much I can do – he’s got ADHD’ (Arshad et al., 2012, p. 165) would be detrimental to future development.

2.10.2 ADHD in the classroom – effective teaching and learning practice

Related to teaching strategies, there is some literature to address teaching and learning in the context of ADHD or ADHD-related behaviour in the classroom (see Hamilton & Astramovich, 2016; Moody et al., 2014; Hughes and Cooper, 2007; Sherman, Rasmussen and Baydala, 2008; Spohrer, 2006 & 2007; and Zentall, 1995).

McAllister (2012) argues that ‘when students have a strong foundation of motivation and confidence in their abilities, the possibilities for accomplishment are unlimited’ (p. 22). In particular, the author refers to authenticity, respect, and empathy as factors that are important when teaching young individuals with ADHD. Furthermore, McAllister emphasises that the communication of objectives for the lesson, a clear structure of the lesson, as well as a calm and relaxing atmosphere contribute to successful learning.
Although arguing that ‘ADHD cannot be dealt with simply through reference to a recipe book’ (Hughes and Cooper, 2007, p. 81), Hughes and Cooper (2007) present ‘educational interventions’ that are regarded to be effective in educating and supporting children. Before thematising effective practice, however, they argue that, commonly, ‘mainstream teachers’ pedagogical decision-making is strongly influenced by decisions that teachers make about pupils on the basis of fairly limited interaction and observation’ (p. 73). This implies that teachers tend to categorise students on the basis of perceived (dis)abilities, behavioural traits and other characteristics and, therefore, may potentially unwittingly contribute to a ‘social exclusion of students who are disadvantaged by the application of pathological labels such ADHD’ (p. 72). The authors regard this kind of ‘pedagogical decision-making’ as problematic because interventions might be excluded because of particular perceptions and adopted understandings of pupils’ abilities and disabilities. Moreover, in citing works by Brown and McIntyre (1993) and Cooper and McIntyre (1996), they report that this behaviour can be a trait of experienced teachers who have to make quick pedagogical decisions in contexts of a busy classroom and a lack of time.

Hughes and Cooper (2007) argue that teachers’, as well as pupils’, notions regarding what constitutes effective learning and practice are in agreement, meaning that they believe that effective practice (a) comprises the empowerment of pupils so that they are given a sense of ownership of the lesson and its outcomes, (b) links existing and new knowledge and skills, (c) entails a wide range of pedagogical approaches and strategies, and (d) includes reactive teaching, that is the ability to change strategies according to the pupils’ needs in the moment. Hughes and Cooper (2007) acknowledge that schooling might be challenging for pupils with ADHD, with common classroom and behaviour management not sufficient. Therefore, they argue that there are factors to consider that otherwise might not arise in a ‘properly functioning classroom’ (p. 76). Conversely, effective learning and teaching strategies for pupils with ADHD are believed also to be appropriate for ‘neurotypical’ pupils, whom they define as being ‘more likely to tolerate the stresses created by certain common but undesirable features of schooling than pupils with ADHD’ (Hughes and Cooper, op. cit., p. 79). The authors also argue that, to a certain degree, ADHD is a concept that is constructed by common beliefs as to how learning be like for everyone, not accounting for individual needs and therefore potentially excluding individuals. This aspect of ADHD as a socially constructed concept is not to be ignored. Although, the scope of this thesis does not allow an in-depth analysis of this, the significance of teacher perception in the ADHD music classroom is picked up in the fieldwork data collection and findings.
Moreover, Hughes and Cooper (2007) place special emphasis on ‘cognitive strategies’ that enable pupils to self-manage, self-instruct and self-monitor (self-direction and self-regulation) in order to promote appropriate engagement and, consequently, effect desired learning outcomes. This is justified by the authors’ understanding that individuals with ADHD ‘demonstrate specific cognitive deficiencies in relation to executive functions’ (Hughes and Cooper, op. cit., p.77). Therefore, the authors claim that pedagogical approaches should consider cognitive strategies to meet the pupils’ needs. Referring to works such as those by Zentall (1995) and DuPaul and Stoner (1994), the following educational strategies are recommended for managing the learning context for these individuals:

- Strategies to increase active participation through scaffolding visual motor-tasks;
- Strategies to address these pupils’ need for movement by enabling kinaesthetic learning and providing physical activities;
- Utilisation of teacher feedback and reinforcement;
- Providing opportunities for on-task verbal participation as pupils with ADHD are reported to be talkative;
- Clear instructions and modelling tasks;
- Empowering pupils to lead; and
- Eliminating distracting stimuli.

In addition to illustrating these strategies, Hughes and Cooper (2007) also address medication. They refer to medication as being a commonly used treatment for ADHD symptoms. However, when seeing ADHD through an educational rather than a medical lens, they report that:

> ADHD as a debilitating problem is at least in part constructed by the uncritical acceptance of certain assumptions about what the demands of schooling are and should be [...] It may well be the case that were these insights to be widely incorporated into the craft knowledge of teachers, the use of medication for pupils with ADHD could be rendered less. (Hughes and Cooper, 2007, p. 81)

In this statement, the authors imply that effective practice is fundamentally connected with teachers’ knowledge of how ADHD pupils learn, what the potential limitations in learning might be, and how the school context may affect pupils’ attainments. In short, it may be concluded that pedagogical decisions should be made on the basis of knowledge rather than on subjective pre-conceptions.
Several of the strategies mentioned above, or approaches are in accordance with other literature on ADHD regarding teaching and learning strategies. For example, Kutscher, Attwood and Wolff (2014) mention factors and strategies that are to be considered, such as prevention distractors in the room, making an allowance for preferential seating, maintaining eye contact, using agreed signals to bring back pupil’s attention, breaking down tasks, ensuring task comprehension, enabling pupils with ADHD occasionally to move in the classroom, provide help in organising tasks, giving feedback on attainments, and adopting an engaging teaching style.

Metcalf and Metcalfe (2001) also present principles of effective educational interventions. These include – apart from also thematising the strategies mentioned above – the establishment of rules in the classroom, provision of opportunities to decide on learning tasks / including the child in decision making, and engaging the pupil actively to take part in the classroom’s events. In order to increase academic attainments, the authors suggest that the teacher should consider (a) the short-term and long-term goals for the pupil, (b) the range of potential interventions or strategies and how they can promote successful learning, (c) appropriate learning environment, and (e) types of assessment. In particular, a positive attitude is reported to be crucial for positive learning outcomes. Furthermore, Metcalfe and Metcalfe (2001) suggest that a precise and appropriate language is beneficial for these children’s understanding of instructions. Rules and routines are described to help pupils to gain control over the environment. Small amounts of work with short breaks are also believed to be appropriate for pupils with ADHD. Moreover, positive reinforcement and a reward system for good behaviour and attainments is suggested to be beneficial for the children’s school performance.

Similar to Hughes and Cooper (2007), the Metcalfe and Metcalfe (2001) also emphasise the importance of teaching-learning strategies to promote metacognitive skills. The strategies to reinforce this are reported to be those that address organisational and study skills, problem solving, self-awareness, and play. By referring to Barkley (1997), the authors argue that metacognition leads to behaviour control and, therefore, should be aimed for. While, effective teaching is believed to enhance self-esteem in the pupils, Hughes and Cooper (2007) report that another significant factor is thought to be the self-esteem of the teachers. The authors argue that effective teachers are ‘generally more able to deal with pupils with severe behavioural problems, since they tend not to be threatened by such behaviour and to be able to accept rather than reject the pupil’ (p.83). These teachers are believed to be able to deal better with disruptive behaviour and problematic situations.
Furthermore, Spohrer (2007) also includes an explanation of the purpose of particular activity to the pupils. She argues that the teacher should ensure that the pupil can see the whiteboard easily without having to turn around. Spohrer also encourages the teaching assistant to use (a) positive teaching strategies (such as praising), (b) act as if they were patient (to project calm behaviour), and (c) collaboration with other staff and parents (to clarify issues. Furthermore, the author recommends to be consistent in all actions, set up and agree on behaviour programmes or strategies with the child, provide a secure learning environment, listen attentively to the child, build a good relationship with the individual, and keep a sense of humour.

In addition to examining what constitutes effective practice for pupils with ADHD, it seems also important to investigate how the educators – in other words, the individuals who deliver (in)effective practice – might themselves influence educational outcomes for these pupils. Sherman, Rasmussen and Baydala (2008) argue that there are certain teacher factors to influence students’ behaviours and learning. In their literature review they examined existing research on teacher factors on academic performance of children diagnosed with ADHD. The authors examined related literature in the fields of medicine and education. Analyses suggested that that teacher factors can profoundly impact on these children’s educational attainments. For example, teachers’ opinions on ADHD treatment – and therefore choice of pedagogical approaches – can influence pupils’ behaviour. Also, how they perceived and viewed ADHD-typical behaviours and intervention strategies was believed to be important. Conversely, the literature review also suggests that teacher factors can impact positively on children with ADHD. The authors report that ‘teachers who demonstrate patience, knowledge of intervention techniques, an ability to collaborate with an interdisciplinary team, and a positive attitude towards children with special needs can have a positive impact on student success’ (Sherman, Rasmussen and Baydala, 2008, p. 347). In this context, personal traits such as tolerance, patience and positive beliefs about the other are regularly re-occurring in the article. Also, (a) the school context and the environment in which the teachers were teaching as well as (b) their working relationship with these pupils affect the pupils. The authors suggested that these factors are important in how teachers tolerated, referred to, viewed, and rated students with ADHD. Furthermore, the authors found that the teachers’ reactions to the students’ behaviours seemed to determine how the students perceived their social environment and how they felt in class. Those teachers who were believed as suitable for working with pupils
with ADHD were found out to be those who ‘engage students, focus on academic goals and provide immediate feedback’ (p. 355).

Similarly, there is literature in the area of culturally responsive pedagogy (CRP) to report on effective practices of successful teachers in the context of teaching pupils who are initially underachieving or at the risk of underachievement given their cultural, social and/or economic circumstances (Sleeter, 2012; Bondy, Hambacher & Acosta, 2013; Morrison, 2008; Ware, 2006). Bondy et al. (2013) report that within that literature, teachers as “warm demanders” is a recurring term. Warm demanders are defined as teachers who ‘embrace values and enact practices that are central to their students’ success’ (p. 421). Moreover, the authors emphasize that the teacher’s belief in the student’s abilities to succeed and their responsiveness together with a warm but demanding stance are key features of effective teaching.

Ware (2006) suggests that, above all, such teachers ‘in spite of (the pupils’) conditions, […] still expect(ed) their students to be successful learners […]’ (Ware, 2006, p.442). Meaning that, effective practice, among other aims, enables academic success for all pupils, including those who normally might be expected to fail academically. Ware (2006) reports cases of teaching contexts with black, Asian and minority ethnic (BAME) students who had been initially regarded as unsuccessful or unable to learn. ‘Despite their ranges in ability levels, one teacher expected all the students to achieve academic success in challenging tasks’ (p. 442). Moreover, the same teacher was reported to believe that the students’ conditions did not serve as an excuse for low academic achievements.

Morrison, Robbins and Rose (2008) also mention high expectations as one trait in effective teachers. However, they list other key factors that are suggested to be critical to culturally relevant (responsive) pedagogy – building on Ladson-Billings’ (1995) theoretical framework regarding CRP. The three tenets are (1) high expectations, (2) cultural competence (the formation of a positive cultural identity), and (3) critical consciousness, i.e., ‘that students are empowered with the tools to transform their lives and the conduct of our society’ (p.443). Ultimately, it could be assumed these the illustrated teacher principles and approaches might be transferable to teaching pupils with ADHD. For example, the students’ culture could be interchangeable with special educational needs. In this way, ADHD students also could be challenged to achieve highly by having high expectations.
2.11 ADHD and special education

In schools, children with ADHD are regarded as pupils with ‘special educational needs’ and therefore eligible for special needs education (gov.uk, n.d. retrieved online 2018\textsuperscript{42}).

The umbrella term for the practice of school education, which focuses on pupils with special needs, is called ‘Special Educational Needs and Disabilities’ (SEND) education. It is conceived particularly for pupils and students with pervasive disorders, physical disabilities and/or learning difficulties, who make slower progress and have a lower level of attainment in comparison to their peers (gov.uk, 2015 & 2018)\textsuperscript{43}. In its Salamanca Statement, UNESCO refers to SEND as a service, which is ‘addressing and responding to the diversity of needs of all children, youth and adults through increasing participation in learning, cultures and communities’ (UNESCO, 2009, pp. 8-9). Regardless of the diversity of causes and different severities, typical impairments may be reading and writing difficulties, concentration problems, physical needs and the inability to socialise and make friends (gov.uk, op. cit.). Such characteristics are very common with children with ADHD.

Generally, special education needs education is regarded by the government as a service which is integrated in, as well as alongside, mainstream educational settings (gov.uk, retrieved 2015). Such education intends to respond to individual needs using a wide range of strategies and methods. In mainstream schools, the additional educational service embraces different approaches to teaching and aims to include children with special needs into the classroom structure. Teaching methods are modified to be beneficial for all pupils, including those with special needs. But where such an inclusive approach is not possible, children can be sent to special schools and be provided with specialist external support (European Agency for Special Needs and Inclusive Education, 2015). Overall, males constitute the majority among the SEND special school population. The UK Department for Education (2017) states that ‘special educational needs remain more prevalent in boys than girls in January 2017: 14.6% of boys were on SEND support compared to 8.1% of girls. Consequently, it can be summarised that, in the best cases, behavioural issues should be approached according to the pupil’s needs, with special educational interventions embedded in ordinary classroom situations and similar settings, in order to enable the best learning environment and basis for development.

2.12 Summary

ADHD is a multifaceted impairment, which can affect an individual in many aspects. Although the term ADHD or hyperkinetic disorder is rather new, ADHD-like behaviour has been illustrated in scientific literature for centuries. Recently, the interest in this impairment has grown and it has been a subject of investigation in many fields, such as medicine, psychology, neuroscience and education. As a result, health organisations and psychological associations have created criteria in order to help specialists better to diagnose ADHD and, therefore, enable access to official support and treatment. However, diagnosing ADHD is still difficult because it is seldomly an impairment that exists on its own. Normally, it is accompanied by comorbidities which exacerbate specific aspects. In addition, the causes of ADHD are still not clear (Chandler, 2010).

Nevertheless, there are diverse approaches which seek to reduce the symptoms and improve the individual’s wellbeing. Next to psychological therapies, medication is a very common means of treatment. However, whilst medication can improve the symptoms effectively, side effects are not uncommon. In addition, medication is limited and cannot be the exclusive measure of treatment. Furthermore, ADHD behaviour and the label itself can cause difficulties and problems in multiple areas. Here, poor social adjustment and self-perception clearly stand out. Consequently, peer rejection may likely follow and this again can result in public stigma, exclusion and marginalisation. In particular, young people struggle to cope with the impact of bullying, social rejection and stigma. Without support, the negative effects can be dramatic, leading to often serious and perhaps lifelong problems. Since educational settings such as schools accompany a person over a crucial period of life, the impact of education is important. Consequently, the question arises how children with special needs, such as ADHD diagnosed pupils, should be supported educationally and what a most beneficial intervention might look like.

In addition, children with ADHD more often have difficulties with social skills, particularly when required to behave in a socially acceptable manner. As a consequence, a large number of affected children are reported to experience social rejection, including a lack of belonging and a feeling of being rejected by their peers (Harpin, 2005).

The focus for this first literature chapter has been on the definition, diagnosis and aetiology of ADHD. This synthesis has been designed to feed into the following chapter which explores music and SEND, including ADHD.
Chapter 3 Music Education and Special and Educational Needs and Disabilities (SEND)

The previous chapter’s focus was on seeking an understanding of the various definitions, diagnoses and aetiology of ADHD. This chapter examines the available literature on music and SEND, with a specific focus on ADHD.

3.1 Wider benefits of music on children and young people’s development (RQ 2)

Drawing upon existing literature in the fields of music education and music psychology, there is a growing evidence base to indicate the potential wider benefits of music on individuals’ health wellbeing. In this respect, scientific findings suggest that engaging in music can generate benefits in multiple aspects, such as physical and psychological health, self-regulation, cognition, social inclusion and academic performance (cf Jaschke, Honing & Scherder. 2018; Hallam, 2015; Williams et al., 2015; Welch et al., 2014; Hallam & MacDonald, 2013; MacDonald et al., 2012; Knox, Beveridge, Mitchell & Macdonald, 2011). In particular, active engagement in music as a multi-faceted activity (Welch & McPherson, 2012; Ockelford, 2012) that can enhance many abilities, is reported to promote various skills and fosters competences that are important for social and emotional wellbeing.

Evidence in support of these assertions can be found in research literature in the fields of, for example, music education, psychology and neuroscience. In this regard, there is evidence to indicate that music learning has the ability to improve personal development and enhance cognitive and social skills for situations in which individuals engage in making music or singing in the framework of a group activity (Creech, 2016; Hallam, 2015; McDonald, 2009, Welch et al, 2014; Dingle, Brander, Ballantyme & Baker, 2012). Moreover, evidence from research on El Sistema-inspired instrumental music programmes indicate that disadvantaged children who participate in these show non-musical improvements from this form of group music making, such as improved academic performance and psychosocial well-being (Osborne et al., 2016; Gustavsson & Ehrlin, 2018). Additionally, research findings suggest that music group interactions and improvisations, for example, can help individuals cope with social exclusion and can impact on socio-emotional competence and self-regulation and, therefore, help children in developing a greater sense of empathy (Macdonald, 2013; Rabinowitch, Cross & Burnard, 2013, Cross et al, 2012).
Such findings underline statements that ‘structured musical group improvisations that emphasize other-directed behaviour may help children in the development of a sense of empathy, allowing for the emergence of empathy through creative practice’ (Cross et al, 2012, p. 338).

One of four dimensions of inclusion, as conceptualised within the EU literature, is education (cited in Fredrikson et al., 2009). A research project called The Usability of Music for the Social Inclusion of Children (UMSIC) aimed to ‘improve inclusion and reduce isolation in groups of children’ and ‘to support children’s processes of social inclusion through the use of new music technology’ (Fredrikson, 2009, p. 1). In particular, the foci were on pupils with learning difficulties and attention deficiencies, or pupils with an immigrant background and a different native language than that of the host country. The technical tool was the so-called JamMo (jamming mobile) which was designed to enable children to creatively compose and design music. Findings from this study show that, overall, participants ‘felt more socially included subsequent to the JamMo sessions compared to prior to them’ (Purves et al., 2011 p. 56). Moreover, an important observation was that there was significant collaboration between pupils with learning difficulties and attention problems compared with their peers without such problems, including observed social skills and behaviour (ibid). Additionally, it was observed that some generally quiet pupils ‘demonstrated a much greater involvement in a wider range of social activities than before such sessions’ (Purves et al., 2011, p. 57), including SEND pupils and pupils with an immigrant background. Other psychosocial aspects were evidenced by increased joy, motivation, improved concentration and an overall better well-being (ibid).

Furthermore, in terms of self-efficacy and inclusion, the findings from the national music education initiative Sing Up (2007-2012), sponsored by the English Government for primary school-aged children are very positive. In this study, individual singing data were collected from 11,258 pupils from 184 schools across England over a period of four years. The pupils were ‘individually assessed [in their] singing development and attitudes, using a specially designed questionnaire that explored their attitudes to various aspects of singing’ (Welch et al, 2014, p. 5). One focus was to explore a ‘possible relationship in participants’ sense of self and of being socially included and their singing ability’ (Welch et al., op. cit.). The findings suggest that the higher the normalised singing development rating (whether children were within the Sing Up programme or not), the more positive was a child’s reported sense of self and social inclusion.
Consequently, where children experience success in the context of their collective singing, with associated feelings related to emotional and social well-being as part of an underlying distributed neural network, it is not surprising that they might report a stronger sense of group membership, of belonging and of being social included. (Welch et al, 2014, p. 9)

Furthermore, it has been observed that self-selected music can induce mood enhancement (Radstaak et al., 2014). Findings indicate that people select music as a tool for self-regulation (Van den Tol & Edwards, 2015). Moreover, listening to music perceived as pleasant is found to have a positive effect on anger and aggressive conditions. Here, pleasant music is regarded as a stimulus that can ‘attenuate negative affect and thereby reduce aggression’ (Krahé and Bieneck, 2012, p. 286). In addition, other research suggests that engagement in music enhances language skills and literacy (Gordon, Fehd & McCandliss, 2016; Saunders et al., 2014; Tierney et al., 2013; Forgeard, Winner, Norton & Schlaug, 2008). A study by Habib et al. (2016) also investigated the use of musical training as a therapeutic means for treating children with dyslexia. In that study, researchers tested the efficacy of a specially designed approach ‘Cognitivo-Musical Training (CMT)’ by addressing music-language analogies, music elements such as rhythm and speed and cross-modal integration, all of which all were theorised to address weaknesses of dyslexics. On that basis, specific musical exercises were created. Children who underwent this musical training over six weeks showed significant enhancement of categorial perception and auditory perception of temporal components of speech, as well as in auditory attention, phonological awareness, reading abilities and repetition of pseudo-words. These improvements persisted after completion of the study (Habib et al., 2016).

Other studies, such as the non-randomized retrospective cross-sectional study by Wetter et al (2009), offer evidence that musical training may enhance school performance, as well as improve the perceived quality of school life (Eerola and Eerola, 2013). Relatedly, Hallam et al. (2002) suggest that calming background music can positively affect task performance in children. This study investigated school performance (performance in arithmetic and on a memory task) in sixty-one pupils in Year Six (aged 10 to 11) in two London Primary schools. In one of the schools, pupils were working on tasks (a) by listening to ‘calming’ music and (b) without listening to music at all. Results suggested that the chosen background music could speed up the working pace on the tasks for some children and enhance better pro-social behaviour. In the other school, pupils were completing tasks while listening to what was believed to be arousing or rather aggressive music. This was found to negatively
influence task performance and was observed to lead to a lower level of reported prosocial behaviour (Hallam, Price and Katsarou, 2002).

An equally significant aspect of music and music making is reported in the neurosciences of music literature. There are various neurological mechanisms underlying musical actions that are found to support these findings of wider benefits. In this respect, music and musical activities are suggested to, for example, influence health through neurochemical changes in various domains, such as social affiliation, reward, stress and immunity (Chanda & Levitin, 2013). Furthermore, musical experiences such as listening, playing and singing have been found to release (neuro)transmitter substances like dopamine (Altenmüller, 2004) and, therefore, are responsible for the individual’s experience of resulting joy, euphoria and emotional arousal (Keitz et al., 2003, cited in Altenmüller and Schlaug, 2013; Salimpoor et al., 2011). In terms of stress reduction, studies that focused on the impact of music on stress levels have evidenced that listening to music or engaging in musical activities can reduce stress by decreasing cortisol levels (Fancourt et al., 2015; Khalfa et al., 2003, cited in Altenmüller and Schlaug, 2013; Salimpoor et al., 2011).

In addition, it is reported that aspects of music and music making can have psychoneuroimmunological effects (Fancourt et al, 2013). Music is seen to influence the hormonal system of brain and body (Kreutz et al, 2012), and also neuroanatomical processes (Levitin & Tirovolas, 2009). Such processes can be described as structural changes related to brain plasticity. Thus, scientists have observed that musical practice shapes the brain (Fauvel et al, 2014; Hyde et al., 2009: Gaser & Schlaug, 2003) and can induce greater grey matter volume in different brain areas (Groussard et al, 2014), as well as induce regionally specific plasticity in the form of white matter development (Bengtsson et al, 2005). Moreover, it is suggested that playing an instrument can improve musically relevant motor and auditory skills (Chen et al, 2012; Pantev & Herholz, 2011).

Consequently, there is a substantial body of neuroscientific literature to allow us to conclude that the reported positive effects of music and music making in neurotypical participants could also benefit individuals with SEND. In particular, children and young people with disabilities and special educational needs, including also those with ADHD, could gain from engaging in musical activities.

In other words, listening to music, remembering tunes, performing, improvising and composing not only require specific skills such as related to perception, cognition, creativity, motor skills, communication and imagination (Pantev, 2009; Ockelford, 2012),
but also enhance these (Welch & Ockelford, 2015). Consequently, music making not only advances obvious competencies such as musical skills and fosters musical development, but also brings about other-than-musical benefits related to physical, psychological and social development.

3.2 Education *through* and *in* music for young people with SEND (RQ 1, 2, 3)

3.2.1 Music therapy – an education *through* music

There are research findings to indicate a modularity in musical intelligence. For instance, studies demonstrate that children, who are not able to communicate verbally due to a delayed global development, can nevertheless communicate musically by improvising musically with others (Ockelford, 2011a; Ockelford & Matawa, 2010). Furthermore, it is reported that children with visual impairments or vision loss often are likely to develop absolute pitch in the first two years of life (Ockelford, Pring, Welch, & Treffert, 2006).

Commonly, promoting health and wellbeing through music is generally associated with music therapy. Regarding this, there are promising findings on the success of a therapeutic approach to young individuals with a wide range of needs, be it of physical, mental, emotional, or social nature, whose recovery or behaviour modification is reported to happen faster or more effectively (e.g., Chen, 2018; Gardstrom, Klemm & Murphy, 2017; Silverman, 2015; Mccaffrey, Edwards, & Fannon. 2011). Also, music therapy interventions are reported to be used to help improve cognitive functioning, motor skills and sensory skills. The British Association for Music Therapy defines music therapy as:

> [...] an established psychological clinical intervention, which is delivered by [...] music therapists to help people whose lives have been affected by injury, illness or disability through supporting their psychological, emotional, cognitive, physical, communicative and social needs. [...] Central to how music therapy works is the therapeutic relationship that is established and developed, through engagement in live musical interaction and play between a therapist and client. A wide range of musical styles and instruments can be used, including the voice, and the music is often improvised. Using music in this way enables clients to create their own unique musical language in which to explore and connect with the world and express themselves. (British Association for Music Therapy, 2018)
In the music therapy sector, it is understood that there is an innate quality about music to support wellbeing and alleviate certain conditions. Furthermore, there is an emphasis on a therapeutic relationship between patient/client and therapist through musical interaction and communication and, further, through self-expression in music. In order to accomplish individual goals, a wide range of active and receptive musical interventions are used, such as creation of sounds and music, improvisation and composition by using instruments or the voice, as well as listening to music played / created by the therapist (cf British Association for Music Therapy, 2018; American Music Therapy Association, 2018; WFMT, 2011 cited in World Federation of Music Therapy, 2018; Deutsche Musiktherapeutische Gesellschaft dmtg, 2018; Bunt & Stige, 2014; Bunt in McPherson, 2006).

There are various and many music therapy methods and models that have evolved over time. Although a detailed analysis of methods and approaches would go beyond the scope of this thesis, nevertheless, despite the benefits of music on individuals’ well-being having been acknowledged for centuries – even dating back to the ancient Greece of Plato and Socrates, the concept of music therapy as a widely acknowledged professional scientific field or health service of its own – or a ‘practice-oriented scientific discipline’ (dmtg, 2018, op. cit) – is rather new.

In Great Britain, the British Society for Music Therapy was founded in 1958 by the French cellist Juliette Alvin and her colleagues under the name of 'Society for Music Therapy and Remedial Music' (British Association for Music Therapy, 2018, op. cit.). Alvin (1991) argued that there are different approaches to music therapy, such as the clinical, the recreational and the educational. Overall, she claimed that a ‘therapeutic situation is always a learning situation’ (p.110). However, she specifies that by working on learning processes with the client, the therapist does not educate in the classical sense, but rather aims to ‘develop the flame of intelligence […] (p. 1110) and, for example, that ‘well planned specific musical techniques can help the child to grasp abstract concepts and develop his imagination and speaking ability’ (Alvin, 1991, op. cit., p. 1110).

Elsewhere, however, Alvin (1991) conceptualised the practice of instruments as physical therapy. Here, she presented examples of ‘physically impeded’ individuals, who, despite their challenges, had acquired certain playing skills that, in turn, helped enhance physical skills as a means of physical rehabilitation. Irrespective of the educational aspects,

---

44 See https://www.musictherapy.org/about/musictherapy/
45 See http://www.musiktherapie.de/musiktherapie/definition.html
the definition of music therapy is uniformly used for the treatment of illness. Related to the treatment of mental illnesses, Alvin argues that the recreative potential of music may be beneficial for such patients in that they would listen to specific music and potentially respond with singing and movement, rather than ‘involving no effort towards the acquisition or the improvement of musical skill’ (pp. 121). In aggregate, her works illustrate music therapy as a concept that addresses a therapeutic interaction between ‘healer and patient and music’ (Alvin, 1974, 1991).

A widely used approach is Nordoff-Robbins music therapy (NRMT), which was developed by Paul Nordoff, a pianist, composer and music professor, and Clive Robbins, a special educator, in the early 1960’s, at first in the UK and then in the United States of America. They researched the positive effects of music on disabled children and developed musical programmes and ‘musically supported activities [that] become therapeutically effective in many ways’ (Nordoff & Robbins, 1971, p. 16). They visited settings such as departments for child psychiatry as well as care units for autistic children. Their approach was based on the assumption that engagement in music is universal and every individual is able to find meaning in music and musical experiences and, therefore, benefit from it:

The therapy that lies in music can have a far-reaching effect upon development of children who bear the handicaps of mental impairment, emotional disturbance or physical disability. [...] Music is a universal experience in the sense that all can share in it; its fundamental elements of melody, harmony, and rhythm appeal to, and engage their related psychic functions in each of us. Music is also universal in that its message, the content of its expression, can encompass all heights and depths of human experience, all shades of feeling. [...] Music therefore becomes a sphere of experience, a means of intercommunication and a basis of activity in which handicapped children can find freedom, in varying degrees, from the malfunctions that restrict their lives. (Nordoff & Robbins, 1971, p. 15)

Moreover, Nordoff and Robbins refer to music as a therapeutic means for self-development and inclusion:

Music possesses inherent capacities for effecting a uniquely significant contact with handicapped children and for providing an experimental ground for their engagement, their personality development, their integration – both individually and socially. (Nordoff & Robbins, 1971, p. 16)
Methods were designed so that everyone, irrespective of their abilities, could participate in one-on-one sessions, as well as group therapy sessions (Nordoff & Robbins, 1975, 1971). Again, explaining the Nordoff-Robbins music therapy approach in detail would go beyond the constraints of this work.

Overall, there are various and many approaches and models in the field of music therapy practice. These include, for example, Orff music therapy (Voight, 2013; Orff, 1980), the Bonny Method of Guided Imagery and Music (BMGIM) (Kim & Jeong, 2016; Bruscia and Grocke 2002; Bonny, 2001) and Neurologic Music Therapy (NMT) (Altenmüller & Schlaug, 2015; Thaut & Hoemberg 2014). Additionally, Edwards (2016) alone describes eleven approaches and models or traditions of music therapies, which embrace the above mentioned Nordoff-Robbins music therapy, field of play, community music therapy, resource-oriented music therapy, culture-centres music therapy, aesthetic music therapy, vocal psychotherapy, feminist perspectives, psychodynamic music therapy, developmental music therapy, and anthroposophical music therapy (Edwards, 2016, op. cit.). There is a wide and growing body of literature on music therapy. In the following paragraphs, some examples of effective music therapy on SEND individuals are reported.

Bunt (2006) provides a selected overview of the nature and effectiveness of music interventions and how children of different ages and needs may benefit from music therapy. Based on a survey of n=40 music therapists working for one music therapy provider in the UK, he reports that children on the autistic spectrum are the biggest client group. In this regard, he describes a case of an autistic child, Neil, who was diagnosed as autistic when he was three years old. Neil presented with difficulties in communicating, building relationships with others and in ‘symbolic and imaginative play.’ Over a period of two years, Neil engaged in weekly therapy sessions. In the beginning of the reported sessions, he particularly liked making sounds on a gong and metallic wind chimes.

Furthermore, he was observed to vocalise and seemingly engage in a dialogue with the therapist’s singing and piano playing. Another musician in the room copied Neil’s musical sounds on her viola and played it back to him. After this initial musical engagement, Neil used to play randomly on the piano while sitting on his mother’s lap. Both, therapist and musician, subsequently changed the tempo or intensity of their playing in order to either stimulate certain behaviour or accompany Neil’s actions (i.e. playing on the piano in a certain way, singing, moving his attention towards something else, sitting on his mother’s lap, or communicating with her in his own way). Bunt (2006) reports that this ‘session had the overall shape of a gradual move to the longest and most connected contact between
Neil and his mother [...] communication via the instruments did lead to more extended periods of direct communication’ (p. 276). This example illustrates positive effects on communication skills of autistic children from music therapy. Indeed, there is a substantial body of research to suggest that music therapy is beneficial on aspects of social, emotional and motivational development in children and young people on the autistic spectrum (cf Broder-Fingert, Feinberg & Silverstein, 2017, Bergmann 2016 in Edwards, 2016; Bunt & Stige, 2014, Ockelford, 2013; Humpal & Kern 2012). Dimitriadis and Smeijsters (2011) even argue that it is cases of children with autism ‘with which music therapy has the highest reputation’ (Dimitriadis & Smeijsters, 2011, p. 108).

Furthermore, Bunt (2006) describes two cases of children with learning difficulties; a ten-year-old girl with profound learning difficulties and physical disabilities and a fourteen-year-old boy without speech. Both are reported to have gained from effective music therapy, in that their ability to communicate, develop self-regulation skills, co-ordination, and concentration skills were enhanced. Other recent research evidence underpins the notion that children and young people with various needs – ranging from mild to profound and multiple learning difficulties and disabilities – can benefit from music therapy (e.g. Wetherick, Spiro & Schober, 2014; Brown & Jellison, 2012; Pienaar, 2012; Bertolami & Martiono, 2002).

Within the special needs and disabilities sector, there is also research to indicate that individuals with hearing impairments can gain from music therapy. Although one may assume that musical engagement in any form and hearing impairments are likely to be in conflict, research by Edwards and Gfeller (2016) suggests that certain music therapy approaches, dependent on the hearing abilities and therapy goals, can be beneficial. Here, music therapy can pose a means for auditory training, in that persons with an onset of hearing loss in their adulthood can re-establish functional skills and use music therapy as part of a wider rehabilitation programme. Common therapy goals are reported to be language and speech development. Related effective approaches can be singing, instrumental play, and movement to music, for example. Furthermore, auditory training can be used for improved speech perception by applying sound detection exercises where listener attends to sounds that stimulate and that ‘push the auditory system toward more efficient processing’ (pp. 17-18) which may be beneficial for the perception of speech. In this regard, Edwards and Gfeller (ibid.) mention active music making as an aid for children to associate the sound with the sound source. Moreover, they claim that, for younger children, ‘interactive music making through playing instruments, singing, games, and
movement to music’ can enhance listening skills, i.e., promote sound discrimination. Furthermore, the authors suggest that computerized auditory training, in other words “listening games”, can arguably promote the efficiency of peripheral auditory processing. Other domains that can be enhanced by music therapy, according to Edwards and Gfeller (2016) are social skill development and reintegration where interactive music activities in the framework of a group event can be an opportunity to develop social skills, ways of self-expression and make positive experiences in a social environment. In short, ‘the acoustic characteristics and social nature of making music can offer rich opportunities for music therapy goals intended to enhance language and speech development, optimal listening skills, and social integration’ (Edwards & Gfeller, 2016, p. 21).

Bang (2009), too, reports on the ability of music therapy to improve and promote (a) communication and social skills, (b) speech and language, (c) motor, sensory and cognitive skills, as well as (d) musical training and development in children and young people with hearing impairments and various needs. In his review of a multimedia presentation ‘A World of Sound’, he reflects on his experiences as a music therapist and music educationalist. He names various music therapy approaches, such as auditory training and training in sound-perception, musical voice treatment, speech- and song therapy, dance and movement and drama, as well as instrumental and orchestral work. Furthermore, Bunt emphasises that music is of great value to children, in that it ‘gives our children significant emotional experiences and realizations. It focuses on their talents, instead of their problems and limitations which might be a result of the hearing loss or further reduction in function. So, music is self-reinforcing as children experience through it success’ (Bang, op. cit., p. 96). However, in a music therapy context, the interest is not on education in music as such, but rather on music as a tool to generate other than musical benefits. In this sense, Bang clarifies that:

[...] music is not considered as a goal in itself. Music is one of the most important pedagogic and therapeutic means of developing an acoustic-visual-motor unity. It is an optimum means of communication in a world of entirety, which is also for the child or adolescent, who does not hear as people do mostly, but nevertheless is in “A World of Sound and Music”. (p. 96)

Similar to the research reported above, Bang (2009) describes the musical engagement of music therapy as, above all, a listening-perceptive action that includes musical action of the children. His belief is that everyone, including hearing impaired individuals, are in some
way sensitive to musical sound and stimuli. Furthermore, he argues that everyone is musical and possesses the ability to experience music. He calls these abilities ‘talents of our children which, musically are fully equal to those of the normally hearing ones’ (p.95).

In addition, Bang (2009) illustrates music therapy successes in deaf-blind individuals and those who are what he calls the ‘severely multi-handicapped’ (p. 99).

In conclusion, attainment of musical skills in terms of education in music is not a primary music therapy. As illustrated in the aforementioned examples, the main goal / essence of music therapy is to achieve improvements in non-music related domains by engaging in music in some way. Thereby, the acquisition of musical knowledge and skills is not pursued in its own right. Furthermore, all studies seem to have in common that the ‘treatment’, as opposed to ‘education’ in the customary sense, happens in a special setting, or the ‘therapy room’ between therapist and client / patient, the implication being that music education is distinct from music therapy. Nevertheless, many examples graphically depict that ‘for children with a disability and special needs, engaging in appropriate musical activity means that the benefits of education in music are intertwined with an education ‘through music’ (Welch & Ockelford, 2015, p.21; Ockelford, 2012, p.2), and available to all, not just some’ (Welch & Ockelford, op.cit.). Consequently, children’s personal and musical development can and should be fostered, not only within the context of music therapy, but also beyond. Moreover, everyone should have access to an education, inclusive of music therapy and music education, and be encouraged to exploit their personal, social, academic and musical potential as fully as possible (Gfeller, 1999, cited in Darrow and Adamek, 2012).

So not only can music have a positive impact on an individual’s development, health and wellbeing, but music per se or the ability to engage in music, is considered to be available to all in the existing literature. Thus, although the extent and quality will vary, a certain degree of musicality is considered to be universal, irrespective of a person’s disposition, physical and mental abilities and circumstances. Consequently, for all people, but particularly for children with disabilities and special needs, such findings concerning the potential wider benefits music are important in reviewing opportunities for sustained engagement with music in both therapeutic and educational senses.
3.2.2 Education in music

As aforementioned (see Section 3.1), there is a growing body of research on music and its potential wider benefits on an individual’s wellbeing (cf Welch & McPherson, 2012; Ockelford, 2012; Creech, 2016; Hallam & McDonald, 2009; Welch et al, 2014; Macdonald, 2013; Rabinowitch, Cross & Burnard, 2013, Cross et al, 2012; Wetter et al, 2009; Eerola and Eerola, 2013). It seems important to note that the available evidence suggests that this is true for all individuals, i.e., able bodied people as well as people or individuals with physical, behavioural or mental health difficulties, irrespective of age, gender, or social backgrounds. By definition and design, it argued that all people are musical and possess the ability to engage in music (cf Welch & McPherson, 2012; Ockelford 2015). Hence, by implication, it can be assumed that this is also applicable to children and young people with particular dispositions and abilities, various behavioural difficulties, psychological disorders and mental health problems, and other challenging environmental and personal circumstances and factors.

Despite the wide acknowledgement of the benefits of music engagement and music education, however, there is still relatively little existing literature in the field of music education and children and young people with special needs who learn in music as opposed to through music. It is open to speculation as to why this is the situation. Maybe there is a lack of understanding of the potential value of sustained music engagement for those with special needs. Or there is a common misperception regarding the musical abilities of such individuals. Moreover, being ‘special’ and therefore representing a minority, might be a reason why there has been relatively little attention to musical development in the SEND population from those with responsibility for their education and care in the education sector. It would appear there are many relative deficiencies in our understanding in this area (albeit with some exceptions), and little high-quality research-based evidence to encourage and promote access to high quality music education.

The existing research, however, provides evidence that individuals with congenital disabilities who engage with music can, within their capabilities – achieve a high level of music-perceptual and cognitive performance. For example, around 40% of children with little or no sight develop absolute pitch in the first two to three years of their lives, among which there are approximately 5% with autism (Ockelford, Pring, Welch, & Treffert, 2006; Ockelford & Matawa, 2010). Furthermore, findings of a study by Welch et al (2015) on the effects of singing on hearing-impaired pupils’ hearing abilities and voice use in the first years of schooling suggest that that individuals with disabilities, including hearing, can
develop musically. The study, which was conducted in a London Primary school across two school terms, focused on setting up a specially designed repertoire of simple songs along with musical activities, plus visual imagery for sound, and vocal explorations. Pre- and post-intervention measures of pitch discrimination, speech perception in noise and singing competency constituted the assessment of the programme. The specially designed programme was found to not only improve these children’s singing accuracy and vocal range (towards the capabilities of their normal hearing peers), but also to significantly enhance a measured assessment of pitch perception (Welch et al., op.cit.).

Preliminary findings of the three-year music programme *Sounding Out* – a music programme designed for Hearing Impaired children (HI) by the charity Creative Futures\textsuperscript{46} and the UCL Ear Institute and UCL Institute of Education – also suggest that secondary school HI pupils can successfully engage in music making activities and make progress in music (Welch et al., 2018). Data were collected through systematic longitudinal structured observations during regular points across two school years of these pupils’ musical engagement in the specially-designed *Creative Futures* music programme in two London Secondary special schools for HI pupils. The *Sounds of Intent* musical development framework for children and young people with special needs and disabilities (Wilde, Ockelford & Welch, 2016; Ockelford, 2015, Ockelford, 2000 – see Appendices 2, 3 and 4) was used to assess and map the individuals’ musical behaviours. Data analyses indicated that, over time, almost all pupils, as well as the school groups as a collective, advanced and progressed in music. In addition, Welch et al. (2018) investigated whether there were any factors, such as learning environment and pedagogical context, that might affect pupils’ learning and progress in music. Observational data suggested that the socio-musical context indeed affected the development of musical behaviours. The impression was that, in some instances, individual pupils would have benefited from additional assistance to support their musical behaviour and achievement in music. Furthermore, in certain aspects, evidence of an inadequate pedagogical approach suggested that musical activities did not necessarily match the individuals’ abilities – namely that musical potential seemed to be unrealised. Furthermore, it was reported that the wider school environment seemed negatively to influence the outcomes of the programme at times, and reduce the opportunities for participating pupils to engage in music to a greater extent. In one school, the curricular context restricted the musical content in order to fit this into the school’s

\textsuperscript{46} Creative Futures is a charity that supports learning in the arts and music. Retrieved from https://www.creativefuturesuk.com/about
overarching arts project at that time. Nevertheless, participants were able to engage in active music making successfully, despite these constraints and their special needs and disability profiles (Welch et al., 2018, op. cit.).

Other research on musical abilities and Special Educational Needs and Disabilities (SEND) suggest that congenitally blind children and those on the autism spectrum not only are observed to share a common interest in (musical) sounds, but also possess the ability to engage in music successfully, i.e., develop instrumental skills (Ockelford, 2016). Ockelford (2016) presents examples of ‘blind autistic musical savants’ (Ockelford, op. cit., p. 13) that are similar in their profiles of needs, but rather diverse in their musical abilities and natures of musical behaviour. A twelve-year-old boy with genetically caused congenital blindness and with an autism spectrum condition (illustrated by an impairment of social interaction, difficulties in communication and a limited range of interests) is reported to be good at playing several instruments such as the piano, recorder, saxophone, clarinet and the drum kit at an advanced level, despite his profile of special educational needs. Furthermore, a ten-year-old girl, who is both blind and diagnosed with autism, is described as being musically talented. She is reported to have difficulties to understand and use language. However, she has been assessed to process sound and both disaggregate and reproduce chords very quickly. She is reported to enjoy playing the piano and to be able to do so at a very advanced level. The third example in Ockelford’s (2016) paper is a nine-year-old girl who exhibits similar needs as the other two cases. Moreover, she presents with low muscle tone. Irrespective of her challenges, she, too, is reported to be able to play the piano. Her favourite musical activity, however, is singing. She is reported to be a very confident (singer) performer, who sings at a high competency level using a wide range of performance directions and techniques. The fourth reported case is also affected by blindness and autism. This eleven-year-old boy had taught himself how to play on the keyboard as a young child. His musical ability was discovered and nurtured. According to the paper, this boy today performs with well-known music groups all around the world. The fifth and last example of young people with SEND is five-year-old boy who, similarly to the fourth example, started autodidactically to learn the piano when he was one-year-old. Although reluctant to perform to others, he is reported to be quite a confident pianist, who is able to improvise and create on his instrument (Ockelford, 2016, op. cit.). Although Ockelford (2016) calls these individuals ‘savant prodigies’ and that their condition reinforces exceptional abilities in non-impaired (even highly developed) domains such as hearing, triggered by sound as a ‘ready source of stimulation’ (Ockelford, 2016, ibid., p. 4),
these young people offer evidence that musical abilities are present in those who cannot read musical notation, nor have the skills or capacity to communicate by using language. Furthermore, as with Hearing Impaired (HI) pupils, they seem to progress in music, given that their abilities are able to be nurtured and extended.

It can be assumed that in some instances, conditioned by their impediments, these children may not develop and perform to the same extent as their peers. Nevertheless, research evidence suggests that some of these individuals can exhibit just as wide a spectrum of musical skills and abilities as neurotypical individuals, or may even exceed those in some musical competencies (Ockelford and Welch, 2012). Moreover, evidence drawn from the Sounds of Intent project (a framework to map and gauge musical development in children with special needs and disabilities – http://soundsofintent.org, see Section 2.3) indicates that this conception is also valid for those with profound disabilities and the most complex needs (Ockelford, 2015; Ockelford, 2000). A preliminary statistical analysis of instrumental learning in the context of SEND in one East London borough suggested that children with special needs can engage in music and learn an instrument as successfully as their peers if high-quality provision of music/instrumental education is available (see Appendix 1).

3.3 The Sounds of Intent Musical Development Framework (Sol) for children and young people with special needs and disabilities (RQ 1)

3.3.1 The history of the establishment of the Sounds of Intent framework

The literature review in Section 3.2 suggest that every individual is musical by design and possesses the capabilities to engage, in some way, in music making and learning. The Sounds of Intent research data underpin the implication that even those individuals who would not normally be regarded as being able to engage successfully in music education, can learn musically (Ockelford, 2016; Ockelford 2015, Ockelford, 2000).

The Sounds of Intent Musical Development Framework for Children and Young People with Special Needs and Disabilities (Sol) was rooted in a perceived general lack of systematic music education provision for children and young people with SEND (Ockelford, 2000; Welch, Ockelford, Zimmermann, 2001). Around the turn of the century, an Ofsted school inspection summary report (1999) on Special Education between Years 1994-1998 revealed that, despite earlier introduced policy initiatives on music curriculum, there was still no
national music education strategy for pupils in special schools in England, UK. In fact, a significant number of special schools in England had so little sustained musical inputs and insufficient music lessons, if at all, that it was impossible to make a secure judgement on the quality of provision. Furthermore, only half of the special schools that did show provision of music education in any way, were regarded as satisfactory or better (Welch et al., 2001; Welch, Ockelford, Himonides & Wilde, 2015). Music was still ‘not widely used in the field of learning disabilities’ (Savarimuthu et al., 2002, p. 160). Another report by Ofsted (1999) on standards and quality of education in 1997/98 suggested that there were ‘also weaknesses in the planning of design and technology, science and music’ and it was reasoned that ‘these difficulties stem largely from class teachers’ lack of specialist subject knowledge’ (Ofsted, 1999, “About Special Schools”, para. 205). Music as a subject was claimed to ‘pose problems in terms of staff expertise’ (Ofsted, 1999, para. 200). Overall, ‘music and information technology [were] the subjects most frequently missing from timetables’ (Ofsted, 1999, para. 203).

Acknowledging that there was a need for information on the existence and nature of musical practice in special schools, a project labelled as the Promise enquiry was initiated to investigate the then current situation related to the provision of music in special schools in England. The aims of the research project were to (a) identify examples of good practice, (b) explore the range of musical input within schools and their communities, (c) investigate levels of teacher expertise and related issues, (d) investigate the kinds of resources that were used, (e) gain insight into schools’ perceptions of music education and whether they distinguished ‘between education in music and education through music as well as between music therapy and music education’, and (f) determine any other matters of importance and concern (Welch et al., 2001, op. cit., p15). This resulted in a survey that provided data on the provision of music in special education for nearly 3,000 pupils in 52 special schools in England (Welch et al., 2001; Welch et al, 2015; Ockelford et al., 2002). Across the 1999-2000 academic year, the three phases of data collection included questionnaire sampling, school visits and observations, and informal discussions with school staff and professionals in the sector. Overall, generated data suggested that there was a considerable difference in both the quality and quantity of systematic music education, as well as music therapy, across special schools in England. Despite the insufficient musical input, nevertheless schools recognised the potential benefits of musical engagement on their pupils’ development. Headteachers believed that, in addition to musical developmental benefits and enjoyment in music, there were significant non-
musical benefits from engaging in music, such as an enhancement of social and emotional skills, physical development, enhanced cognitive skills, and language development (Welch et al., 2001, op. cit., p.32). Furthermore, there were examples of effective practice observed. Apart from exploring if children with special educational needs (SEN), severe learning difficulties (SLD) or profound and multiple learning difficulties (PMLD) were believed to benefit from music, the research reported that there was a predominant lack and uncertainty as to what constituted good music education provision in terms of pedagogical approach, teaching strategies and programme design (Welch et al., 2001, op. cit.; Ockelford et al., 2002, op. cit.). Schools reported that there was a need for curricular guidance and/or a national framework that would provide help to ensure good quality music education for their pupils. Moreover, findings from the Promise research suggested that an evidence-based national curriculum framework, founded on evidence of effective music education provision, could provide nationally recognised guidance on appropriate and effective music pedagogy in special schools for pupils with any kind of SEND.

At the same time, the UK government’s Qualifications and Curriculum Authority (QCA, 2001) published a document called ‘Planning, teaching and assessing the curriculum for pupils with learning difficulties’, widely known as the ‘P-Levels’ for music. The P Levels (Performance P scale attainment targets for pupils with special educational needs (SEN) (DFE, 2017) offer a means for assessing progress for students who are operating below National Curriculum Level 1. The format contains performance descriptions, which outline a range of overall music performance that pupils might demonstrate. Analyses of the then published document highlighted that the conceptualisation of the descriptions (a) were not necessarily representative of actual musical behaviours in these children, (b) were not clear and the distinction between levels was not coherent, (c) did not sufficiently describe attain-attainments and musical progress, or (d) had nothing to do with music altogether (Welch et al, 2009).

47 The (P scales) are ‘performance attainment targets and performance descriptors for pupils aged 5-16 with special educational needs (SEN) who are working below the standard of the national curriculum tests and assessments’. These apply to key stages 1, 2 and 3 (DFE, 2017) Retrieved from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/617033/Performance_P_Scale_attainment_targets_for_pupils_with_special_Educational_needs_June_2017.pdf

48 ‘In all National Curriculum subjects, and Religious education, the criteria for assessing learners’ progress are set out in descriptions of performance at nine levels for each attainment target (levels 1 to 8 and ‘exceptional performance’). Level 2 represents expectations for most 7 year-olds, level 4 represents expectations for most 11 year-olds and levels 5 to 6 represent expectations for most 14 year-olds.’ (QCA, 2010) Retrieved from http://dera.ioe.ac.uk/10747/7/1849623848_Redacted.pdf
Consequently, the absence of official guidance and format to represent these pupils’ musical development led the same research team to undertake an initiative to undertake further research into this area. This research provided the basis for the establishment of the *Sounds of Intent* research project in 2003, a collaboration by the UCL Institute of Education (known then as the Institute of Education, University of London), Roehampton University, and the Royal National Institute of the Blind, together with professionals from the special education school system in the UK to investigate the nature of effective music education in special schools. The aim was to investigate (a) how to map musical development of children and young people with the complex needs. Furthermore, because of an underlying belief that effective pedagogy is grounded in developmental reality, the goal was (b) ultimately to provide guidance, based on research evidence, on what constitutes effective practice in music for all children with any kinds of special needs and disabilities and determine what potential education programmes and approaches could be used to trigger and nurture these pupils’ musical abilities and development, respectively (Ockelford, 2015; Ockelford et al., 2005; Welch et al., 2009; Cheng et al., 2009; Vogiatzoglou et al., 2011). Based on research evidence that there is a universal predisposition for musical behaviour (e.g., Trehub, 2003 in Welch, Ockelford, Carter, Zimmermann, Himonides, 2009), the researchers believed that ‘it may be possible to uncover musical behaviours in the context of complex needs if the researchers are open and sensitive to this possibility’ (Welch et al, 2009, p.5).

Observational data of musical engagement of these children and young people were collected and analysed related to emerging themes that addressed different phases of musical behaviour and development. Involving a diverse team of professionals consisting of music therapists, teachers and others active in the field of music education, a ‘bottom up’ approach was adopted in order to develop shared interpretations and agree on descriptions of the various and different types and levels of observed musical engagement and behaviours. Over a period of two years, video recordings of individuals (case studies) with complex needs engaging in musical activities in special schools were analysed. The team attempted to note the different musical behaviours, i.e., responses to music, musical actions and musical interaction with others, as well as determine any behaviour that was an indication of musical progress (Welch et al, 2009, op. cit.). The rich data (case study analyses of individual video recordings) strongly suggested that musical engagement was multi-dimensional, in that the level of ability to attend to sounds could differ from making them, as well as producing music in the context of others. Consequently, the Reactive,
Proactive and Interactive domains were created to represent a three-dimensional descriptive representation of musical behaviours (Figure 3.1). Furthermore, it seemed necessary to identify the particular levels of these behaviours; observing that they emerged to be sequential and on a continuum. By comparing these instances of musical behaviour with the then existing literature, an attempt was made to map what was typical behaviour and progress in music (Welch et al, 2009). Subsequently, during the research process over a two-year period from July 2003 to August 2005, an illustration of musical development was considered that used segments within concentric circles (originally a five-point scale, now six). In order to evaluate the emerging framework, more fieldwork was undertaken with observations of a larger population from September 2005 to August 2007. In the first year (Spring and Summer terms 2006), the aim was to interrogate evidence of the validity and reliability of the emergent framework through school-based observations. More observational data were gathered in that every participant pupil was observed in their whole-class musical activities. Observations focused on how they acted musically and how they reacted to the teacher’s activity. In total, five special schools in the South East of England with a total number of n=68 pupils with PMLD participated in the project where the framework was tested in relation to the categories and subcategories of musical behaviours. The then design of the framework was trialled by the research team for each participant and any uncertainties discussed and resolved.

All in all, n=630 observations were made. The analyses showed that there was a tendency for the participants to exhibit behaviour that embraced Levels 2 and 3 of the Sounds of Intent framework in terms of PMLD (Figure 3.3). Interactive behaviours were generally rated lower than behaviour in the other domains. Levels 4 and 5 were observed on relatively few occasions. Furthermore, the nature of observations and number of instances for each domain were similar across the participating schools. Also, where there were longitudinal data available for particular pupils, data suggested that 57% showed more advanced musical behaviours towards the end of observations. Overall, the research evidenced that (a) the findings supported the then current design of the Sounds of Intent framework and (b) that those with the most complex needs were able to develop musically, and that education in music as well as through music was possible (Welch et al, 2009). However, it seemed to be necessary to conduct further systematic research and gather more longitudinal data. One aim for the years 2006 to 2007 was to focus on teacher behaviours related to their pupils’ musical responses and attainments, as the team observed that ‘musical behaviours often (but not always) appear in relation to particular
contexts’ (Welch et al, 2009, op. cit., p. 21). The other aim was to investigate how the framework could be adjusted to match the musical abilities of pupils with less severe learning difficulties (later resulting in the addition of the sixth Level\textsuperscript{49}). To help in conceptualising the observed behaviours, there were further initiatives such as doctoral studies by Cheng (2009) and Markou (2010).

The visual circular map, later known as the \textit{Sounds of Intent Musical Development Framework for Children and Young People with Special Needs and Disabilities} (SoI) was created such that it represented the observed behaviours in a hierarchy. The framework and its design sought to enable educators, practitioners, therapists and carers, as well as other involved in instrumental education for these pupils, to assess musical behaviours, attainments and musical progress over time, i.e., across the observed instances of musical engagement and to promote these (see Sounds of Intent website, 2018\textsuperscript{50}; Wilde, Ockelford & Welch, 2016).

The national launch in 2012 of the Sounds of Intent framework aimed to impact positively on SEND music education practice by grounding this in children and young people’s observable musical behaviour and development as framed by Sounds of Intent. The web-based version aimed to:

[enable] practitioners and parents/carers to gauge their children’s levels of musical attainment, to chart any changes that may occur over time and, in response to particular musical experiences and interventions, to record qualitative observations in the form of written, video or audio data, thus building up a profile of a child’s experiences, achievements and development. (Welch et al, 2015, p.3)

Currently, music teachers, practitioners, parents and others involved in music education can obtain a personal practitioner’s account on the Sounds of Intent website in order to record and assess their pupils’ / children’s musical engagement and thus track their development over time. Once registered, users have full access to the whole corpus of resources and information. Resources include, for example, video examples of particular musical behaviours at various levels, visual representations of the SoI framework (including a detailed framework with all 72 descriptors (see Appendix 2), session data recording forms (see Appendix 3) and offline pupil entry forms (Sounds of Intent website, 2018).

\textsuperscript{49} Further research resulted in the addition of the sixth level to do justice to the music-cognitive development in children and young people with learning difficulties (Ockelford, 2015)

\textsuperscript{50} See http://www.soundsofintent.org/
A recent addition to the format allows the user to gauge a pupils’ level of engagement and consistency (Vogiatzoglou, Ockelford, Welch and Himonides, 2011). Practitioners can enter their pupil(s) anonymised details, and upload their session data (musical development). Recorded data are automatically processed by the SoI system, in that dynamic progress charts are generated.

In the summer of 2015, a second national survey on the provision of music in special education (Promise 2015) was conducted, as a follow-up on the earlier Promise investigation of 2001 (see above). The survey aimed to reveal the current state of music provision or any developments related to music in special education by including the same categories as in its predecessor. In total, n=57 schools, which represented n=7,306 pupils from all regions in England, responded to the survey. The main findings revealed that there was an increased access to regular music education and opportunities to participate in musical activities – with the addition of external input such as from local Music Hubs, regional and specialist music centres and specialist charitable organisations – as well as music therapy in special schools. Weekly musical input was reported for 100% of pupils aged between 3-5 years, 95% of pupils aged 5-14, 80% of young people aged 14-16 years, and 66% of pupils aged 17-19. Furthermore, more specialist music staffing were reported to be teaching in these schools than almost fifteen years ago. In addition, music therapy was offered in one third (representing 11% of total schools) of the participating schools, which was more than double than that of almost fifteen years ago (5%). Also, in order to assess musical attainments, schools reported that they were using the above mentioned P-Levels (56%, n=32 schools). Moreover, the Sounds of Intent framework was used weekly in n=4 schools and monthly or termly in another n=4 schools. Overall, schools seemed to be more aware of the significance of, as well as the benefits from, music in special education. However, respondents reported an interest in further guidance on staff development, curriculum improvement and possibilities for funding to enrich pupils’ musical experience, as well as to engage more pupils, irrespective of their needs, in music education. Last, but not least, the survey’s outcomes fed into another national initiative – the inspire-music project - to improve the quality of music provision for all children in the UK (see Section 3.4.2) (Welch et al, 2015, op. cit.).
3.3.2 The Sounds of Intent framework Design

The Sounds of Intent research described above revealed that observed musical behaviours covered a huge developmental range, from what appeared to be the very beginnings of musicality (or even, in some cases, stages of development in which musicality was yet to evolve) to highly sophisticated levels of musical behaviour (Ockelford 2015, p. 3). The research has shown that musical engagement is complex and comprises a varied set of behaviours rather than being one-dimensional. In order to conceptualise musical profiles accurately, three broad dimensions were found to encompass the different forms of musical engagement. These three categories, or domains of musical engagement, were named (a) Reactive, (b) Proactive, and (c) Interactive domains (Figure 3.1).

The Reactive domain comprises musical behaviour such as listening to music and sounds, as well as responding to it. Proactive musical behaviour describes all musical engagement related to creating and recreating music. The third domain (Interactive) represents all musical behaviour that happens in the context of making music with others (Ockelford, 2008; Welch et al., 2009). In addition, the research group explored the nature of musical engagement within each domain and reported various hierarchies (levels) behaviours. Dependent on the prevailing conditions and the individual profiles, pupils could be located within different developmental phases of musical behaviour. These could be very basic and at a very early (cognitive) stage of musicality, or very far advanced and relatively sophisticated. It was argued that, as a consequence of the widespread data collection, six levels were established that were designed to illustrate different core cognitive musical abilities.
Hierarchical descriptors for these abilities were (1) Confusion and Chaos, (2) Awareness and intentionality, (3) Relationships, Repetition, Regularity, (4) Sounds forming Clusters, (5) Deeper structural Links, and (6) Mature Artistic Expression (Ockelford and Welch, 2012).

For example, the framework illustrates the first stage of Reactive behaviour with the description 'encounters sound'. In contrast, the most advanced Reactive behaviour in music is defined as 'engages with pieces as abstract ‘narratives in sound’ in which patterns of notes are repeated or varied over time to create meaning; differentiates between styles and performances' (Sounds of Intent website, 2018). In short, there are six so called ‘segments’ attached to each domain that represent the various stages of musical engagement (Figure 3.2 and Figure 3.3).

![Figure 3.2 The representation of the six developmental stages within each domain.](http://soundsofintent.org/soi.html)
In addition, each segment was subdivided even further into four (hierarchical) elements or stages to detail an increasing range of (a) the exposition to sound, (b) control and production of sound, and (c) sophistication of the particular music making with others (Sounds of Intent website, 2018 – See Appendix 2). Furthermore, all descriptors were designed to address musical engagement related to (a) pure sound and music, (b) sound and music related to other things and (c) technical elements. The relation of level descriptors is arranged in a way that each builds on the other. This means that being at a higher level presupposes that behaviours of lower levels were and are present in the individual, implying that a typical musical development trajectory would happen from the inner to the outer elements of the framework. In contrast, individuals may display musical behaviours that vary in their development across domains.

In addition to the visual circular map (see Appendix 4), the Sounds of Intent format allows the practitioner to gauge their pupils’ level of engagement and consistency by either using the available software or the specially designed session forms to refer to the effectiveness of a certain activity for a particular pupil. Both levels of engagement and consistency can be

---

**Figure 3.3** The representation of the six developmental stages with descriptions.

Copyright A. Ockelford, 2015. Used with permission.
rated on a six-point and five-point scale, respectively. Descriptions related to engagement in improvisation for example embrace the following possible answers: (a) ‘no evidence (score 0), (b) ‘improvises on at least one piece using one type of musical variation with a moderate degree of competence (score 1), (c) ‘improvises on at least two pieces using one type of musical variation or more with a moderate degree of competence (score 2)’, (d) ‘improvises on at least three pieces using one type of musical variation or more with a moderate degree of competence (score 3)’, (e) ‘improvises competently on at least four pieces using two types of musical variation or more (score 4)’, and (f) ‘improvises competently on five pieces or more using two types of musical variation or more (score 5)’ (Vogiatzoglou et al, 2011, op. cit., p. 194).

Descriptions for consistency – i.e., related to improvisation – are (a) ‘coherent improvisation is observed rarely (on around one in eight occasions or fewer) given appropriate opportunities (score 1), (b) ‘coherent improvisation is observed occasionally (on around one in four occasions) given appropriate opportunities (score 2)’, (c) ‘coherent improvisation is observed regularly (on around one in two occasions) given appropriate opportunities (score 3), (d) ‘coherent improvisation is observed frequently (on around three in four occasions) given appropriate opportunities (score 4)’, and (e) ‘coherent improvisation is observed consistently (on around seven in eight occasions or more) given appropriate opportunities (score 5)’ (Vogiatzoglou et al, 2011, op. cit., p. 194). Multiplying the engagement score with the consistency score results in a total score that can be compared with other lessons over time and consequently indicate the appropriateness and effectiveness of the activities.

All in all, it can be concluded that the Sounds of Intent Musical development framework for children and young people with special needs and disabilities seeks to be comprehensive. The visual representation encompasses a wide range of musical behaviour, indicative of different developmental phases. Hence, it can be argued that this presents a good tool by which to map musical behaviour and progress in children with special needs and disabilities, whilst also being appropriate to use for ‘neurotypical’ or able-bodied children and young people.
3.4 Effective practice in music education (RQ 3)

Concluding from the previous chapters’ representations that (a) every individual is musical, irrespective of their circumstances and predisposition (Section 3.1) and (b) even those with the most complex needs possess the ability to engage and learn in music in some way (Chapter 3.2.2), it can be argued that the question should not be whether but rather how these individuals can receive music education so that they can experience successful learning. In other words, what does effective practice in music education look like such that it can bring about the realisation of musical potential, inspiration, enhancement of musical knowledge and skills, and, overall, ensure the best learning experience for all children and young people, including those with special needs?

3.4.1 Office for Standards in Education, Children's Services and Skills

The English school’s inspection body the Office for Standards in Education, Children's Services and Skills (Ofsted)52, a non-ministerial department of the UK government, has developed a triennial report on music education practice and assessment of music provision, based on inspection evidence of music provision in Primary and Secondary schools. In the following text, two consecutive Ofsted reports (2009 & 2012) are thematised. It is important to note that, at the time of writing this section (2018), no more up-to-date reports have been published. Both illustrated reports account for inspections that were conducted in n=84 Primary and n=95 Secondary schools in England, UK between September 2005 and July 2008 (Ofsted, 2009), and n=90 Primary and n=90 Secondary, and n=4 Special schools in England, UK between September 2008 and July 2011 (Ofsted, 2012), respectively. The latter report also included visits to a further n=9 Primary and n=1 Special school to investigate ‘good practice’ (Ofsted, 2012, op. cit.).

Inspections between 2005 and 2008 revealed that overall, half of the visited schools were rated as good or outstanding. Yet, the inspectors observed a prevailing lack of consistency in terms of quality and overall range of music provision (Ofsted, 2009, op. cit., pp. 5-6). Where the music provision was rated to be outstanding, there seemed to be a common understanding in schools that music was important and beneficial for all pupils. These schools strived to include all pupils in musical engagement, noting that in the first instance individuals developed personally and musically and ultimately, that the school as a

52 See https://www.gov.uk/government/organisations/ofsted for further information
collective gained. It is reported that, in general, teachers exhibited an enormous dedication to teaching music to their pupils, using a wide range of music. However, one of the findings was that teachers usually did not differentiate ‘between progress in separate components of music and musical progress, when all aspects come together.’ (Ofsted, op. cit., p.5), which apparently resulted in the pupils not learning to their fullest potential. Furthermore, it was reported that the development of pupils’ musical responses was not necessary nurtured, nor was there always any consistency of musical experiences. Moreover, musical assessment was rated to be inadequate or rather ineffective. Likewise, inspectors observed and criticised the sparse use of music technologies. Another key finding was that pupils seemed to benefit from music educational input from external providers, such as instrumental tuition. However, these programmes were usually regarded as not sufficient in ‘duration or quality to have a lasting impact’ (Ofsted, 2009, op. cit., p.6). Furthermore, it was assumed that differences in quality of provision across schools may have been the result of insufficient education and professional development of teachers.

The report included an outline of (a) listed criteria for judging both good and inadequate music provision, and (b) a detailed listing of ‘characteristics of good and outstanding instrumental / vocal programmes’ (Ofsted, 2009, pp. 72-77). Criteria of the first framework (a) are divided into the following segments:

- Achievement and standards;
- Teaching and Learning;
- Curriculum; and
- Leadership and management.

Furthermore, each segment was subdivided into themes. For a better understanding of the concept of the ‘Judging music provision’ framework an excerpt is presented below (for a full listing, see Appendix 5). A part of the section on teaching and learning is as follows (Table 3.1):
Table 3.1 Concept and representation of Ofsted’s ‘Judging Music Provision framework’ (excerpt, Ofsted, 2009, p.72) for good and inadequate teaching

<table>
<thead>
<tr>
<th>Teaching and learning</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A constant emphasis on musical quality and aural development, and practical music-making helps learners learn how to respond musically.</td>
<td>There is a lack of aural development and too much reliance on non-musical activities (for example, worksheets). There is a too narrow emphasis on increasing musical competence.</td>
</tr>
<tr>
<td>Performing is at the heart of all musical activity and learners are given every opportunity to experiment with instruments and voices and to experience making music with others.</td>
<td>Insufficient attention is given to the development of learners’ creativity and to providing opportunity for all learners to perform to others.</td>
</tr>
<tr>
<td>Working relationships are positive so that learners are given the confidence to perform, be creative and learn from mistakes.</td>
<td>Behaviour is often poor because working relationships are not secure and/or not all learners are treated as musicians. Learners are not given the confidence needed to succeed.</td>
</tr>
<tr>
<td>Learning objectives are clear and simple and focus on the musical skills, knowledge and understanding to be learnt by learners rather than the activity to be completed.</td>
<td>Objectives are unclear so that different tasks are often unrelated. Learners are unclear what they are learning and/or how to improve the quality of their work.</td>
</tr>
</tbody>
</table>

The guideline on ‘Characteristics of good and outstanding instrumental / vocal programmes’ is structured in a similar way. It comprises the same segments as the first framework. The difference, however, lies in the absence of ‘inadequate’ examples. Furthermore, examples are specifically oriented towards instrumental playing / singing. Accordingly, the wording is adapted. One aspect of the same segment theme as seen above (Table 3.2) has got the following appearance:

Table 3.2 Concept and representation of Ofsted’s ‘Characteristics of good and outstanding instrumental programmes framework’ (excerpt, Ofsted, 2009, p.75).

Teaching and learning

- A constant emphasis on aural development and practical music-making helps learners learn how to respond musically. Rhythmic and melodic skills are developed effectively through singing, playing instruments and creative work. An emphasis on aural perception and aural memory ensures that the visual aspects of decoding notation do not detract from the important aural aspects of playing tunefully and expressively. Work is constantly modelled by the teacher so the learners can see and hear what is expected. Learners are also encouraged to model the work for each other. Demonstration is much more effective than constant oral interruption.
The subsequent Ofsted report (2012) comprises evidence on the quality of practice from a total of n=194 so called ‘specialist music inspections and good practice visits’ in UK schools between September 2008 and July 2011 (Ofsted, 2012). Here, observational and inspectional data were generated from various school music learning schemes, such as music in class lessons, extra-curricular instrumental and vocal tuition, and other musical activities outside the schools’ curricula.

Ofsted (2012) reported that three years after the preceding inspections between the years 2005-2008, a large number of current key findings related to the same issues, namely that there were still extreme differences in (a) the number of music education opportunities for pupils, and (b) variability in the quality of provision across English schools. Moreover, the quality of music provision in many schools was rated to be inadequate or satisfactory. Once more, data analyses indicated that commonly there was little understanding as to how pupils could make good musical progress throughout their school career. Furthermore, the report criticised assessment and the quality of teaching, in particular that there seemed to be too little musical input (actual music making) in the lessons:

Examples of memorable, inspiring and musical teaching were observed in all phases. However, in too many instances there was insufficient emphasis on active music-making or on the use of musical sound as the dominant language of learning. Too much use was made of verbal communication and non-musical activities. Put simply, in too many cases there was not enough music in music lessons. Assessment methods were often inaccurate, over-complex or unmusical, particularly in Key Stage 3. This also limited the time available for practical music-making, and detracted from pupils’ musical improvement and enjoyment. (Ofsted, 2012, p. 5)

In addition, survey data were discovered to show that there was also a strong difference in the success of nationally funded whole-class instrumental and vocal tuition programmes in Primary schools. Whereas some pupils benefited from it, others seemed to benefit far less. Overall, the quality of singing programmes was rated as good in one third of schools only. Furthermore, pupils with special needs or those from lower socio-economic backgrounds were reported to be missing out on additional instrumental or extra-curricular opportunities to engage in musical learning. In total, only approximately one third of all participating schools were rated as good or outstanding in their music education. In contrast, good music education was evidenced by both the inclusion of all pupils in music
education and their participation in a wide range of music making programmes. Another indicator of good music education practice was music teaching that met the needs of all learners (Ofsted, 2012, op. cit., p.6-8).

Regarding special schools, it was reported that a school that had been rated as outstanding provided various means for participation in music education, ranging from regular classroom music lessons and music therapy, to maintaining relationships with professional music groups and hence enabling the best possible achievements in music (Ofsted, op. cit., p.45). Out of the n=4 schools visited, n=1 was rated as good and in the other n=2 schools music education was regarded as satisfactory.

Whereas the earlier Ofsted report (2009) presents two frameworks that illustrate good (or inadequate) music education practice, the subsequent report (2012) draws special attention to key factors to improve music education in schools (for entire section see Appendix 6). The outlined ‘seven priorities’ (Ofsted, 2012, op. cit., pp.45-50) were:

1. to challenge inequalities among pupils and schools;
2. to ensure that the actual musical input in music lessons is high;
3. to enable musical progress by appropriate planning;
4. to ‘improve pupils’ internalisation of music through high-quality singing and listening’;
5. to increase utilisation of technology to enhance creativity, inclusion and ‘make assessment more musical’;
6. to promote effective leadership to ensure high quality music provision at school; and
7. to use services from and other community or professional music providers and associations.

The reasons for similar findings from these two Ofsted reports, including the potential factors that effect the varying quality of music education across schools in England and why it seems not to improve significantly or sufficiently – irrespective of existing Ofsted guidelines – are outside the scope of this thesis’ research. However, the thesis does seek to explore in more depth what constitutes good (=effective) music education practice, especially in SEND contexts. In both reports, Ofsted (2009 & 2012) comments on the ‘Musical Futures’-model as an approach that can promote non-formal teaching and informal learning, empower Secondary pupils and ensure musical progress.
The latter report (2012) also refers to an evaluation of the Musical Futures Project\textsuperscript{53} from 2006 and states that the Musical Futures approach is regarded as ‘having a considerable and beneficial effect, both on the engagement of young people in music education and on their musical development’ (Ofsted, 2012, p.41). On the one hand, the approach was regarded to enable students to lead in their learning and take a role in selecting the repertoire, enhance their musical skills and promote social and personal skills. On the other hand, the Musical Futures programme was seen as promoting the students’ interest in music, as well as provide appropriate and good quality resources (Ofsted, 2012, op. cit.). Consequently, it seems appropriate to investigate how other professional music providers, educators, and educational bodies such as the Paul Hamlyn Foundation might conceptualise good practice of music education.

3.4.2 The Inspire-Music effective practice framework

The ‘inspire-music’ National Working Group was established in March 2015, following a research investigation into the quality and progression of music education in English schools in 2014/15\textsuperscript{54} for the Paul Hamlyn Foundation. The report highlighted that – similar to the Ofsted findings as reported above – the quality of school-based music was extremely varied across schools. Furthermore, music seemed not to be valued highly in all schools. On the one hand, shortcomings were regarded to exist due to an observed low confidence of teachers; arguably caused by inadequate educational / training backgrounds and a lack of participation in further professional development. On the other hand, factors that negatively impacted on music education provision were inadequate curriculum and pedagogy, and insufficient support from stakeholders, policy makers and senior leaders. Conversely, the best exemplars of music provision showed that, nevertheless, the current state of things was better than a decade prior to the research (Zeserson, Welch, Saunders, Burn, & Himonides, 2014; Inspire-Music, 2017).

In aggregate, the inspire-music project’s main aim was to provide examples of effective practice for all in the music education sector and to contribute to an improvement and progression in the quality of music education. Their intention has been to ‘improve the

\textsuperscript{53} The Musical Futures Programme was initially founded as an ‘action research programme to find new and imaginative ways of engaging young people in meaningful and sustainable music activities’. Retrieved from https://www.musicalfutures.org

range and quality of experiences in music and through music for all children and young people’ (Inspire-Music, 2017). Furthermore, by creating the initiative inspire-music\textsuperscript{55} – a platform and peer-learning resource designed for everyone in the field of music education - it sought to reinforce creative thinking in those who manage and lead music education programmes, as well as to contribute to the development of the wider music teaching and learning community (Inspire-Music, 2017). Their common assumption, evidenced by examples of positive teaching and successful learning, is that the following key factors underlie effective practice:

- Progress in and through music;
- Reflection on practice and learning;
- Utilising existent approaches and strategies that have been evidenced to work and generate good results;
- Adaptation of music education practice to the educational/learning context;
- Sharing experiences.

On their website, inspire-music exemplify successful music lessons from curated case studies. Materials are presented, which aim to provide help and inspire, as well as contribute to a better understanding of what constitutes effective practice. Irrespective of the diversity of the cases, all ‘are reported through the lens of a common inspire-music effective practice framework’ (Inspire-Music, op. cit., retrieved online\textsuperscript{56}).

The inspire-music effective practice framework\textsuperscript{57} is a framework (developed by the inspire-music working group of academics, practitioners and ex-senior inspectors) to describe a music education programme and reflect on the effectiveness of music education contexts, and further to gauge music education practice. It is structured in a particular way and consists of two main sections for each case study, which are subdivided into further subsections.

\textsuperscript{55} ‘Created by the aforementioned National Working Group chaired by Professor Graham Welch, supported by Programme Director Katherine Zeserson, and funded by the Paul Hamlyn Foundation, a major UK philanthropic foundation’. Retrieved from http://inspire-music.org/about-inspire-music

\textsuperscript{56} Retrieved from http://inspire-music.org/about-inspire-music

\textsuperscript{57} For whole framework see Appendix or https://drive.google.com/file/d/0Byqrw9DGETAFY2hiMEtQRngzeUE/view
Section 1 thematises the description of a music programme:

A: The aim of the programme and how it matches the school’s aims;
B. The context of the musical input;
C. Content of the work;
D. Learning and teaching approach; and
E. Review and assessment.

Section 2 outlines key features of reflection:

A. Kind of positive outcomes
B. Approaches / strategies to enable positive outcomes named in subitem A;
C. Key features of content to trigger positive outcomes named in subitem A;
D. Other factors to contribute to positive outcomes named in subitem A; and
E. Reflection on replicability and adaptability.

In the original document (see Appendix 7), these points are presented as questions to encourage reflexivity. In order to complete these questions, the framework includes an annex with prompts related to the two sections, partially with prompts that exemplify best case practice (see Table 3.3):

Table 3.3: Representation of the inspire-music effective practice framework (excerpt)

<table>
<thead>
<tr>
<th>Music leading:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secure provision for technical, musical, social, personal and critical aspects</td>
</tr>
<tr>
<td>Materials and resources match stage/age/levels of learners</td>
</tr>
<tr>
<td>Inclusive of needs of individuals, groups and pupils with SEND</td>
</tr>
<tr>
<td>Well prepared to meet requirements and aspirations of learners</td>
</tr>
<tr>
<td>Rich and relevant musical challenge to create, recreate, listen and respond</td>
</tr>
<tr>
<td>Fluency and energy give appropriate pace</td>
</tr>
<tr>
<td>Positive and professional ethos, and response to individuals and groups</td>
</tr>
<tr>
<td>Clarity over guidance for work between sessions</td>
</tr>
</tbody>
</table>

Additionally, the framework also seems to be suitable for ‘planning’ music lessons / projects/ programmes, considering that the prompts address and illustrate good practice.
The inspire-music platform provides so-called ‘overarching text’ documents on various themes, such as community music, CPD, early years, music across school Key Stages, Music Education Hubs, music technology and SEND. These documents not only refer to case studies in the named areas, but moreover present key issues that were identified across the particular topic case studies that references the inspire-music effective practice framework. It is important to note that the same factors that represent good and effective practice in general are also reported to be applicable to music education in the context of SEND pupils. However, in the context of music education and SEND, some key features are highlighted in the document that explicitly address music teaching and learning in the context of special needs and abilities and, therefore, are worthy of consideration in the context of this thesis. These factors are not self-explanatory from the framework alone.

The aspects are as follows:

- Identification of needs and appropriate selection of music education contexts;
- Inclusion of all children and young people in music;
- Acknowledgement that every individual, including those with SEN(D), is musical and possesses the ability to engage in music education in some way;
- Education in music lies above all;
- Teachers pedagogical and social behaviours are relevant;
- The musical response must be taken into account, in particular, noting that those with SEND may be delayed due to their circumstances;
- Assessment can be made by using the Sounds of Intent framework;
- To ensure that, on the one hand, external music education providers are adequately and appropriately prepared for the context and on the other, that they provide the school with materials so that the school can continue with the music work when any external programme is finished.

In addition to Ofsted’s and inspire-music’s good / effective music practice frameworks and guidelines, it seems necessary to investigate further whether music education providers that offer tuition in music outside the school (curriculum) context report that they follow any good practice guidelines or possibly operate according to any of their own equivalent frameworks. In this regard, it seems sensible to focus on above mentioned instrumental tuition providers that are commonly consulted to offer additional musical input to pupils in schools.
3.4.3 The Every Child Achieving their Potential programme

One such musical programme in the UK is the *Every Child a Musician* (ECaM) programme – a part of the Every Child Achieving their Potential Initiative in the London Borough of Newham. According to their website[^58], over 12,000 pupils in the London Borough of Newham’s Primary schools enjoy free musical learning and instrumental tuition across Years 3 to Year 6 (Everychild, 2018). The programme’s aims are not only to enable children and young people to learn musical skills and progress in music, but also to promote other than musical development and contribute to better wellbeing through engagement in music. It is stated that the project’s objectives are, above all, to provide access to instrumental tuition for all, offer opportunities to take part in public performances, teach music notation and offer the opportunity to engage in music to those who otherwise may have no access. The organisers refer to research in music education that learning an instrument can help enhance children’s academic performance, social skills, self-regulation, and musical abilities. Originally the centrally-funded ECaM core programme focused on all pupils in school Years 5 and 6 (9-11yo), then it was expanded into Year 7 (11-12yo) with options for younger and older pupils, subject to school finances. The goal has been to encourage children to continue pursuing learning their instrument when transitioning to Secondary school. Furthermore, the programme aims to (1) enable children to feel more confident and motivated through engagement in music, (2) to engage all Year 5 pupils in acquiring creative skills, and (3) to inspire participating pupils to engage in music making programmes outside the school context (Everychild, 2018).

ECaM’s approach to instrumental education follows a whole Class Teaching Model. In this regard, Years 3 and 4 usually receive weekly one-hour long tuition in Flutophone[^59] or Ukulele. Normally these lessons consist of a ratio of n=1 experienced instrumental tutor and approximately n= 30 pupils. Different from these Year groups, Years 5-6 receive small group tuition, in that a group of around n=4 pupils receives a thirty-minute-lesson in either violin, viola, trumpet, trombone, keyboard, guitar, flute or clarinet (Everychild, 2018).

The programme also offers their participants opportunities to take a graded music ‘Performance Award and Graded Examination (PAGs)’ - an assessment of music ability and performance that was developed in partnership with the London College of Music Examinations and the University of West London. The aim is to offer ‘a fantastic free

[^58]: http://www.everychild.com/home/every-child-musician

[^59]: A flutophone is a simple wind instrument that resembles a recorder. Only the mouthpiece is different and the lower end is flared and resembles that of a clarinet.
opportunity to achieve a nationally recognised award in Music, fostering a sense of musical development, pride and confidence in the children themselves and pride for the school that they represent.’ (Everychild, 2018, retrieved online).

ECaM put emphasis on outstanding instrumental tuition. In this regard, there are resources for the tutors on how to provide effective music provision and how to manage challenging behaviour. According to their tutor’s handbook (ECaM, 2016, pp.10-11, not available for public access), lessons are, ideally, aimed to be a variation of practical activities, theory and discussion. Tutors are required to have a clear learning objective and provide a summary of the learning at the end of the lesson. Furthermore, the programme asks their tutors to be firm and consistent in reflecting on pupils’ performance. Tutors are supposed to give attention to good behaviour and praise their pupils. Likewise, tutors are advised to maintain a positive approach in case some pupils may display disruptive and difficult behaviour that might both negatively affect teaching and the individual’s as well as the group’s ability to learn. In their handbook, it is emphasised that effective management is required to deal with or change these pupils’ complex behaviour, including those with emotional, behaviour and social difficulties. Regarding this, various strategies are recommended to benefit all participants. The following recommendations are listed:

- Clear routines for the lesson should be established;
- All pupils should be greeted and spoken to;
- A lesson plan ought to be well prepared prior to the lesson;
- Places for putting bags and instruments are to be designated;
- At the beginning of the lesson tutors may create an activity for all to think about;
- Pupils should be provided with opportunities to work together;
- The seating arrangement should be given thought to;
- As agreed upon with the pupils, predetermined signals / specific manners are to be used in order to gain attention;
- Strategies should be created to deal with late arrivals; and
- The organisation’s reward system ought to be used to reward good behaviour.

Furthermore, tutors are advised to be mindful of setting a code of behaviour. They are encouraged to determine what constitutes (not) socially acceptable behaviour and let pupils know that misbehaviour is not tolerated. Moreover, tutors shall be sensible as to
what level of work and tasks etc. are appropriate. ECaM points out that in some situations, pupils’ misbehaviour may derive from incomprehension. Hence, alternative means should be found to help them understand the tasks. In addition, the various learning styles of the particular pupils are to be taken into account and adapted to as far as the tutor’s teaching style allows it. Another issue that is reported as important is the appropriateness of activities. According to the guidelines, the tutor will have clearly set their learning objectives as well as provide a summary of the attainments at the end of the session. Finally, it is stated that children expect fairness when it comes to behaviour. In this respect, good behaviour is to be noticed and praised. In turn, ECaM expects the pupils to arrive for lessons prepared, in terms of having set up the equipment and be ready to start. Furthermore, tutors should assume that pupils practise during the week and work to the best of their ability. Notwithstanding, these general expectations in the case of SEND participants, the organisation employs tutors who are either specially trained to teach such groups of individuals, or have experience with this kind of target group (ECaM, 2016, p. 12). Further resources and information for the tutors are provided on a specially designed internet platform.60

To ensure high quality instrumental tuition to their participants (pupils), every tutor is observed and their teaching assessed once every academic year. The purpose is to give specific feedback to the tutors and identify their needs in terms of professional development (ECaM, 2016, p. 17). The observation is led by a music expert, who is trained to carry out the so-called ‘ECaM Observation of teaching’ (ECaM, 2016, p. 18). Every observation is assessed and graded, reportedly based on Ofsted standards. The available ratings are (a) outstanding, (b) good, (c) requires improvement, (d) inadequate. After the observation, tutors receive a completed Quality of Teaching and Learning Observation Form, on which basis they are assessed. This form consists of twenty-one teaching and learning criteria, which are assigned to each grade. There are eight sections that present key features of learning and teaching. They are presented in the following:

---

60 For further information see https://eastlondontutorforum.weebly.com/
(1) Subject knowledge, understanding and skills;
(2) Planning and setting of objectives;
(3) Effectiveness of teaching methods to provide challenge and inspiration;
(4) Management of pupils and expectations for behaviour;
(5) Assessment of pupils’ work and its use to help them improve;
(6) Use of time and resources;
(7) Use of homework/practice; and
(8) Pupil progress (individual/ensemble playing).

Furthermore, each section is subdivided into separate criteria that underlie the key topics and describe certain teaching or learning behaviour (Table 3.4).

Table 3.4: Quality of teaching and learning observation form (excerpt)

<table>
<thead>
<tr>
<th></th>
<th>Outstanding</th>
<th>Good</th>
<th>Requires Improvement</th>
<th>Inadequate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Subject knowledge, understanding and skills</td>
<td>Teaching is exciting and children are fully involved in the lesson, responding enthusiastically to the teaching.</td>
<td>Teaching is stimulating and children are engaged and enthusiastic.</td>
<td>For some of the lesson children are attentive and there is some participation.</td>
<td>Little pupil contribution. Children disengaged.</td>
</tr>
<tr>
<td>1a</td>
<td>A wide range of interactive and imaginative teaching and learning strategies are used. Modelling is used to demonstrate teaching points.</td>
<td>A range of interactive teaching strategies are used. Modelling is used to demonstrate teaching points.</td>
<td>Some use of interactive teaching strategies and modelling is used to demonstrate teaching points.</td>
<td>Bland teaching with no use of interactive strategies Insufficient demonstration and modelling.</td>
</tr>
</tbody>
</table>

The derived mean of the observed criteria leads to the production of an overall grade. Additionally, space is provided to comment on the tutor beyond the criteria system. The outcome and feedback aims to enable tutors to reflect on their teaching and improve – given the feedback – in the particular areas that are open to development. (ECaM, 2016, not disclosed for public).
3.4.4 Synthesis of frameworks of good and effective music education practice

As seen in the narrative above, there are exemplars of good/effective music education practice available in the music education sector. All of these frameworks and guidelines are rooted in a collective aspiration to improve music education provision through (a) enabling practitioners (teachers, tutors, programme leaders) to lead high quality music lessons or projects, and (b) ensuring that recipients engage in high quality music education that enables them to progress in music, learn musical skills, and benefit from musical engagement in other non-musical areas. As is apparent from the examples presented above, key features of good / effective provision have been evidenced by inspections, observations, case studies and surveys conducted in a framework of targeted research. Whereas Ofsted’s (2009) guidelines present both good and inadequate examples, the Quality of Teaching and Learning Observation Form (ECaM, 2016) illustrates descriptions of music education practice attributed to their grading system from ‘outstanding’ through to ‘inadequate’. In contrast, inspire-music (2018) presents prompts in their ‘effective practice’ framework that describe and exemplify good practice only. Moreover, it is evident that two criteria of one framework can be translated into one criterion in the other framework. A comparison of these approaches suggest that despite their varying designs and differing detail across the frameworks, all of the frameworks share common criteria. However, there are also aspects that exist in one or two frameworks and that are absent in another. For example, only the inspire-music framework addresses the context of music education provision in detail in its description section.

Furthermore, the ECaM framework focuses on instrumental learning only. Ofsted, with its two different frameworks, thematises both general classroom music lessons as well as instrumental tuition. In contrast, the inspire-music appears to be designed to be universally applicable. Irrespective of their design and designated type of use, collectively, these frameworks jointly provide an understanding of what underpins good and effective practice. In aggregate, it can be inferred that effective teaching takes account of the following five aspects of learning and teaching:

**(1) Context**
- Environment
- Profiles of participants
- Scope / framework of music programme
- Type of provider / background of tutor
- Any other relevant information
- Good and open working relationships between all involved
(2) Content
- Opportunity for creating music (improvisation, composition)
- Opportunity for performing music (applying various performance directions)
- Learning notation
- General music knowledge (e.g., genre, style)
- Using a wide range of resources and aids (i.e., technology)
- Content is enabling self-expression
- Content triggers creativity
- Content contributes to self-regulation and well-being
- Content is interesting and engaging, enjoyable
- Content enables group / team work (if not solo engagement)
- Content fosters interpersonal skills

(3) Teaching
Regarding content:
- Content and resources are selected to match abilities and needs of the learners
- Approach is inclusive of all needs and individuals’ abilities (including SEND)
- Content is well prepared and selected to match learners interests
- Music is selected to trigger listening, proactive- and interactive behaviour
- Content adapts to and matches learners progress, generates high achievements
- Musical activities are coherent
- Teacher is an expert and knows their work

Regarding pedagogical approach:
- Type of leadership is appropriate to situation, content and learners
- Appropriate language is evidenced, clear communication, type of questions
- High and appropriate expectations
- Amount of speaking kept to the minimum
- Lesson is structured but designed to leave room for flexibility
- Work is modelled by the teacher/tutor
- Assistance is provided to learners
- Tasks and instructions are understandable and meaningful
- Teaching is motivating, exciting and including all
- Enabling a wide range of groupings
- Learning objectives and expectations are communicated and are clear
- Teacher/Tutor praises attainments appropriately
- Regular feedback to learners is provided
- A wide range of teaching methods and strategies are used
- Teacher/tutor shows subject knowledge/expertise in their field
- Good behaviour is triggered by engaging pupils
(4) Learning

Regarding content:
- Learner(s) progress individually as well as a collective
- Learners understand content
- Content integrates old and new learning and leaves room for experimentation (e.g., on the instruments)
- Maximum participation in music (making)
- Learners learn in music and respond musically
- No barriers to participation, learner feels included
- Learners know how to progress
- Content generates enthusiasm and motivation
- Learners contribution to content is noticed and valued
- Tasks are challenging, generating high achievements
- Tasks trigger self-expression in music
- Learners are aware that they can engage in individual- and group work

Regarding behaviour in lesson:
- Participants are fully engaged
- Participants enjoy a wide range of musical activities
- Participants are motivated
- Participants are confident and contribute to lesson
- Participants know how to work
- Positive working relationships evidenced
- Participants learn from each other
- Participants know homework and how to practise
- Wider benefits from engaging in music are generated (e.g., enhanced confidence, self-regulation, well-being)

(5) Assessment and Reflection
- Progress is recognised and discussed
- Aims and Expectations for lesson and overall programme are clear
- Feedback is provided regularly
- Type of assessment is clear to participants
- Type of programme and content are subject to review
- Participants are given opportunities to show progress
- Participants know how to rate their progress and assess their own learning
- Participants are welcome to give feedback
- Participants feel prepared for assessment (both in their skills as well as knowing the assessment procedure)

As can be seen in the synthesis above, key features seem to appear in more than one category and one (tutor) action effects another (learner) reaction. Examples are (a) the minimum amount of speaking and provision of appropriate and engaging musical tasks
enable a maximum participation in music (making), or (b) teaching is motivating, exciting and inclusive, so that all learners can participate without any barriers and feel included. In short, all key features seem to be interrelated and the music learning and teaching provision can be effective when these are in symbiosis. The following figure attempts to illustrate the synergy of all key factors, which are namely (a) context, (b) content, (c) teaching, and (d) learning (Figure 3.4).

![Figure 3.4 Key factors and their relationship generating effective music education provision](image)

3.5 Urban and social environment, learning space and (musical) behaviour (RQ 3)

There is research literature to suggest that the physical, cultural and social environment as well as the design of a learning space can influence an individual’s behaviour. Investigating the issue from a macro through to a micro level, it seems that spatial / geographical distribution, socio-economic factors, and the layout of learning/working space such as the school setting and classroom setup seem to impact on a) educational facilities and institutions and b) behaviour and the way people work and learn in them.
In the following, the impacts of these environmental factors are presented in general and also with particular focus on school-aged children and young people with and without special needs.

3.5.1 Urban societies and music education

Global cities all have in common that they are rich in population, diverse in ethnicities and cultures, accommodate a whole range of socio-economic statuses, offer huge challenges and opportunities for a multitude of aspects, and are in constant change (Abrahamson, 2004, Brighouse and Fullick, 2007; Landry, 2006 and 2008).

In large cities, there is great potential to improve quality of life of whole regions (Landry, 2008). Thereby, a great number of opportunities for creativity and innovation and a concentration of educational opportunities can be ‘an asset’ (Landry, op. cit, p. 42) for the city to be attractive and worth living in. Consequently, that may suggest that an urban environment can directly affect educational aspects such as governance, policy, quality of schools and staff. To develop this thought further, another assumption may be that in global cities, opportunities for engaging in musical education may be plenty. However, funding for music education in schools in England has been cut over the last decade and, in some places, music lessons have been cancelled from the school’s agenda altogether and often replaced with more opportunities to excel in the so called "facilitating subjects" like maths, English and sciences (Association of school and College Leaders (ASCL), 2018; Romer, 201861, The Economist, 201862; University of Sussex, 201863). This implies that where music education is not taking place, the pupils’ education in music is dependent on their parents’ interest and capabilities to sponsor private tuition, projects offered by local music hubs and opportunities to engage in musical activities provided by the community. However, pupils from lower socio-economic backgrounds and living in economically deprived areas would be disadvantaged to those living in richer areas (Freeman & Trantner, 2011; Purves, 2016), have less opportunities to engage in music and have less access to music education beyond school. Therefore, a global city does not per se mean that education, and music education in particular, is available and easily accessible for all.

---

61 See https://www.artsprofessional.co.uk/news/music-level-danger-disappearing-state-schools
Retrieved September 10, 2018
Retrieved August 2018
63 See http://www.ism.org
In a global city such as London, as well as the greater area of London, schools operate under a national curriculum and follow set educational policies. However, every school is to a certain degree autonomous, in that it governs over itself with an overall budget and can act independent of the local education authority (DfE, 2014; Sofer, 2008). In particular, to a certain extent, the funding for children with special needs and disabilities, including pupils with ADHD, can be managed and spent at the school’s discretion, although authorities have some residual responsibility for SEND provision (introduced as part of the Education Reform Act in 1988; cf DfE, 2017 & 2014; Council for disabled children, 2013; DfE 2014; West, Pennell, Travers, & West 2001 & 2000) to target support for particular individuals with specific Education, Health and Care plans. This discretion also includes extra-curricular education in music. Further opportunities for music may be realised through trusts, funds and charities with an emphasis on music education. A musical project for SEND pupils such as the ‘Sounding Out’ project, a three-year music programme for hearing impaired children in two special Secondary schools in London (see Section 3.2.2 is one such an extra-curricular project. This particular study’s findings report that the pupils participating in the programme were generally able to successfully engage in the music activities and improve musically over time, notwithstanding their hearing impairment (Welch, Saunders, Wilde & Maynard, 2017).

3.5.2 Classroom environment

It would be simplistic to say that music education and music making per se are beneficial. Apart from having music programmes to engage in in the first place, the choice of the setting in which the activities take place is crucial for a positive and successful learning and teaching experience (Horne Martin in Spencer & Blades, 2006, pp.91-107, Schneider, 2003; Horne Martin 2002; Lyons, 2001). Horne Martin argues that the classroom environment can impact on pupils’ performance. Thereby, room organisation (the arrangement of classroom space) can both reinforce good learning and cause ineffective teaching.

---

64 See https://www.gov.uk/government/collections/statutory-guidance-schools Revised 2017, Retrieved September 2018
This can result from disadvantageous spatial organisation of the furniture itself or impeded social interaction. It is stated that:

‘spatial organization is the task of arranging furniture to create appropriate spaces for movement and the learning activities that the teacher works to pursue. Teachers accomplish this task by defining spaces within the environment, planning traffic patterns, and arranging furniture. Room arrangement is more than a casual responsibility or a matter of aesthetics, because spatial organization influences so many behaviours’ (Horne Martin, 2006, p. 94).

Furthermore, she is explicit that noise, and a high noise level, has an adverse effect on hearing, listening and learning in general. Other influencing factors are reported to be lighting, colour, density or a crowded space. All in all, she points out that the physical environment has an impact on cognitive functioning, concentration, attitudes and learning behaviour and, therefore, can be a ‘powerful teaching instrument’ (Horne Martin, op. cit., p. 101) providing that the school and the room permit appropriate adjustment. Moreover, she adds that the layout of the space very much depends on the teaching and learning methods. Other studies relate spatial design of classrooms to pupils’ behaviour, performance, wellbeing and development (Barrett, Davies, Zhang, Barrett, 2015; Said 2015 and Moore, 1986) and underpin the necessity of a well thought through classroom layout.

3.5.3 Potential distractors in instrumental lessons for pupils with ADHD

It seems reasonable to assume that what applies to school-aged children in general, would also be important for pupils diagnosed with special needs. If learning behaviour is implicated in how the classroom is set up, it would seem that, given the nature of pupils with ADHD to be easily distracted, objects placed in the learning space may be potential distractors for the pupil. Although few in number, there is literature to suggest that factors such as noise and visitors to the classroom may add to an overly stimulating environment and, therefore, may impede learning and teaching ADHD pupils in general (Brock et al., 2009, pp. 96-97; Metcalfe & Metcalfe, 2001, see Section 2.10.2 and learning in music in particular (Melago, 2014, Tabb, 2011). Melago (2014), who outlines strategies for successfully teaching students with ADD and ADHD in instrumental lessons, suggests that tutors ‘should look for ways to make the teaching space as conducive to learning as possible and to do their best to eliminate distractions’ (Melago, op. cit., p. 39) as these impede the student’s concentration and focus on the task. According to the article,
potential distractors can be clocks, phones and other objects that cause noise. In addition, events happening outside a window can also cause the student to wander off the task at hand. According to the author, decorations in the room can also be stimuli that add to inattention and being distracted. A further aspect that is not to be underestimated is the presence of visitors and noise from other individuals not involved in the lesson, such as other students knocking on the door and having inquiries.

3.6 The under-represented area of research in music education for children with ADHD (RQ 1, 2, 3)

3.6.1 Research on effects from music on ADHD characteristics

The previous sections suggest that there is a body of evidence to suggest that everybody, irrespective of predispositions, needs and abilities, can actively engage in music, and be educated musically. Correspondingly, it can be assumed that children diagnosed with Attention Deficit Hyperactivity Disorder (ADHD) both possess the capability successfully to engage in music - and more so in music education - and potentially experience positive effects of music making on other domains that are important for their personal and social development as well as social inclusion. However, having considered the above mentioned literature on education and special needs, there is hardly any research literature to report on how these children and young people engage in music education. Nor is there much literature describing individual music education experiences, nor any agreed guidelines existent on how to educate these young people in music and what effective pedagogical practices may look like in the context of music and ADHD. Furthermore, it is widely unknown how ADHD behaviour is perceived in music and how any potential benefits of music education may manifest themselves. The following examples are meant to illustrate recent research concerning any music engagement together with some examples related to education in music of children and young people diagnosed with ADHD.

Regarding the benefits of music on an individual’s wellbeing in general, there is literature to suggest that young people and children with ADHD might benefit from music and engaging in music. In this context, music has been shown to effect activity levels, emotional/self-regulation and attention. For example, Saarikallio and Erkkiä (2007) reported that various self-selected musical activities, such as making music, writing songs, playing and singing, and listening to music in particular, can affect emotional behaviour, in that they were
observed to strengthen positive feelings, increase the intensity of the emotion and give a means for understanding one’s emotions. Furthermore, it was reported that music inspired the individuals to dance and move. Also, engaging in music was thought to regulate behaviour and promote self-expression. Not least, it was observed that ‘musical activities helped the adolescents to forget about undesired states of mind’ (Saarikallio & Erkkiä, 2007, p. 98) This study’s data were gathered through conducting two group interview sessions and using follow-up forms with n=8 adolescents, and analysed by adapting a grounded theory approach. The aim of this study was to provide an in-depth theoretical and conceptual understanding of the relation between music and emotions in adolescents. However, this study focused on the participants’ personal accounts of their emotional experiences triggered by music rather than noticing any changes in behaviour by observing them during/after any (imposed instead of self-selected) musical engagement.

In addition, studies, such as investigations of how potential distractions such as music affect children with ADHD, imply that listening to music, and particularly to preferred music, can help with focusing and completing tasks. For example, data from a study which focused on both medicated and non-medicated male students with ADHD, together with a control group without ADHD, indicates that, in contrast to video/film, music does not negatively distract pupils in their learning. On the contrary, listening to music may help some children with ADHD to perform and behave better in the classroom as a group. Despite these observations, this study reports that there were also some pupils with ADHD that did perform worse under the music distractor condition than the majority of their peers. This is partly explained by the assumption that individuals with ADHD all have different levels of stimuli tolerance. Furthermore, the existence of other distractors such as behaviours of other ADHD children was acknowledged as a negative factor (Pelham et al., 2011).

Moreover, the impact of preferred music listening has been shown to be nearly as effective as medication for some children (Pelham et al., 2011, op. cit.; Daveson, 2001; Davis & Thaut, 1989; Dileo & Bradt, 2008; Dileo et al., 2008). In addition, musical experiments demonstrate that children who lack a sense of rhythm and synchronization may also have difficulties to stay focused during other activities. Particularly those with ADHD are reported to suffer from impairments in temporal processing (Noreika, Falter & Rubia, 2013; Khalil et al., 2013; Carrer, 2015). Conversely, musical activities with a focus on synchronisation can enhance the ability to focus and interact with others.
Scientists suggest that there is a correlation between the ability to synchronize and cognitive performance (Khalil et al, 2013, op. cit.). A study, which was undertaken with children in the framework of synchronizing rhythmically in a group setting involving a Gamelan percussion style for over one year, showed that there is a positive effect of musical synchronisation on cognitive aspects and that attention improves alongside participants’ musical ability. This might imply that learning to play in time and synchrony within a group could improve attention skills (Khalil et al, 2013, op. cit.), and subsequently lead to the possibility to use this as a non-pharmacological intervention for disorders such as ADHD (Khalil et al, 2013, op. cit.). Another study, that explored music and sound in time processing of children with ADHD illustrates, among other findings, that music may possibly ‘positively modulate the symptoms of inattention in ADHD’ (Carrer, 2015, p.1).

Consequently, it may be that both listening to and making music can have a positive effect on the ability of inattentive children to concentrate (Pelham, 2011, op.cit.). Furthermore, since children with ADHD show deficits in executive function, research suggests that musical activities may be beneficial for working memory intervention (Lesiuk, 2015). This is based on findings showing that music exercises working memory (Parbery-Clark, Skow, Lam, & Kraus, 2009 and Kraus & Chandrasekaran, 2010, in Lesiuk, 2015). Also, research indicates that engaging in music will result in brain development and positively influence literacy and linguistic skills (Gordon, Fehd, & Mccandliss, 2015), which might be of value for children with ADHD (Seither-Preisler 2014).

In addition to the findings mentioned above, there is other evidence to suggest that engagement in music is beneficial for young people and children with ADHD. For instance, the EC-funded study called the UMSIC-project (the Usability of Music for the Social Inclusion of Children), as mentioned above, aimed to ‘improve inclusion and reduce isolation in groups of children’ and ‘to support children’s processes of social inclusion through the use of new music technology’ (Fredrikson, 2009, p.1). The technical tool was the so-called JamMo (jamming mobile) which was designed to provide playful and game-based activities for young children, including those at risk of marginalization, such as children with ADHD (Paananen and Myllykoski, 2011). In short, pupils engaged in musical games or composed a piece of music with the provided software on mobile phones. The main aim of the project, which was conducted in Finland, UK, Switzerland and Greece, and led by the University of Oulu, was to observe self-regulation, attentiveness and impulsivity of children with ADHD. The particular focus was on regulation of concentration, attentiveness and impulsivity in both a specialist music therapy clinic and in two
elementary schools. The data analyses revealed that ‘no clear difference in self-regulation is evident between the ADHD and non-ADHD children’ in the mobile music-focused sessions (Purves et al., 2011, p.59). In addition, teachers reported a positive effect of this kind of music making and music sharing on social interaction between children with ADHD and non-ADHD-children. It was agreed that the collaboration between the children in pair work situations had been successful. In particular, children with special educational needs, such as children diagnosed with ADHD, were considered to be benefitting from the technology-mediated shared music making (Purves et al., 2011).

Moreover, a study in the shape of a meta-analysis of the effectiveness of music interventions for children and adolescents with ADHD (Maloy, Peterson & Cohen, 2014), has examined data from several studies and sought to (a) provide a statistical analysis of such studies and (b) assess the most successful intervention outcomes. Overall, findings indicate that:

Given these findings, music interventions can be moderately effective intervention strategies for addressing academic deficits in children and adolescents with ADHD. (Maloy et al., 2014, p. 337)

In particular, findings of one of the included studies, conducted by Abikoff, Courtney, Szeibel & Koplewicz (1996), showed that ‘the facilitative effects of salient auditory stimulation on the arithmetic performance of the children with ADHD provide some support for the underarousal/optimal stimulation theory of ADHD’ (Abikoff et al., 1996, p.238). In this experimental study, academic task performance of twenty boys diagnosed with ADHD and twenty ‘non-disabled controls’ (Abikoff, op.cit., p. 239) was assessed in elementary school under the influence of auditory stimulation. In particular, the participants had to complete arithmetic tasks under three different auditory background conditions lasting for ten minutes. One of these experimental conditions would be the children’s favourite music, the other background speech and the third a ‘no stimulation’ condition of silence. Each ADHD child was randomly assigned to a different sequence of conditions and paired with a non-ADHD child as the control. Overall, those children without ADHD performed similarly on all three conditions, while those with ADHD did moderately better during the music condition, which was regarded as the high stimulation condition. Moreover, this ‘enhanced performance occurred only when music was introduced first’ (Abikoff et al., op. cit., p.243).
Another study reported by Maloy et al. (2014) focused on ‘Extra-Task Stimulation on Mathematics Performance in Children with and without ADHD’ in a study conducted by Greenop and Kann (2007). This South-African ‘quasi-experimental, comparison group design’ study (Greenop & Kann, 2007, p.335) referred to the stimulation theory by Zentall (1975), which implies that ‘children with Attention Deficit Hyperactivity Disorder (ADHD) will demonstrate high levels of activity when faced with a task or situation of low arousal or stimulation’ (Greenop & Kann, 2007, p.330). Hence it was assumed that, in this study, where ADHD and non-ADHD children were completing an academic task under two counterbalanced stimulation conditions, the two groups of children would ‘perform significantly differently under the two conditions’ (Greenop & Kann, op. cit., p. 330).

Twenty-two children with ADHD (diagnosed by a multi-disciplinary team from a special school) and twenty without, with a mean age of 9.75 years, had to solve mathematics problems in (a) silence, and (b) with their favourite music playing. The hypotheses were postulated that children with ADHD would perform at a lower level than the controls when there was no music present and conversely, that music would increase performance levels of the same children on the arithmetic tasks. The test took place over two days. Mathematical tasks had to be performed respectively under silence and while their favourite music was playing. The performance was measured by the number of mathematical problems solved correctly and the total number of problems attempted, and a so-called accuracy score (number correct divided by number attempted)\(^69\). The results showed that the accuracy score increased significantly during the music condition and for both groups. Moreover, the ‘ADHD group attempted more problems, but performed at a similar level in terms of correct score to the group without ADHD’ in the music condition (Greenop & Kann, op. cit. 2007, p.337).

Maloy et al. (2014) also report on the aforementioned ADHD and music research literature, noting in particular two experiments with a focus on music and video as external stimuli (Pelham et al., 2011). The effects of music and video on classroom behaviour and performance and also the effects of methylphenidate were investigated. Forty-one boys with and twenty-six without ADHD with the mean age of 9.8 years were recruited. They were performing tasks under three distractor conditions; in experiment 1: no distractor, music and video and two distractor conditions in experiment 2: no distractor and music. Experiment 1 was conducted during a 60-minute academic lesson across the span of eight

\(^{69}\) Or: proportion of errors (PE); For more information see, e.g., Vandierendonck (2017), Psychology & Psychiatry Journal (2017);
weeks for a total of 24 days. From the third week on, the distractors were introduced.

Thirty-six of the boys received two medication conditions throughout this period: a placebo and a certain dose of methylphenidate in order to ‘study the relationship between medication and the effect of the distractors’ (Pelham et al., 2002, cited in Pelham et al., 2011, pp.1087-1088). The distractor was turned on and off by the teacher when they were instructed to start their seatwork. Behaviour was measured by using a behaviour modification programme with various tools, such as a ‘point system with reward and response-cost components, classroom rules, time out, social reinforcement, contingent privileges, and a home-based daily report program’ (Pelham et al., p.1088). Findings showed that boys with ADHD were, particularly under the video condition, more disruptive, more distracted and less productive than the boys without ADHD. Moreover, although this varied amongst the ADHD group, music was observed to be generally less distracting than video as a distractor (Pelham et al., 2011; Maloy et al., 2014). In experiment 2, consisting of 86 boys with a formal assessment of ADHD and ranging from eight to thirteen years, the video condition was eliminated. Procedures were identical to those in experiment 1, but now with a focus on the individual differences among ADHD participants. The results show that ‘7 children (8%) had worse performance in the presence of music, 66 children (76%) had no change, and 13 children (15%) had improved performance’ (Pelham et al., 2011, p.1093). Furthermore, it was observed that methylphenidate significantly reduced distraction in children with ADHD. Furthermore, medication helped children to stay on task in all conditions (Maloy et al., 2014).

A related study analysed in the Maloy et al. (2014) meta-analysis was an experimental study conducted by Pratt, Abel and Skidmore (1995). There, the effect of background music on focus, concentration, and impulsivity of children with ADHD (and ADD) was examined. These were determined during neuro-feedback training sessions, where electroencephalograph (EEG) patterns were recorded (Maloy et al., 2014). Nineteen participants, male and female with the mean age of 11 years, underwent a six-step intervention plan. First, the intervention started with a baseline phase without feedback. Then, a 5-minute training phase followed with a computer game which was chosen by the participant and accompanied by audio and visual feedback. Other training periods followed and ended with the participant giving feedback on their on-task performance and homework assignment. In total, the study consisted of three sessions per week and a total of thirty-nine sessions for each participant (Pratt et al., 1995 in Maloy et al., 2014). The results illustrated that, overall, children with ADD [sic] improved more than children with
ADHD. Moreover, the participants with ADD who were exposed to background music ‘showed more improvement in focus, and the participants who were diagnosed with ADHD varied most in their on-task performance during neuro-feedback sessions’ (Maloy et al., 2014, p.329).

Similarly to the aforementioned studies, Chew (2010) investigated the effect of background music on attention in twenty-two children with ADHD, using EEG recordings in a clinical setting. Here, ‘differences in sustained attention and ease of paying attention and enjoyability across reading, reading comprehension, reading comprehension with recall (with working memory load), numerical operations tasks’ (Chew, 2010, p.52) were examined in (a) silence, (b) classical music, (c) pop music and (d) sounds from television programmes. The participants, who ranged in age from 9-15 years, underwent the testing in the shape of two-minute sessions for each condition in a clinical setting. As a result, when completing the reading and reading comprehension tasks, participants were found to be able to lower their slow wave activity and increase sustained attention during the pop music condition (Chew, 2010; Maloy et al., 2014). Chew (2010) reports that a high number of participants rated the popular music condition as ‘easy to pay attention to and enjoyable’ and hence draws the conclusion that ‘it is possible that the pop music condition proved to be more effective as the participants are mostly pre-teens or teens’ (Chew, 2010, op.cit., p. 53). However, Chew (2010) does not provide any detailed information on the other conditions.

Overall, all the reported results indicate that music as a distractor is beneficial for sustained attention and task performance. However, Maloy et al. (2014) report that, although two of the five studies discussed their measurement of social validity, none of the studies documented the measurement of social validity and intervention fidelity. In addition, the authors suggest that more research on this topic is needed to ascertain factors such as participant, setting and procedural features that are responsible for the most effective intervention outcomes for children affected by ADHD as they ‘do not have the same type of

---

70 Please note that information on Chew’s (2010) study has only been available in the format of a published, refereed conference paper and, therefore, must be regarded with caution. Despite requests, no access has been provided to the full research report from the National Institute of Education at the Nanyang Technological University. Chew has left her post cited in the paper and has not been contactable. Nevertheless, all research accepted for publication in the official Proceedings of the 7th National Conference on Methods and Techniques in Behavioural Research in Eindhoven was subject to peer review.

ADHD’ and, therefore, ‘there cannot be a standard treatment option or intervention’ (Maloy et al., 2014, p. 338). Furthermore, just two of the reported studies used the classroom as the research setting. However, this type of setting, or an other-than-clinical/laboratory environment, seems to be important for conducting research to determine ‘how this intervention will be in its natural environment without all of the variables being manipulated inorganically’ (Maloy et al., 2014, p. 334).

In terms of the research methodologies adopted in this limited number of studies of ADHD and music, there is evidence of clinical (e.g., Chew, 2010), and/or experimental (e.g., Greenop and Kann (quasi-experimental, comparison group design); 2007; Noreika, Falter & Rubia, 2013; Khalil et al., 2013; Carrer, 2015), and observational approaches (e.g., Fredrikson, 2009; Paananen and Myllykoski, 2011). There was a tendency to focus on particular ADHD symptoms mainly related to inattention, such as not paying sustained attention, not being able to complete tasks, or presenting with low social skills, rather than the nature of the musical material, nor the pedagogy. Consequently, it was decided to adopt a case study observational approach with longitudinal elements in the current doctoral research.

### 3.6.2 ADHD and music therapy

Among the literature on music therapy, there is also a small, body of research that investigates the effectiveness of music therapy on ADHD or ADHD-like behaviours of children and young people. Findings from the studies, which mainly follow case study designs, suggest that music therapy may help in building social skills, promoting motor skills and enhance self-confidence as well as alleviating symptoms, at least in their music therapy setting (Bogdanowicz, 2016; Chong & Kim, 2010; Rickson, 2006, Samuels, 2005).

Jackson (2003) focused her research on identifying effective music therapy methods and their role in the treatment of children with ADHD. She designed a survey, which was sent to n=500 certified music therapists in the United States of America. In total, n=268 respondents replied, of which n=98 were working with children diagnosed with ADHD in their therapy sessions at that time. It became apparent that music and movement were the methods which were used the most, closely followed by instrumental improvisation, musical play, and group singing. Almost all therapists used a mix of these approaches rather than just applying one in their sessions. Furthermore, data showed that the music therapy sessions with these children sought, above all, to impact on behaviour.
modification. Psychosocial and cognitive goals were also pursued. Furthermore, the survey indicated that all kinds of formats – group, individual or a mixture of both – were used. Jackson (2003) also reports that overall ‘respondents’ indicated that music therapy treatment is effective according to their treatment outcomes, and they perceived that others also feel music therapy is an effective treatment’ (p. 308). Therapists responded that music therapy was reportedly perceived to be beneficial in that it (a) encouraged on-task behaviour, (b) increased attention span and encouraged self-esteem and positive behaviours, (d) minimised frustration and resistance, (e) promoted self-expression, and (f) motivated children in group situations. Furthermore, therapists believed that (f) music therapy was especially effective with medication. Elements that were regarded to influence positive outcomes were reported to be the structure within the therapy sessions that may have helped the children to organise themselves, as well as providing opportunities to release energy. Additionally, music therapy as a means to improve ‘sensory integration’ was also mentioned. However, Jackson (2003) does not any examples of effective practice, nor detail how behavioural, cognitive and psychosocial benefits were evidenced. She rather raises the question as to whether there is ‘some element or elements of music itself which lead to the effectiveness of music therapy treatment for these children?’ (p.315).

In contrast, she illustrates that two of the respondents chose to comment that the interventions were effective during sessions, but little or no difference were noted outside the sessions. In addition, children with ADHD were observed to be overwhelmed with too much stimuli from musical engagement and, therefore, would do better in quieter environments. It may be important to add that almost all of the n=98 respondents reported that medication was the most frequently used treatment next to music therapy. The author herself does not make a definite statement as to how this might have had impacted on outcomes, but suggests that further investigation should be done in this regard. She also points out that there was little information on transferability of positive behaviours to other settings. Jackson concludes her paper with the assumption that ‘it seems that a multidisciplinary approach may be the best for this particular population since, by definition, children with ADHD will present problems in multiple functional domains and in multiple settings’ (p. 317), such as the classroom. Also, she argues that respondents implied that they combine the element of freedom within a structure in therapy sessions to successfully treat ADHD children and that this should be explored more in further studies, although she does not elaborate on this.
Finally, she states that it is important to conduct more qualitative research to explore the benefits of music therapy on children diagnosed with ADHD (Jackson, 2003).

McFerran (2009) reports on an instrumental case study of an adolescent’s experience of individual music therapy. The author conducted the qualitative case study in order to investigate the nature of individual music therapy and its effects on the individual diagnosed with ADHD, as well as ‘the less overt elements at play in a typical music therapy session’ (p. 175). The participant, a twelve-year-old boy, was diagnosed with both ADHD and with a mild intellectual disability. It is reported that school staff described the boy as a very aggressive person, who would very frequently provoke, threaten and hit others. In order to cope with his aggressive behaviour and participate in school life, he was prescribed with medication, although his mother initially reported that medication was impacting negatively on his learning. However, the class teacher and psychologist believed that he might enjoy and benefit from music therapy, as he was observed to like participating in creative therapies groups. Consequently, the school psychologist referred the boy for music therapy.

The case study was conducted in the boy’s special school. The forty-five-minutes-long therapy sessions happened on a weekly basis, at the beginning of the day over a period of eight months. At five months into the programme, another student diagnosed with ADHD joined the sessions. In the beginning, the sessions were sought to provide ‘opportunities for choice and control and facilitating active creative engagement that represented authentic self-expression (McFerran, 2009, op. cit., p. 76). However, positive progress lead to the setting of new goals, in that there were aims to work towards transferring his attained skills (behaviour management) to daily classroom situations.

Data that were collected over the period of nine months included (a) interviews with the participant and his peer who attended sessions, (b) interviews with the classroom teacher and teacher’s aide based on their observation of video data as well as their perceptions of the boy in the classroom subsequent to the therapy sessions, (c) the researcher’s progress notes at the conclusion of each session, (d) singing material that was created in the sessions, and (e) selected singing material that was used in the sessions.

Overall, the twelve-year old boy was observed to gain from music therapy in particular experiencing empowerment through music. For example, McFerran (2009) reports that many behaviours attributed to ADHD were displayed less by engaging in creative opportunities to be in control (of self and others).
Furthermore, the participant was observed to (a) ‘inhibit task-irrelevant responses in order to focus on playing drums and performing songs’ (p.78), (b) be able to direct others playing, (c) show good motoric skills by playing on the drums, (d) reflect on his musical outputs, (e) be able to re-engage with tasks after interruptions (of any kind), and (f) ‘control his behaviour in line with his internally represented identity as a musician’ (p. 79). Indeed, self-perception and self-representation as a musician were regarded to be key factors in his experiences. McFerran reports that he ‘would often draw on fantastical representations of himself as a rock musician within sessions, moving between tough and vulnerable versions of his fantasised identity as needed on a given day’ (p. 81).

McFerran attributes positive behaviours to the therapist’s work, which was considered to have promoted the participant’s strengths and address his interests. Furthermore, she outlines that the ‘highly facilitated, although entirely unstructured’ (p. 79) sessions were following the ‘Free Music Therapy model’, that promotes an open-ended session and reacts to the client’s preferences and interests. Arguably, this freedom was welcomed by the boy, who was enthusiastic to be able to act on his feelings. Moreover, McFerran said that making positive experiences was crucial for his enjoyment in the sessions. She cites his comments of the sessions, in which he claims that the sessions were ‘fun’ and that it was ‘fun to use [their] minds [and to] be a leader’ (participant cited in McFerran, 2009, p 79).

Furthermore, positive social interactions with his peer and the therapist were evidenced in the sessions. Intermittently, the boy even initiated positive social interactions himself, as opposed to be prompted by the therapist. In contrast, the boy is reported to also have had negative experiences in his sessions; in particular his fluctuating energy levels seemed to affect his behaviour. However, McFerran adds that the music engagement was not very advanced and the therapist did not expect as much as a music teacher in a special school setting. In fact, the boy’s playing style was reported as very amateurish, namely that playing the drums would mean hitting the instrument with his hands in any preferred way. Nevertheless, the boy is reported to have enjoyed playing on the instrument, or just holding a guitar without the urge to move around for a longer period of time, often accompanied by the therapist, who would play music on a guitar or a keyboard.

McFerran (2009) uses the findings of her research to criticise the (perceived) focus of music therapy on behaviour modification rather than measuring therapeutic success by the enhanced quality of life or the enjoyment that these clients may experience. Moreover, she argues that the changes in behaviour are achieved in the context of music therapy, which is
different from the environment in which the challenging behaviour is normally exhibited. Therefore, she questions music therapy as best practice for these instances. Although McFerran regards ‘empowerment as a crucial factor in music therapy, she also says that empowerment within sessions sometimes led to an unsuccessful experience on return to the classroom’ (p. 81) and that, overall, this young person’s behaviour subsequent to the sessions’ classroom situations deteriorated into the second term of therapy. This was believed to be caused by a contrast of the two environments (therapy session=expressive, versus classroom=quiet and structured environment). Consequently, adaptive measures were taken, in that therapy sessions ended before break times so that the boy could have a transition time before returning to his quiet classroom situation. McFerran concludes that opportunities for empowerment and self-expression may generate an enhancement of executive functions of children with ADHD. Furthermore, she argues that the context to a high degree contributes to the expression of certain behaviours. Also, she advocates the stance that rather than focusing on misbehaviour or ‘trying to control the behaviours known to be intrinsic to a diagnosis of ADHD’, researchers should focus on positive instances in these people and ‘when young people with ADHD perform best being useful to develop understandings’ (McFerran, 2009, ibid., p.82) in order to further explore this field. The above mentioned examples illustrate reported modifications of ADHD behaviour in the context of music therapy. However, there are no longitudinal studies that have investigated long-term effects of engagement in music therapy on ADHD behaviour in other – particularly educational – settings outside the therapy sessions. The next three examples, all of which were doctoral studies, relate to individuals or children and young people who engage in (instrumental) music education.

3.6.3 ADHD and education in music

(a) Example 1

The qualitative study by Hansen (2012) describes experiences of three students with ADHD in the context of a middle school band ensemble with non-ADHD pupils. By interviewing, observing and keeping a research diary, the researcher investigated (a) what band participation looked like in adolescents diagnosed with ADHD, (b) how all people involved in the band music-making programme described the participation of these individuals, and (c) how these individuals with ADHD interacted with their band members and music teachers. By conducting a multiple case study, Hansen (2012) observed n=3 participants
(one thirteen-year-old boy and two fourteen-year-old boys) in middle school\textsuperscript{72} ‘who were initially identified by their band directors as having ADHD’ (p.54). Pupils ‘with additional impairments, including learning disabilities and Autism spectrum disorders, were excluded from eligibility to participate in this study to avoid possible confounding factors in data reporting’ (Hansen, op. cit., p.57). Furthermore, the music teacher and one parent of each participant were identified as additional participants to offer expanded perspectives on the pupils’ participation. Participants were observed over a period of three weeks in seven separate sessions, of which six were the junior high band classes, and one session was a concert. All participants – teacher, pupils, and parents, as well as two band directors – were interviewed by the researcher.

Findings suggested that the participants with ADHD valued the musical experience as highly as their non-ADHD peers, despite their challenging behaviours. Furthermore, it is reported that the adolescents valued their participation in the programme in that they were proud to participate, as well as valuing it for the social aspects. It was also observed that the working relationship between all involved was exceptionally good. Moreover, Hansen (2012) points out that ‘all three adolescents with ADHD in this study hyper-focused to pursue interests and to help manage the challenges of having ADHD’ (p. 150) and that ‘the three adolescents with ADHD in this study employed their own compensating and monitoring strategies to manage impulsivity and distraction’ (p. 151). One of the boys thought that his impulsive and hyperactive behaviour was ‘appropriate, musically expressive, and worthy of imitation’ (p.151). Moreover, the researcher observed that leadership was an important part in musicking\textsuperscript{73}. She notes that all participants were ‘high achieving’ musicians who liked to engage in music making. However, participants described their attainments lower than they actually were.

Hansen (2012) also argues that the band directors had high expectations and used their teaching strategies well. In one instance, she outlines how one band leader was ‘teaching band with little talking and almost all instructional time devoted to improving the music’ (p.86). Moreover, she observed that ‘all three participants were perceived by band directors as having immaturity and junior high awkwardness, rather than a disorder’ (p. 154). One of these band leaders aimed to keep their classroom distraction free to help all

\textsuperscript{72} The age range in middle schools in the United States is between 12-17 years.

\textsuperscript{73} The term ‘musicking’ was used for the first time by Christopher Small; implying that music should be understood as a verb rather than a noun, as music can be understood to happen as a relationship between participant and performance.

See e.g., https://www.tandfonline.com/doi/abs/10.1080/1461380990010102
pupils to focus. Overall, it became evident that band leaders noticed, valued and praised their students’ musical achievements. Conversely, behavioural challenges were observed, which impacted on the pupils’ learning negatively. In this regard, the three students could be off-task, disorganised, hyperactive or distracted. In one instance, one student was standing on a chair whilst playing, fell, and injured himself. One participant was also noted to fidget to ‘keep himself under control during less-exciting parts of band class’ (p 92).

Hansen comments that she was able to ‘rely on a clear definition of ADHD as a lens through which I viewed Charlie, Luke, and Sam as individuals with a variety of complex behaviours and traits’ (p. 164). Overall, Hansen’s data implies that all three participants were generally successful in monitoring and regulating their ADHD behaviour.

The participants with ADHD in Hansen’s study perceived their band participation as something positive that enriched their lives. The researcher states that, apart from one participant who suffered from peer rejection in the band programme, the positive social interactions and relationships and a good sense of belonging resulted from the advanced musical skills and leadership positions that the students were taking on (Hansen, 2012, op. cit., p.158). Moreover, Hansen briefly describes a spontaneous jamming session between one participant and his peers. What initially started as the individual practising with a few students in one room resulted in a spontaneous group improvisation. She interprets this as a positive music learning culture of the band ensemble. Positive interactions, consequently, happened as a result of being a member of the band. However, Hansen does not go into more detail, nor does she make an attempt to interpret this situation in terms of how music itself in this context could be a medium for positive social interaction (i.e. the nature of group improvisation).

Hansen’s findings give insight into the nature of musical experiences of students with ADHD in a music band context. She states that these students generally had a positive attitude towards musicking in an ensemble, despite their diagnosis. Moreover, band leaders seemed to include these students in their programme and provided an appropriate learning environment to enable successful learning. Although she mentions that the students were generally able to self-regulate, she also points out that they displayed ADHD-like behaviours. It is not clear, though, in which moments the particular behaviours were (consistently) evident. Hansen’s perspective or ‘lens through which [she] viewed Charlie, Luke, and Sam as individuals with a variety of complex behaviours and traits’ (p. 164, op., cit.) seemingly makes her assume that ADHD is constantly part of the student’s profiles.
Apart from describing students as advanced musicians, the nature of musical behaviours was not outlined and it was not detailed whether ADHD, rather than being a constant element in these students’ lives, had the potential to affect musical behaviours within lessons. Furthermore, she did not determine whether there were any musical elements to impact on ADHD behaviour within lessons that may have contributed to successful experiences. A possible relationship of musical interaction – as seen in the spontaneous jam session – was not considered to be a factor of music engagement as a means to foster social relationships. Furthermore, findings show that these students can positively interact with their music teacher on a personal level. However, the study does not describe what the music making process or good musical interactions looked like.

Overall, Hansen’s study focused on the participants’ personal experiences and perceptions of their musical experience by mainly consulting her interview data. Her focus was on the participants’ interpersonal relationships and feelings towards the musical experience. Her findings suggest that – in spite common assumptions that students with ADHD display many challenges – they can make positive social experiences in engaging in instrumental music band contexts, despite their profiles of ADHD.

**Example 2**

Swope (2017) studied in the framework of his doctoral studies in psychology (PsyD), whether learning the drums, which according to the researcher combines elements of organisational training, could be a musical intervention to reduce ADHD symptoms and improve inattention and vigilance. He claims that his study is ‘first of its kind to have investigated the effects of actively participating in learning a musical instrument by measuring specific symptoms of ADHD’ (p. 101).

The purpose of his study was to investigate whether learning to play the drums could affect behavioural symptoms typical of ADHD and hence ‘provide evidence for an intervention that may increase attention, but is neither pharmacologically based or reliant upon a parent, teacher, or peer receiving training to help shape the behaviour of the identified client’ (p.59). Among the set of symptoms, the focus was mainly on inattention. Swope (2017) hypothesised that learning to play the drums may positively affect inattention because it (a) incorporates elements of organisational training – which in turn is suggested to be an effective treatment for ADHD – and (b) embraces listening to music, physical
exercise and ‘metronome’ training, all of which are commonly believed to also affect ADHD symptoms positively. Furthermore, Swope (2017) assumed that:

Through learning to play the drums, participants will learn to read music, which incorporates counting, keeping track of bars and beats, and maintaining attention that progressively increases in length as the student learns. For example, the participant may learn two to four measures of music during the first lesson, practice the music at home, and then return to the next lesson to learn two to four more measures of music. Over time, the participant will be able to maintain attention for longer periods through incremental, progressive practice. (Swope, op. cit., pp.59-60).

In order to measure any impact of the music intervention on any changes in vigilance and attention, the Conners’ Continuous Performance Task Third Edition (CPT-3) was used by the researcher because:

[...] it is a performance-based measure of ADHD symptoms with good test-retest reliability. It accurately detects any change in performance in the various symptoms and domains of ADHD symptoms. Other measures available which assess ADHD symptom severity are constructed around self-report, parent-report, and teacher report questions, which are helpful for evaluators to make an initial diagnosis of ADHD, but are unable to be administered on a weekly basis. (Swope, 2017, op. cit., p.106)

His choice was further justified with the reported unreliability of tutor’ and parents’ perceptions of their student’s / child’s behaviours.

Swope (2017) hypothesised that results ‘will indicate a noticeable, if not significant, improvement in each participant’s level of Inattention, Vigilance, and Sustained Attention as measured by the Conners’ Continuous Performance Task Third Edition (CPT-3)’ (Swope, op. cit., p. 61). Swope reports that his study follows a single-participant research design, in that every participant was compared to himself. The study participants consisted of n=6 adolescent boys aged between 12 to 17 years with a diagnosis of ADHD, predominantly the inattentive type and without any reported comorbid disorders. The severity of ADHD symptoms was not assessed prior to the intervention. All participants were reported to have had an interest in learning the drums prior to the start of intervention. Two of them were prescribed psychostimulant medication and were taking these during the study.
Prior to the music intervention, all participants completed the CPT3-task to assess their baseline level of functioning. Furthermore, each participant completed the CPT3 task subsequent to a thirty-minute-long private drum lesson that was conducted by the author of the study, who had ‘roughly 2 years of experience in teaching drums and percussion’ (Swope, op. cit., p.65). This pattern was repeated once weekly for a period of seven weeks. A month later, n=4 of the participants completed the CPT3-task again as a follow-up. It is reported that lessons were designed so that each student received the same lessons. The musical content comprised getting accustomed to the instrument and learning to read notation. Furthermore, each participant was:

[...] taught to identify, describe, and play quarter notes, or one note per beat, eighth notes, or one-half note per beat, and sixteenth notes, or one-quarter of a beat. This type of instruction is standard for real-world drum lessons. An example of a typical skill-based progression during the drum lessons would be: practice for 2 min with a metronome set at 60 beats per minute (BPM) while playing the kick drum on beats one and three and striking the snare drum with the drum stick on beats two and four. Once a participant adequately demonstrated competency, defined as not straying from the guided beat of the metronome for one min without stopping, the drum instructor increased metronome to 60 BPM, 70 BPM, and so on until the participant was able to play the drum pattern at 120 BPM. Once a participant demonstrated competency in playing the kick drum and snare drum in synchronization with a metronome, other elements of the drum kit were added systematically. (Swope, 2017, op. cit., p. 66)

Data analyses that resulted from the CPT3-tasks showed that effectiveness of the treatment varied across participants. There was evidence that there was an effect on some inattention symptoms on some participants, while other symptoms were not affected by the music intervention:

Both Commissions and Detectability T-scores are measures of Inattentiveness as defined measured by the CPT3, indicating that learning to play the drums may improve these aspects of inattention in adolescents with ADHD. All other domains of Inattention, such as Omissions, HRT, HRT SD, and Variability T-scores yielded “effective” effect sizes for only Participant 4, who was observed to be both engaged in the task and was prescribed a stimulant medication. (Swope, 2017, op. cit., pp.103-104)
Vigilance emerged to be improved in two participants. It was stated that, in terms of sustained attention, learning the drums is an ineffective treatment. Furthermore, data showed that the students who were taking stimulant medication throughout the intervention period showed the highest effect sizes. Swope also concludes that the overall engagement ceased towards the end of the intervention period, which might have had an impact on the results. It was also observed that the students who had the highest effect sizes were engaging in learning the drums the most. Engagement was a variable that was not taken into account in the study.

This study shows that there is some evidence that professionals in the field of psychology presume that engagement in music might be an effective treatment for ADHD symptoms. Although Swope (2017) has indicated that this may be evidenced in some cases, his data also illustrate that there may be no effects. However, the author admits that there may be factors that influence the success of the treatment such as engagement and enjoyment. It may be added, that the author did not appear to consider other factors that may be important in the context of instrumental teaching and learning, such as the pedagogical approach and teacher training and teaching experiences. Furthermore, ADHD profiles prior to the study were not investigated in particular detail, which presumably may have added more valuable data. It can be also speculated that, in order to determine longer lasting effects from a treatment, increased longitudinal data would be needed.

Seeing the study from a music education perspective, it seems that the generated data is too narrow, in that there are no data on the nature of musical behaviours and ADHD-symptoms (inattention) during the intervention. Moreover, data are reported out of context, symptoms are measured and not seen in a real-life context. In this regard, the researcher seems not to have considered observing the symptoms in his lessons or in other educational contexts, where symptoms can pose a hindrance to learning.

(d) Example 3

Mullins (2017) conducted a survey that aimed to explore the experiences of (private) piano teachers who teach students with ADHD. In addition to exploring the teachers’ training backgrounds, his other main purpose was to ‘explore potential best practices in teaching piano students with ADHD as reported by piano teachers of students with disabilities’ (p.62). Moreover, the researcher also reports that another aim of the study was to investigate the experiences of piano students with ADHD.
In order to gain insight into the above mentioned study foci, the aspects that were investigated in depth were (a) the interventions used in the lessons, as well as when practising, (b) potential challenges experienced in the lessons and while practising at home, (d) teacher training backgrounds and professional development, (e) how behaviours of students were perceived by the teachers and what they thought was the impact thereof on the students’ lessons and their practising, (f) impact of other factors such as teachers’ attitudes towards students with disabilities, and parents’ involvement in practising on the success of teaching the piano to these students (Mullins, 2017).

The researcher chose to design a survey that aimed to give insight into the above mentioned matters. However, apart from stating that he was using a survey as a tool for this ‘descriptive study’ (p. 62), Mullins (2017) does not elucidate in more depth about his rationale of choosing a survey as his first choice of method, nor does he elaborate further on his methodology. Questions were designed with consideration to:

- specific strategies or accommodations perceived to be applicable to piano study,
- and questions were developed to help the researcher better understand best practices among the participants, the effectiveness and implementation of accommodations, and what additional factors might contribute to successfully teaching piano students with ADHD’. (Mullins, 2017, op. cit., p. 64)

In seeking to investigate best practice, however, the study does not present a definition of best practice, but rather relies on teachers’ subjective opinions in order to make a summative statement on effective piano education practice for students with ADHD.

Furthermore, the author comments that the nature of the survey did not allow follow-up questions to observe the students in multiple environments nor verify the ADHD diagnoses.

Mullins (2017) reports that the teachers responded to an online version of the survey that, in addition to practice related questions, asked for information on the number and age of students, the nature of their disabilities and the specific presentation of their behaviours.

In total, n=29 music schools, n=11 additional private teachers who were known to teach piano students with ADHD, as well as other professionals in the music education sector were invited to participate. Overall, data were available from n=6 teachers in total, who filled in the questionnaire.

The most common lesson format was individual 30-minute one-to-one lessons in a private studio-type setting. One teacher responded that they had between six and ten students
with ADHD at the time of the study, another teacher had between eleven to fifteen students with ADHD, whilst the other teachers were teaching five or less students with ADHD respectively. Mullins (2017) concludes that in total, the number of ADHD students ranged from n=28 to 55. Furthermore, it is reported that the majority of the teachers were also teaching students with other special needs and disabilities. Responses indicated that none of these piano students were beginners. In terms of teacher education, apart from one, all of them had different kinds of music degrees, ranging from music performance, general music education, music therapy, to degrees in special education. All of them reported that they had used various opportunities for professional development.

In terms of how important certain elements of instrumental education were for their students’ success, Mullins (2017) reports that ‘the majority of teachers listed repertoire selection (83%), using interventions (83%), and performance opportunities (83%) as being important or essential to the success of piano students with ADHD’ (p. 71). Furthermore, the most used teaching strategies for children with ADHD were (a) making sure that the student understood tasks, (b) praising good behaviours, (c) using shorter tasks, and (d) letting the student choose the musical pieces, (e) teaching specific skills, (f) making goals clear, (g) setting goals, and (h), having short breaks. The researcher summarises the teachers’ comments on their students’ reactions towards the specific strategies as:

[...] according to their teachers, students had less frustration and more progress, improved behaviour, higher levels of enjoyment, increased self-motivation and self-confidence, and they appeared to stick with piano study longer as a result of successful accommodations and strategies. (Mullins, 2017, op. cit., p. 77)

In terms of practising at home, most teachers reported that they did not know really what was happening in the home practice.

Related to any perceived challenges in piano lessons, responses addressed common symptoms attributed to ADHD, namely that students seemed to be distracted, not be able to focus, have low self-esteem, and a lack of being able to pay sustained attention to one piece over a period of time. Moreover, teachers thought that potential barriers in learning the piano successfully may be not having any understanding of ADHD, not knowing how ADHD may impact learning experiences, and ‘wrong teachers’ (p.78). In order to tackle these perceived challenges, comments addressed the expertise of the teacher in knowing how to support the student, as well as in keeping the studio distraction free to provide successful experiences and have realistic expectations. Almost all n=6 teachers responded
that their students were enjoying the lessons. Parental support was also believed to be important. Ultimately, the researcher suggested that success in teaching students with ADHD in a piano lesson context is dependent on (a) the teachers’ experience and training in how to approach these clients and (b), on a good teaching strategy and a range of approaches.

Mullins (2017) concludes his study by mentioning factors that may have limited the study, such that ‘we can draw limited conclusions or generalizations from the descriptive data they provide’ (p. 85). He argues that the study had a limited number of participants and names several reasons for this. Furthermore, the researcher admits that he trusted the teachers’ statements regarding their students’ ADHD diagnosis. Moreover, he states that responses could be ‘skewed’ because they were based on teachers’ reports rather than drawing conclusions from observational data. Finally, among making other hypothetical assumptions, Mullins (2017) states that

these findings suggest that there is a need for greater access to training and information through other, more flexible, formats and venues [...] It may, however, be possible to offer new types of training, training on topics that have not been presented before, or training of a higher quality. In the opinions of the participants, current professional development activities are mostly sufficient, but it depends on who you ask. (Mullins, 2017, op. cit, p.89)

The assumption is made although data does not evidence teachers’ (perceived) lack of training or new methods.

Overall, Mullin’s (2017) study offers some interesting insights into piano teachers’ reported experiences with students with ADHD. However, there is no information on the age range of these students, nor is there any assurance whether the described students had an official statement of ADHD or whether it was only the teachers’ perceptions that they had. Furthermore, the stated number of ADHD students is fuzzy. The fact that teachers could not provide a clear answer also adds to the uncertainty as to whether the students had official medical statements. In addition, the study does not exemplify good practice in more detail and the findings rely on the teachers’ subjective perceptions of their lessons only. Therefore, although broadly outlined, the reported strategies are insufficiently detailed for an effective judgement. It is also not clear, what learning in these piano lessons looks like and how ADHD symptoms are presented, apart from being mentioned briefly.
It seems important to have had a deeper and more specific insight into the particular piano teaching practice and learning situations, in order to make a generalised statement regarding effective practice and potential challenges conditioned by ADHD. Last, but not least, contrary to the study’s claims, the data presentation of this study does not specifically indicate that the challenges experienced in the studio-based instrumental lessons were similar to those in ‘academic classroom settings’, as there was no illustration of the particular exhibited or experienced behaviours. The nature of the survey design seemed to limit the generation of more in-depth data by which the findings might have been enriched.

Overall, these two literature chapters (Chapter 2 and Chapter 3) have sought to articulate in overview what is known about ADHD (Chapter 2) and our current understanding of music in the worlds of SEND in general and in ADHD in particular (Chapter 3). The following chapter (Chapter 4) articulates, in the light of these literatures, the chosen methodology for the current study.
Part 2 Research Design and Findings

Chapter 4: Research Aims and Methodology

4.1 Summary and conclusion of Part 1

As can be seen from the literature presented in Chapters 2 and 3, ADHD is complex. Although it is not definitely known what the causes for ADHD are, the literature implies that this condition is incurable. Furthermore, various and many definitions or terminologies exist that describe the condition as presenting with a particular set or cluster of possible symptoms related to inattention, hyperactivity and impulsivity. Diagnostic guidelines and classification systems that conceptualise and define ADHD, such as DSM and ICD, are in constant revision. Against the backdrop of its history, a question emerges of how the perception of ADHD might change over time, contingent on new research and insights from multiple disciplines. Understanding the behaviours of individuals diagnosed with ADHD is also complicated by the occurrence of comorbid conditions which may entail some or all of the very same symptoms. Moreover, literature suggests that a diagnosis is based on observations in certain contexts (schools and home) rather than derived from clinical tests. Hence, it may be argued that ADHD cannot be separated from its social context(s). In terms of treatment, various options are presented to mitigate symptoms, such as behavioural therapies and medication. The latter – irrespective of treatment success – can cause undesired side effects (see Section 2.8). Furthermore, there is literature to suggest that there are ways to keep ADHD-related symptoms to a minimum, or perhaps even prevent them in an educational context, if the pedagogy is effective and based on the teachers’ expertise, knowledge and interest, as well as confidence to educate this particular group of children and young people. Children and young people with an official statement of ADHD fall into the category of Special Educational Needs and Disabilities (SEND). Although this entails provision of help, whether medical or educational, being ‘labelled’ with ADHD makes it more likely for the child to be excluded from society and stigmatized by the public.

Within the literature on the wider benefits of music on children and young people’s development (Chapter 3), there is a substantial body of research to suggest that engagement in music of any kind impacts positively on, for example, emotional development, promotes social skills, enhances academic performance and is conducive to health and wellbeing in individuals. Last, but not least, successful engagement in music
education is reported to advance musical abilities and this includes those with SEND (see Sections 3.3 & 3.3). Available evidence suggests that this is true for all neurotypical and neuro-diverse individuals, i.e., able bodied people, as well as people or individuals with physical, behavioural or mental health difficulties, irrespective of age, gender, ethnicity, or social backgrounds.

However, promoting health and wellbeing through music is generally associated with music therapy. Indeed, there is an innate quality about music to support wellbeing and alleviate certain conditions (Section 3.1). Nevertheless, despite a number of studies that evidence benefits on individuals from their engagement in music education, children and young people with SEND are underrepresented in research related to music education. In particular, children and young people with ADHD are neglected in this area. Moreover, the quality of music education for this group, for whatever reason, is also marked by its absence. Out of a perceived general lack of systematic music education provision for children and young people with SEND, the Sounds of Intent Musical Development Framework for Children and Young People with Special Needs and Disabilities (SoI) was established to gauge behaviours and development in music making (Section 3.3). In addition, there exist other effective music practice frameworks that seek to improve the overall quality of music provision for people with this condition. Consequently, it can be assumed that in order for something to be effective, and in the wider sense beneficial, provision must be of good quality.

Having consulted existing research evidence, this study is grounded in an understanding that everybody is musical and, at least in some ways and irrespective of their predisposition, can engage in sustained appropriate music education, given the chance and a good quality of provision. However, there seems to be hardly any literature to make explicit whether and how children diagnosed with ADHD can engage in sustained music education and potentially derive benefit from active musical engagement. Considering literature on ADHD in the context of formal education, ADHD might pose a hindrance to the affected individuals in their learning and acquisition of skills, including the development of musical skills. Nevertheless, based on literature that suggests that ADHD symptoms might be mitigated by an appropriate teaching environment and effective practice, it can be hypothesised that certain ADHD-related behaviours may be different in the context of active music making.
This chapter outlines the methodology and design of the study, as well as presents the adopted procedures for data collection and analysis that were considered to investigate ADHD and education in as well as through music. By applying the selected methodology with particular means of data gathering and analyses, this study sought to investigate the nature of the topic of interest and to provide a holistic and in-depth understanding thereof.

4.2 Research aims and research questions (RQ 1, 2, 3)

Drawing on the relatively limited research related to music education in the context of special needs and disabilities in general, and in particular ADHD, the intention in conducting this study was to investigate ADHD and education in as well as through music. Arising thereby, the following objectives were:

1. To verify the observed symptoms against the current criteria for a positive diagnosis of ADHD and investigate how and to what extent ADHD behaviour is manifested, evidenced and perceived in a music programme placement, both in general and specifically in the moments of engagement in music;
2. To investigate the musical behaviours and acquisition of music making skills of the participant pupils;
3. To explore ADHD and music in the context of educational settings;
4. To examine how and to what extent ADHD behaviour may affect these music lessons’ dynamics and all the persons involved, such as diagnosed pupils, their peers and teachers;
5. To identify different aspects of the pupils’ educational environment / context that might play a role in their musical behaviour and presentation of ADHD;
6. To investigate how the identified educational environment / context of these persons relate to their (a) musical and (b) their ADHD behaviour and vice versa;
7. To explore the nature of music provision for individuals with ADHD;
8. To investigate the perceived effectiveness of observed music education practices; and
9. To identify how the music education practices (particular teaching strategies and approaches) are related to the success of the pupils’ learning and the design of the music programmes.
Grounded in these research objectives, the following research questions were formulated:

1. Can pupils diagnosed with ADHD engage successfully in music education?
2. Do presentations of ADHD change in the moment of engagement in music, and, if so, how?
3. Does the educational context and type of pedagogy shape their musical experience and attainments?

4.3 The researcher’s lens (RQ 3)

The fundamental goal of this study was to conduct an in-depth investigation of how pupils diagnosed with ADHD engage in music education by taking account of any contextual factors that might influence music learning and ADHD behaviour. In consideration of the literature’s implications, the goal was based on an assumption that children’s learning (both nature and quality) is affected by the context in which the learning takes place. This understanding of individuals’ actions (learning) as a socially situated phenomenon followed Vygotsky’s (1978) socio-psychological perspective, translated more recently as so-called ‘activity theory’ (Engeström, 1987) which provided the lens through which the researcher understood the investigated object. Vygotsky argued that a child’s ‘activities acquire a meaning of their own in a system of social behaviour and, being directed towards a definite purpose, are re-fracted through the prism of the child’s environment. The path from object to child and from child to object passes through another person’ (Vygotsky, 1978, p. 30). This suggests that there is a relationship between human beings and their environment, and how to make sense of it. Furthermore, he also theorised human perception as ‘of real objects’. Arguably, human beings do not necessarily see the things for what they are in an objective sense, but rather impose sense and meaning on them. This, in turn, impacts on human behaviour as a reaction (Vygotsky, 1978, op. cit.). To follow from this, Vygotsky (1978) formed a tripartite action model consisting of three elements: (1) the ‘subject’ which represents the participant(s) of the activity, (2) the ‘tool’, meaning the artefacts or participants’ prior beliefs or knowledge to influence the activity, and (3) the ‘object’, which represents the goal or outcome of the activity; overall focused on the notion of mediation. By this framework, it can be illustrated and explained ‘how individuals make meaning of the world through interactions with artefacts and other individuals in a particular environment’ (Gedera, 2016, p. 53). It is presumed that the ‘subjects’ actively take part in
the process of making sense of the environment by interacting with the tools to shape the outcome.

However, the basic model can be critiqued as being focused on and ‘located at the level of individual actions’ (Gedera, op. cit.) rather than include the collective nature of human activity. This in turn, was addressed by Leont’ev (1981) and then by Engeström (1987) in further development of the theorised activity systems. The evolved ‘activity theory’, as a research framework that is ‘most commonly used in educational investigations as a conceptual lens through which data are interpreted’ (Engeström in Gedera, 2016, p. vii), is designed to account for factors that influence the subject, such as environment, the individual’s background and motivations, as well as their situation in their environment and relationships with others (each with their own motivations). According to Engeström’s structure of an activity system (termed the second generation of activity theory), an activity consists of several elements, which together form activity systems that help to understand human behaviour and/or system of activity. These systems exist, for example, within socio-cultural settings such as schools and other sites where groups interact (Gedera, 2016). This leads to the argument that the understanding of learning processes only makes sense by including their environment. Engeström’s (1987) model includes elements such as tools, rules, community, and division of labour, of whose relationships between each other are constantly mediated (see Figure 4.1).

![Figure 4.1 The structure of an activity system (adapted from Engström, 2014, p. 63)](image)

Figure 4.1 illustrates that there is a relationship between the elements which within themselves may contain several variables to define them in the context of the activity. Therefore, it can be inferred that activities are not fixed but open to change, such as if, for example, an activity is investigated over time. In this regard, there may be contradictions or
imbalances that appear among the elements if certain factors change. However, these may add to the understanding of a complex issue and lead to the identification of certain factors to influence the outcome of an activity.

An activity theory perspective, as the researcher’s lens, helped to identify the methodological choices of this study, as well as helping in identifying units (or the variables/themes) that were used to make sense of the collected data. Furthermore, the complex nature of ADHD and music suggested that a mainly qualitative design for the research would be appropriate.

4.4 Research approach (RQ 1, 2, 3)

Existent research that focuses on musical behaviours and the nature of music engagement of children and young people with and without SEND, such as those described in Chapters 2 and 3, have been noted mostly to follow a qualitative design (e.g., Swope, 2017; McFerran, 2009). In particular, studies that investigate musical experiences of pupils in their school context (see Welch et al., 2018; Hansen, 2012) are often qualitative in nature, irrespective of the number of participants. Moreover, most of the illustrated studies followed a case study approach in order to explore and elucidate certain (social) phenomena.

The aims of qualitative research are usually biased towards the collection of non-numerical data. The focus is rather on the characteristics, meanings, concepts and description of the research objects in their natural setting (Cresswell, 2007). Or in other words: ‘Qualitative research is a situated activity that locates the observer in the world. Qualitative research consists of a set of [...] practices that make the world visible. [...] They turn the world into a series of representations [...].’ (Denzin & Lincoln, 2011, p. 3). Qualitative research enables the researcher, as the key research instrument themselves, to explore the natural setting in which data collection is undertaken. Thus, real life information is gathered from situations in which people act within a specific real life context and, therefore, support a holistic account of the research focus (Cresswell, 2007).

The essence of qualitative research is to inquire into the research topic by deciding on a particular course of investigation and applying the appropriate form of data collection (Merriam & Tisdell, 2015). Obtaining data can be by various approaches. Thereby, the aforementioned studies seem to prefer to employ particular methods in these research
contexts, such as video / audio recordings, structured observations and (systematic) interviews regarding pupils’ engagement in an activity.

However, Merriam and Tisdell (2015) also argue that a qualitative design is also ‘emergent’, in that the design of a study might evolve or even change in the course of any stage of the research project. Furthermore, they contend that ‘the process of data collection and analysis is recursive and dynamic. But this is not to say that the analysis is finished when all the data have been collected. [...] Analysis becomes more intensive as the study progresses and once all the data is in.’ (Merriam and Tisdell, op. cit., p. 195). The authors suggest that classification and interpretation of data shapes the outcome and, therefore, means of analyses must be reflected on and considered wisely.

All these above mentioned aspects were considered in conceptualising the design of the current research. This study aims to make sense of the engagement (or not) in music of pupils diagnosed with ADHD, which is hypothesised as being shaped by the complexity of the educational context that is, in turn, subject to many factors. It must be added that, although the ADHD cases have commonalities, every participant’s situation and the context in which they engage in music also may be somewhat unique. However, first and foremost, the objective was to explore the under researched area of music education of children and young people with ADHD and, further, to investigate whether there are any universal features that impact on successful learning in music. Although this study is qualitative in nature, quantitative elements of analysis emerged. On the one hand, this helped to illustrate the findings and on the other, to add to and enrich the understanding of collected data. The selection of research strategy, choice of methods and means of analyses are presented in the following sections of this chapter.

4.4.1 A multiple case study design
Motivated by existing research, this qualitative study followed a case study approach. The researcher’s choice was founded in the case study’s characteristic that it ‘is a research strategy that can be qualified as holistic in nature, following an iterative-parallel way of proceeding, looking at only a few strategically selected cases, observed in their natural context in an open-ended way [...] making use of analytical comparison of cases or sub-cases, and aimed at description and explanation of complex and entangled group attributes, patterns, structures or processes’ (Verschuren, 2003, p. 137). This implies that a
case study approach allows for an in-depth and intensive investigation on complex phenomena, including all their various facets (e.g. Tight, 2017; Merriam & Tisdell, 2015; Yin, 2014; Yin, 2009; Cresswell, 2007; Gerring, 2007; Stake 1995). Yin (2012) argues that case study research not only puts attention on the case(s) themselves, but also provides the means to examine corresponding factors that may be relevant in understanding the case(s). Hence, a case study can address a wide range of contextual issues and topics that relate to the case. Consequently, a case study approach can be described as an ‘empirical inquiry about a contemporary phenomenon (e.g., a “case”), set within its real-world context – especially when the boundaries between phenomenon and context are not clearly evident’ (Yin, 2009, cited in Yin, 2012, p. 4). Here, it must be emphasised that the role of the natural setting or real-life context plays an important role in case study research (Yin, 2014; Cresswell, 2007; Stake, 1995). The researcher observes what exists and how things are and would have been if the researcher were not there (Stake, 1995).

Case studies are defined as being descriptive of a ‘bounded system’ (e.g. Merriam and Tisdell, 2015; Cresswell, 2014; Yin, 2014; Gerring, 2007). This suggests that the unit of analysis is coherent as a system or multiple bounded systems in the instance of multiple cases. The focus and extent of the research is clearly defined by the researcher (Stake, 1995). For example, the researcher conceptualises the object of study (Tight, 2017) and a unit or entity can be a single or several people, a programme, or a complex system that is selected by the researcher. Data collection and techniques of analysis are dependent on the ‘bounded system’ (Yin, 2014) because they determine how the researcher will make sense of the phenomenon or ‘case’.

Furthermore, multiple sites can be considered for investigation of a particular or phenomenon / unit and, therefore, necessitate a multiple case study approach. Evidence from multiple cases is often considered more compelling, and the overall study is therefore regarded as being more robust’ (Yin, 2014, p. 57). Yin (2014) also highlighted that a multiple-case study can be either holistic or embedded. The strength of this approach is that it combines a variety of evidence sources, including documentation. Furthermore, it is useful when examining an environment where the boundaries between the phenomenon of interest and the context are not very clearly evident. In contrast, a holistic case study ‘is shaped by a thoroughly qualitative approach that relies on narrative, phenomenological
descriptions. Themes and hypotheses may be important but should remain subordinate to the understanding of the case’ (Stake, 1976 in Scholz & Tietje, 2002, p. 9).

The approach of a case study can be both qualitative and quantitative, which in turn influences the ways in which the data collection procedure is undertaken (Tight, 2017; Gomm, Hammersley & Foster, 2000). In order to investigate the case(s), case studies include a range of data collection strategies or sources of information (Cresswell, 2007), or sources of evidence (Yin, 2014). According to Yin (2014), multiple sources of evidence are to be preferred over individual sources. One fundamental characteristic and strength of a case study approach is that it offers the opportunity to use multiple sources of evidence to inform the researcher holistically and address a broader range of case factors and contexts. In qualitative research, these sources can be, for example, observations, documents or interviews. Yin adds that a convergence of evidence is given if the case study’s findings are supported by multiple sources of evidence. This is called triangulation (Yin, 2014). In short, a range of data collection methods may be employed to allow an in-depth description and, ultimately, contribute to an in-depth understanding of the research issue.

Another vital part in case study research is the type of analysis that is undertaken to make sense of the collected data. According to Stake’s (1995) and Yin’s (2014) descriptions on case study analyses, there are certain methods of analysis that are argued to be commonplace, which nevertheless, ‘depend on a researcher’s own style of rigorous empirical thinking, along with the sufficient presentation of evidence and careful consideration of alternative interpretations’ (Yin, 2014, p.133). For example, data analysis can be holistic. Another type can be the embedded analysis, in that particular aspects of the case are analysed. Stake (1995) the researcher can undertake an analysis of themes in order to understand the complex nature of the case or within a case in order to subsequently identify common key issues of multiple cases and conduct a cross-case analysis.

Notwithstanding the benefits and strengths of the case study research, there are perceived weaknesses of this approach regarding generalisability, validity and reliability that must be recognised and addressed (Tight, 2017; Cresswell, 2007). In general, a case study approach is chosen because of the perceived complexity or uniqueness of the case. Therefore, generalising from the findings may be problematic. Tight (2017) argues that one strategy in tackling this issue is the utilisation of several single cases on the same topic. Thus, generalising from multiple case studies may offer a valid strategy to address that difficulty. Moreover, the researcher’s background and familiarity of the research topic and the ‘case’
may contribute to evaluating the typicality of the case and its findings. Also, a case study could be ‘indicative’ and, therefore, findings could be assumed to be ‘broadly applicable’.

However, as qualitative research is to a great extent believed to be interpretative in nature, some qualitative researchers view generalisation and external validity as not being a priority of their research, or irrelevant, or they even may reject generalisability in the first place (e.g., Schofield in Gomm, Hammersley & Foster, 2000). The in-depth insight into a phenomenon (or particularisation), therefore, may be important in its own right rather than trying to generalise. Stake (1995) highlights the importance of the case(s)’ uniqueness:

Thus the case, the activity, the event, are seen as unique as well as common. Understanding each one requires an understanding of other cases, activities, and events but also an understanding of each one’s uniqueness. Uniqueness is established not particularly by comparing it on a number of variables – there may be a few ways in which this one strays from the norm – but the case is seen by people close at hand to be, in many ways, unprecedented and important, in other words, a critical uniqueness. [...] The collection of features, the sequence of happenings is felt to be different. The uniqueness is expected to be critical to the understanding of the particular case. (Stake, 1995, p. 44)

Furthermore, Yin (2014) suggested that ‘theoretical propositions’ are crucial in generalising research findings. In contrast to a statistical generalisation, he argues that an analytic generalisation can ‘shed empirical light about some theoretical concepts or principles (p. 40), meaning that findings can be generalisable to theoretical propositions that formed the study from the start. What is more, generalisation itself could arise from research findings. Yet in contrast, Yin (2003) previously argued that there is a common misconception underlying this critique. He explains that case studies are ‘generalizable to the theoretical propositions’ and the aim is to ‘expand and generalize theories (analytic generalization)’ (Yin, 2003, op. cit., p.10). Moreover, he supports other scientists’ viewpoint that the goal of a case study is to ‘do a “generalizing” and not a “particularizing” analysis (Lipset, Trow & Coleman, 1956, pp.419-420, cited in Yin, 2003, p.11).

Validity and reliability – in simplified terms – refers to the appropriateness of how data were collected and whether a different researcher would conclude the same findings by using the same procedure. However, the concept of a case study can present a challenge
because case studies can be interpretative and / or constructivist or positivist (Tight, 2017) in their approach and may be impacted by the researcher’s bias.

However, on the one hand, a multi-methods approach to evidence the extracted findings is helpful (Yin, 2014) and, on the other, it is possible to judge the quality of research by different forms of measures such as (a) credibility – demonstration that data are accurate, (b) dependability – obviousness of decisions and procedures, (c) transferability – or the applicability of the findings to other settings etc., and (d) confirmability – consciousness of the researcher’s perceptions and biases in the research (Denscombe, 2014).

My research aim was to explore, describe, and try to a certain extent to explain and compare (a) the nature of music and music making on children and young people diagnosed with ADHD in detail and develop a complex picture of this matter and (b) identify the many factors involved. Hence a case study approach which allows the study of cases intensively, holistically and in their natural setting and contexts (Swanborn, 2010; Yin, 2003) seemed to be appropriate. Additionally, this research aimed to explore certain social processes and relationships between the affected and their peers and other persons involved, together with their behaviours, perceptions and viewpoints, which is also regarded as suitable for this kind of approach (Swanborn, op.cit).

Consequently, based on the methodological information, in the framework of this study, the researcher was using a mainly qualitative design and adopting a multiple-case study approach as a strategy of inquiry. Hence, by visiting settings where pupils diagnosed with ADHD had access to sustained music education, the researcher conducted classroom observations and investigated formal documents and statements regarding the case participants’ (the pupils diagnosed with ADHD) medical conditions and school reports. A breadth of observational data was analysed on multiple levels, supported by the application of the Sounds of Intent musical development framework for children and young people with special needs and disabilities (Ockelford, 2015), as well as utilising a synthesis of existent frameworks on effective music pedagogy.

This approach was believed to provide a multi-dimensional research perspective and generate diverse data. Moreover, this approach was regarded as adequate, since it used various sources of data, multiple perspectives and multiple methods through data, theory and methodological triangulation (Tashakkori & Teddlie, 1998, p. 41) in order to investigate and answer the research questions.
4.5 A preliminary exploratory action case study – a pilot study (RQ 1, 2, 3)

4.5.1 Aims of exploratory pilot action case study

In order to gain a first understanding of the research issue and identify and determine the factors / themes as well as analytical variables to consider in the main study, a preliminary exploratory action case study was undertaken to inform the main study research.

The exploratory pilot study undertook a case study analysis in an ecologically valid setting as a participant researcher, seeking multi-faceted evidence as to the nature of ADHD and music in the case study and how this related to inside-music and out-of-music classroom/group sessions. In order to interrogate the research issue, one intention was to verify the observed symptoms against the current criteria for a positive diagnosis of the disorder and investigate how and to what extent ADHD behaviour was evidenced and perceived in school, both in general and specifically when engaging in music. There, it was essential to create a baseline profile using the example of an ADHD-diagnosed person. Furthermore, since psychopathology such as ADHD is an important issue in schools, where ‘mental disorders’ have become part of the ‘parlance of childhood’ (Harwood and Allan, 2014), it was therefore decided to explore ADHD and music in a classroom setting, which is seen as a natural environment and, therefore, likely to be most appropriate in implementing the observations and musical interventions. Moreover, the setting was regarded to be essential because diagnoses are being made on the basis of data drawn from a child’s school as well as home environment. The research focus for the pilot was on ADHD behaviour in a normal classroom music situation and in music lessons with musical activities. In addition, it was sought to investigate how and to what extent ADHD behaviour affects these lessons’ dynamic and all the persons involved, such as the diagnosed pupil and his peers.

4.5.2 Methods

In order to explore the pilot study’s hypotheses whether (a) ADHD may be manifested differently through engagement in music and (b) ADHD might be less prevalent in music, the approach of an exploratory qualitative case study was chosen. Case study is ‘a type of design in qualitative research […] in which the investigator explores a real-life, contemporary bounded system (a case) or multiple bounded systems (cases) over time,'
through detailed, in-depth data collection involving multiple resources of information’ (Creswell, 2013, p. 97). Additionally, it was intended to also use action case methodology. That way, the initial theoretical components (top-down theory) could be elaborated and modified (bottom-up theory) (see Gibson & Brown, 2009, p. 16).

The research was conducted in a Primary school in Greater London with a nine-year-old pupil diagnosed with ADHD in school Year Four. Subsequent to professional assessments, based on the scores recorded in his measures, this particular boy had been diagnosed with Hyperkinetic Disorder as per the ICD-10 diagnostic criteria. In addition, it was reported that he met every aspect of the DSM-V diagnostic criteria for ADHD. In order to diagnose ADHD (which was used interchangeably with the term hyperkinetic disorder in his report), there had been observations of him in the home, clinic and school settings. Assessment scores derived from Conner’s ADHD questionnaires were completed by the school and the parents. In particular, in his official statement, it was reported that it is very evident that the symptoms that he presented were having a negative impact on his ability to work in school, to sustain peer interactions and his overall quality of functioning. His social interaction skills were also regarded to be compromised at times. Hence, peer work in smaller groups in a quieter room was recommended according to his report. Moreover, his lack of concentration and attention was pointed out, as well as his need to be physically active. In addition, his assessment scores were indicative of the presence of a comorbid Conduct Disorder and an Oppositional Defiant Disorder.

Initial visits to the school were made and meetings held to discuss the scope, framework and impact of the study on the participant, his peers and the school. The case study of ADHD and music was explored holistically through classroom-based observations and researcher-directed sequenced small group musical activities across one school term. In terms of participants, the boy with a formal assessment of ADHD along with three peers were chosen by the class teacher to form a group, which would attend the music lessons designed and enacted by the researcher (an experienced musician and music teacher) each week. Because of the advantageous situation in terms of the researcher being simultaneously the researcher participant as well as the practitioner, it was intended to conduct the exploratory case study by consulting an action research approach (Cresswell, 2011; Gibson, 2009; Tomal, 2010; Stringer, 2007; Costello, 2003). The rationale behind this decision was the fact that it was not predictable what might occur and how the participants would react and go about the tasks that were to be assigned to them. Hence, with an
expertise in music education, the researcher decided to observe any emergent problems or issues and flexibly react and act accordingly by trying different and various teaching methods and foci. Moreover, this approach was chosen to be appropriate because it was not known which particular topics and lesson design would trigger or mitigate ADHD behaviour and the approach would also give the opportunity to observe what factors may impact on ADHD and how. In addition, in the framework of the exploratory action case study, it was intended rather to observe the boy’s change of symptomatology in the course of the intervention period than seeing him as a model of a particular presentation of ADHD. This is because it was assumed that the symptoms may change from lesson to lesson. In addition, different and various symptoms were believed to be more or less severe in some lessons than in others. In this respect, observing a particular presentation and severity of ADHD was less important. Additionally, and because of the lack of knowledge about what was to be expected, an overall lesson defined content music programme did not exist. Rather, there were ideas about what topics to address and which tools to use. Specific plans were assumed to evolve in the process. In this respect, action research is seen as a ‘collaborative approach to inquiry or investigation that provides people with the means to take systematic action to resolve specific problems.’ (Stringer, 2007, p. 8). Moreover, observation in action research ‘is more ethnographic, enabling an observer to build a picture of the lifeworld of those being observed (…) and enables the teachers to see how students go about the tasks that have been assigned them’ (Stringer, 2007, p.75).

Furthermore, notwithstanding the claim that action research is ‘a systematic process of solving educational problems and making improvements’ (Tomal, 2010, p. 10), and ‘examining the impact on participants’ (Gibson & Brown, 2009, p.49; cf Stringer, 2007), the purpose of applying action research can also be ‘to gain greater clarity and understanding of (an) issue (Stringer, 2007, p.19). Hence here, action research was regarded as a tool for making a significant contribution to the larger body of knowledge and understanding of the case of ADHD and music. Each musical intervention with the participants took place regularly once a week on the same day and at the same time in a specially selected group space (the school’s music room). Before and after the music lessons, the researcher observed the group of participants (including the ADHD participant) in their daily school class environment. In order to create an in-depth understanding of the case, several forms of qualitative data were collected, including classroom observation reports, audio-visual material from the music lessons and responses to a simple pupil questionnaire.
Furthermore, the researcher met with the child’s carers and all appropriate ethical permissions were obtained, in line with university and British Educational Research Association (BERA) guidance.

Data analyses were conducted by assessing observation reports (observational data), micro-analysis-transcripts of the audio-visual data and evaluating the pupil questionnaire (text analysis). The aim of the questionnaire, which was given to the participants at the end of the last music lesson, was to explore if and how the other participants might (without an explicit prompt) or not comment on the ADHD diagnosed boy’s behaviour in the music sessions. This would be a possible indication as to the extent to which his ADHD behaviour was perceived to have had any impact on the whole group dynamic. The problematic of a researcher as a participant and, therefore, possibly being biased or influenced by basic beliefs and assumptions was known. However, the expertise as an experienced professional in teaching music to Primary school pupils with and without special needs was regarded as positive and very practical for an exploratory pilot case study. Furthermore, being simultaneously a participant researcher and the teacher, enabled the researcher to consult methods and features attributed to action research. One invaluable tool was the ability to reflect upon the methods of teaching music and the reactions. In turn, different approaches could be tried and their impacts explored. In addition, a constant collaboration and reflection with the supervisor and the class teacher was vitally important and fruitful for analysis and further planning, which went hand-in-hand with the development and progress of the powerful framework in terms of action research cycle. Such data-driven collaborative analysis of generated data enabled a better understanding of the occurring issues and their causes and effects.

4.5.3 Findings

The most remarkable observation was that, when matched against current standard criteria for the classification of ADHD, all participants occasionally showed typical behaviours and symptoms of ADHD. The most frequent symptoms were inattention, the inability to sit still and not following instructions or rules. Nevertheless, the participant diagnosed with ADHD showed the symptoms to a greater extent and much more frequently when compared with his peers. His hyperactive behaviour in music was characterised by his difficulty in staying seated when required, and his impulsivity was illustrated by his tendency to provoke and interrupt other’s activities.
In addition, the comments on the pupil questionnaire suggest that such behaviour was perceived to be an impediment by his peers. Nonetheless, all participants showed an overall positive attitude towards the musical lessons and all without exception were enthusiastic to participate. What is more, such behaviour of all the participants was very often driven by the urge and interest to play on the instruments available in the music room. Moreover, engaging in musical activities per se required more active participation and, therefore, overall more movement. Disruptive behaviour tended to be caused on a number of occasions by preceding arguments among particular participants.

Furthermore, despite his disorder, the ADHD diagnosed participant was able to be attentive, stay on task and engage in learning about music and take part in all the musical activities. In addition, he was very creative and ambitious to present good results and accomplish the assigned tasks. In the end, his musical outputs were at least of the same quality as the others’. Moreover, he showed a very good sense of rhythm and melody when composing and performing his own musical pieces. In addition, he illustrated an exceptional understanding of music (compared to his peers) and musical expressions by moving and gesturing appropriately to the music. The participants were supposed to sit still and complete an assigned task while listening to music, but the participant diagnosed with ADHD stood up and moved to the music. His movements and interpretation were matched to the music’s character. Whereas standing up and moving without being asked would be seen negatively in other school subjects, this particular behaviour could be interpreted as positive in the case study’s music lessons. Moreover, it did not disturb the other participants in doing their assignment. Consequently, it can be stated that, in this case, ADHD behaviour was not an impediment to taking part successfully in musical activities. For example, the participant’s need for movement could be integrated and combined with the task to invent and perform a rap song. The participant illustrated his creative use of verbal expressions together with singing and dancing in a hip-hop style. Here, he could act on his feelings and needs in a musical way. Consequently, ADHD behaviour could be regarded as ‘less’ in music.

Additionally, an overall ongoing positive wider impact of the musical intervention could be observed intermittently. Very often, the diagnosed participant was reported by the class teacher to be emotionally charged and, therefore, unable to stay in the classroom and participate in school lessons. Nevertheless, he wanted to take part in the pilot study’s music lessons and, to the surprise of the teachers, remained for the entire lesson.
Back in his classroom, his social behaviour was often reported as acceptable and he did not behave conspicuously, being neither hyperactive nor inattentive. On the contrary, he was very quiet, did the tasks that he was asked to do and worked in excellent cooperation with his peers. In addition, when it was carpet time at the end of the afternoon, he sat in the middle of the group as opposed to sitting at the edge as was customary.

4.5.4 Conclusion

This exploratory case study provided an initial understanding as to how children diagnosed with ADHD might engage in music education and how engagement in music might positively impact on the intellectual, social and emotional development of pupils with ADHD. More, it provided some evidence that (a) the perception of ADHD may be positively modified by music and (b) ADHD might be less prevalent in music. In addition, findings were in accordance with the research literature named above, which imply that music enhances attention span and academic performance in children (Saarikallio et al., 2010; Pelham, 2011; Carrer, 2015). Moreover, the study supported other findings that suggest that music can promote successful interaction and collaboration with peers (Purves et al., 2011) and can pose a means for self-regulation (Van den Tol & Edwards, 2015) and social inclusion (Welch et al, 2014; Purves et al., op. cit.).

Furthermore, the pilot case study’s findings asserted that, despite ADHD’s considerable impediments, it is possible to engage in music and acquire musical skills. Hence, the implication was that ADHD can be integrated into music education and need not pose an impediment. Moreover, it was observed that music is a multifaceted subject, which provides the opportunity to express feelings and emotions and trigger certain positive behaviours, as seen through a music education lens. Additionally, this study’s observations indicated that there might be long-term benefits resulting from sustained engagement in music and musical activities.

These findings related to the method. Hence, in terms of research design, the exploratory case study, together with the action research approach, posed a good tool for addressing the research foci and providing an initial in-depth knowledge of a case. In particular, video observation appeared to be very useful, as it provided information, which could not be observed by the researcher whilst teaching and could only be seen when conducting a micro-analysis of the transcripts from the video recorded lessons. Nevertheless, this study illustrated only one single case, which could imply that the results might just be a unique
phenomenon. However, generalization was not the key focus of this study. In this study, the exploration of how ADHD and music might interact was foregrounded. Hereby, action was designed accordingly to the specific setting, participants and time. In this respect, the intervention programme was created lesson to lesson and its execution could change and adjust from moment-to-moment. As action research ‘is more concerned with improvement within the context of the study (Tomal, 2010, p. 14) rather than ‘seeking to define the ultimate truth’ (ibid), the particular interventions may not fit other cases, situations and settings. Consequently, on the basis of the pilot research’s findings, more cases appeared to be necessary in future investigations to research and deepen the current knowledge of ADHD and music and to see if the findings from this study were also evidenced in other cases in different contexts and settings.

4.5.5 Implications for the main study approach

The exploratory action case study identified factors as well as themes and analytical variables for subsequent (quantitative) analysis to investigate in the main study. These were identified as likely to play an important role in the broader context of ADHD and education in and through music. Thereby, a set of observation variables was identified related to the following factors and issues to be focused on in the main study:

- Type of musical behaviours exhibited;
- The prevalence and severity of particular ADHD symptoms in the moment during the lesson – whilst engaging in music as well as between music activities;
- The type of actions observed – both those of the pupils as well as teachers / tutors; and
- The amount of time spent on these actions;
- The music content of the session;
- The pedagogical approach and tutors’ beliefs;
- The environmental factors that might impact on the lessons’ proceedings (setting, room layout, other staff); and
- Socio-environmental factors, such as peer relationships.

The exploratory pilot study enabled the researcher to define the design for the main study and to adopt the following methodological approach.
4.6 Data collection strategies (RQ 1, 2, 3)

4.6.1 Observations

Observations, as ‘the most direct way of obtaining data’ (Gillham, 2000, p. 46), were conducted in all case settings by the researcher. In this way, as an exploratory technique, it explored what individuals did and how they did what they did. Moreover, events could be investigated exactly as they happened, i.e., in their sequence (over time) and context. Additionally, in some aspects, observations also served as a means to explain other issues, such as tutor-pupil interactions. Video observations turned out to be very useful to ‘record’ recurring actions that could be analysed in more depth in hindsight and, therefore, offer a better understanding of the case and their variables within the context.

However, the way human beings ‘see’ the reality can be highly selective. The researcher, being also a research instrument, was aware that she could affect the particular setting’s / programme’s events by sheer presence. In order to counteract this possibility, the researcher made initial visits to the sites where possible and tried to become a part of the setting and give all individuals involved the chance to get accustomed to her presence. One site was visited over one entire academic year. In this particular setting, video recordings happened towards the last five months of the programme / academic year – partly due to the indecision of the parents of one case participant as to whether they agreed or not for their child to be video recorded, and partly because during that time lessons were cancelled very frequently.

Two common techniques of observations – the participant’ and ‘structured / detached’ observation strategies – were used (see Gillham, op. cit.). This was justified by the aim to make use of as much evidence as possible and investigate the case study individuals and the environment or in which they engaged in music in a holistic and in-depth way. The order of these observation strategies was first to be a participant observer (looking at the events in the setting in real time) and subsequently to undertake structured observations (looking at video data).

Gillham (2002) suggests that a participant observation is mainly descriptive and of a fairly qualitative nature. The emphasis is on the meaning of things and to a great extent interpretative. Observations are in the shape of field notes. These can be descriptions, ideas, impressions, preliminary explanations of events and contexts, and other important notes to self.
In contrast, structured (more detached) observations gather very specific information on key issues. By applying this technique, the researcher must know exactly what they are looking at and for. This approach may contain ‘counting’ things such as time or frequencies of behaviour. Gillham (2002) argues that this kind of observation ‘is about sampling these behaviours’ (p.55). He suggests that there are two main sampling techniques – (1) the interval, and (2) the event sampling. The first one counts certain behaviours in a particular moment, and the latter is a ‘form of continuous observation, where you note how often or when things happen’ (p. 55).

In the framework of this research, the researcher used a mix of both approaches, such as for video data (which was thought to be representative of each whole music programme). In this regard, entries were made every n=30 seconds onto an Excel observation grid (see Appendix 8). Each key point that was observed in this interval could be entered just once. It became apparent which behaviours happened when. Furthermore, subsequent basic statistical analysis for the whole lesson with the lesson’s time as the interval (summing up the particular entries of every interval) represented an approximate frequency of exhibited behaviour. This resulted in a representative statement that enriched the qualitative data derived from participant observations. The key points were (1) the particular ADHD-related behaviours and (2) tutors’ and pupils’ actions / behaviours. The sub-items, that mainly derived from the pilot exploratory action case study, were included in these categories can be obtained from the observation grid’s codebook (see Appendix 9).

### 4.6.2 Formal documents

In order to gain an in-depth understanding of the case individuals and their medical profiles in real-life contexts, the intention was to consult formal documents or ‘documentary information’ (Yin, 2014, p. 105), such as medical statements, school reports and EHC plans of the case individuals. These very specific data not only provided the researcher with information on the history of these individuals’ various conditions, but also offered insight into how these were evidenced and perceived at school / in educational contexts. The rationale for consulting these documents was to (a) insure that these children had a formal statement rather than just being ‘perceived’ as having ADHD (which was one of the problematics in the first phase of this research), and (b) to know these pupils’ reported ‘default’ behaviour, or as Yin (2014) indicated the ‘unmitigated truth’ (p.108). Yin, (2014) argues that ‘the most important use of documents is to corroborate and augment evidence
from other sources’ (Yin, 2014, p.107). Although ADHD-related behaviours were analysed against themselves within one lesson, and in comparison to other lessons, in this study the documents rather served as a kind of standard in order to make later inferences as to how different a child’s behaviour might be from that normally presented outside the music programme.

4.6.3 Open-ended informal conversations
Although it was thought that interviews would contribute to an understanding of the research phenomenon, the case participants were generally perceived to be sceptical towards interviews. The researcher had the impression that she would frighten them and potentially lose their trust if there were interviews to be conducted. However, some teachers, tutors and parents were happy to talk about their perceptions and experiences by chatting informally to the researcher before or after the music lessons, or in breaks. Informal conversations with parents, teachers, music tutors and school staff also emerged to be a good source of data to inform the researcher about perceptions and beliefs regarding these pupils and their ADHD behaviour, their views on ADHD behaviour in general, and on the importance of music education for these young people. Several of these opportunities arose naturally and provided some revealing answers to the researcher’s questions. Gillham (2002) argued that in such instances ‘[as the people] are not being formally interviewed they may give particularly revealing answers’ (p. 63).

4.7 Analysis (RQ 1, 2, 3)

4.7.1 Analytical considerations
In this study, the education in and through music of children and young people with a formal statement of ADHD were investigated. Furthermore, the educational context as a potentially relevant factor to influence their learning and behaviour was examined. Environmental and pedagogical features that were believed to play a role in these children’s musical and ADHD behaviour were analysed.

Multiple analyses were believed to help in illuminating the research foci and to offer many perspectives on the same available data to enable the researcher to understand the case individuals by themselves and within a context, as well as providing findings to answer the research questions. A range of different analyses were considered to give an insight into
what role the cases’ contexts had on them. In consequence of applying multiple case study approach, the researcher was able to undertake some simple quantitative techniques of analysis. Resultant findings were assumed to add richness and further perspectives including explanations to findings that were derived from qualitative analyses. Moreover, they were believed potentially to generate relevant findings in their own right. Also, any commonalities and differences in findings between individual cases were subject to a cross-case discussion.

Thematic analysis of textual data (i.e., field notes and lesson transcripts, documents) was used for both finding and exploring the key themes that seemed to arise most. This analytical approach is regarded as necessary to understanding the research issue, to find relationships and systematically structure the data (Gibson & Brown, 2009). Above all, this kind of analysis enabled the researcher not only to find meaning, but also to identify representative examples of the particular findings for subsequent reporting.

On the one hand, the technique of ‘pattern matching’ (Yin, 2014) was considered. In this way, the assumption that the pedagogy may affect pupils’ behaviour (as suggested by the literature and grounded in the pilot study) could be evidenced empirically. Furthermore, the narrative form of qualitative data (field notes, transcripts) offered elements of explanation as to why things were or happened. According to Yin (2014) here ‘the goal is to analyse the case study data by building an explanation about the case [and as] a parallel procedure for exploratory case studies’ (p.147). As, commonly, one aim of multiple case studies is to build an explanation that fits all cases, irrespective of their different details, this analysis perspective was believed to be also appropriate to this study. Moreover, the design of a multiple case study also offered the possibility of undertaking additional statistical analyses of contextual factors to investigate the cases’ behaviours (ADHD-related behaviours and forms of musical engagement) in a rich way.

Apart from using a within-case analysis in which the focus is on the findings and their meaning for the particular case, the researcher decided to compare cases by performing a cross-case analysis, in which findings of each case and between cases are compared and discussed. Whilst taking into account the individual features and exceptionalities, links between certain findings could be drawn and, therefore, contribute to giving an insight into the phenomenon of ADHD and music education. A synthesis of the findings was discussed.
4.7.2 The Application of the Sounds of Intent framework

The researcher placed herself around the classroom in which the music programme was taking place and monitored the individual case participants from the moment the lesson started until its conclusion when she left together with the tutors. Where mapping of musical behaviour could not happen at the same time that the lesson was taking place, the researcher noted behaviour immediately after the lesson in retrospect. Any observed musical behaviours characterised in the three domains (Reactive, Proactive, Interactive) were notated onto the Sounds of Intent (SoI) (see Chapter 3) multidimensional framework record sheets (see Appendix 3). Musical behaviour could embrace (a) listening and responding musically to the musical content, (b) (re)creating and controlling music and/or sounds, and (c) interacting musically with others.

Any other occurring relevant observations regarding particular musical behaviours and/or their contexts were added. Across one music lesson, multiple observations were made for each domain. Subsequently, these were attributed to the particular dimension and its levels (a range of 1 to 6). The researcher reflected on the observed behaviour and checked it against the framework descriptors. Finally, a summative judgement on the state and range of the participant(s) musical behaviours was made. For this, all ratings for each domain were summed and a mean rating created respectively.

4.7.3 Video analysis of recorded lessons – statistical considerations

In the framework of this study, opportunity was taken to conduct basic statistical analyses. The previous section reported that a mix of two observation sampling techniques or approaches were applied. This mix was employed for all video data (which was thought to be representative of each case study’s whole music programme). Entries were made every n=30 seconds onto an Excel observation grid (see Appendix 8). Each key point that was observed at this interval could be entered just once. Furthermore, subsequent basic statistical analysis for the whole lesson with the lesson’s time as the interval (summing up the particular entries of every interval) represented an approximate frequency of exhibited behaviour. This resulted in a representative statement that enriched the qualitative data derived from participant observations.

Furthermore, in terms of ADHD behaviour, statistical analysis of the noted symptoms, together with the perceived severity, enabled the researcher to create an ADHD profile for
each case individual and for each video. Although video data were limited, it is argued that
the data were representative of the pupils’ general behaviour, based on several successive
observations.

The design of the Excel spreadsheet observation grid used themes / variables that derived
from the pilot study as well as from emergent coding of the main study’s textual data. The
aim was subsequently to count the entries and make a judgement as to which behaviours
(ADHD, non-ADHD, and musical) were happening and to what extent. This was also
regarded as a good approach to illustrate ADHD profiles for entire lessons. The scale
against which the researcher assessed the severity of ADHD was based on literature on
ADHD and followed the design of common ADHD rating scales (see Section 2.4.2) and the
GRBAS Scale, which is a widely used method for perceptual evaluation of voice quality
(Sáenz-Lechón et al., 2006). The GRBAS scale entails five characteristics of voice quality
such as roughness and breathiness. For each of these characteristics, a value from 0-3 is
considered, where 0 means a healthy voice, 1 corresponded to light, 2 to moderate and 3
to severe vocal pathology or dysfunction. This scale seemed to be consistent with potential
ADHD presentations, meaning that 0 related to the absence of ADHD behaviour, 1
corresponded to a mild presentation, 2 to moderate and 3 to severe. These ratings were
considered for the categories (a) inattention, (b) hyperactivity and (c) impulsivity as clusters
of particular symptoms / behaviours. The understanding of severity derived from both the
(limited) literature and the types of presentations that were exhibited by the case subjects
and observed by the researcher. It is important to note that there seems to be a lack of a
universal definition of the severity of ADHD symptoms. The medical documents of the
cases revealed that merely a sum of exhibited symptoms and perceived behaviours
(resulting in a percental statement) is used to assess ADHD probability and severity. In the
framework of this thesis, diagrams were created to illustrate the intensity of behaviours in
each of the three categories (inattention, hyperactivity, impulsivity). For the Inattention
scale, 10 indicator variables were collected (symptoms), for the other two categories, there
were four variables (impulsivity) and five variables (hyperactivity) respectively. As
mentioned above, each indicator was measured on an ordinal scale ranging from 0 to 3,
whereby 0 indicated no occurrence, 1 mild intensity, 2 medium intensity and 3 strong
intensity – based on the literature presented in Chapter 2.
The scales depicted in the subsequent graphs represented the average intensity over respective indicator variables for each observed point in time for a given pupil (e.g. see Section 5.4.1). Thus, the scales explicitly treat the data as if they were continuous. It is acknowledged that taking the average of ordinal variables is a crude oversimplification and that more advanced quantitative methods such as factor analysis based on polychoric correlation matrices (for example Debelak & Tran, 2016; Zhang & Browne, 2006; Gorsuch, 1983; Kim & Mueller, 1978) could be a more appropriate means. However, this is omitted here as it would go beyond the scope of the thesis and the available dataset.

It could be argued that the assessment of ADHD behaviours is partially subjective as the judgement is related to the person’s perception of ADHD behaviour. However, the researcher’s perceptions on how severe certain presentations of ADHD-related behaviours were relatively valid and reliable was by letting the researcher’s supervisor trial the anonymised analysis, drawing on example video data. Entries were cross-checked. The very similar results verified and justified the researcher’s evaluation of ADHD severity.

4.7.4 The analysis of effective music provision

There was a consideration of possible frameworks against which to map effective practice of music education (cf Ofsted, 2009, Inspire-Music, 2018, ECaM, 2016) as described in Chapter 2.2.4. As well as consultation of the Sounds of Intent (SoI) musical development framework for children and young people with special needs and disabilities (Ockelford, 2015; Welch & Ockelford, 2015), a means was needed to gauge the respective (instrumental) music education provisions for each music programme of this multiple case study. The intention was to (a) assess the music education provision in the respective contexts and (b) ultimately to determine any potential relationships between the participants’ musical learning and their profiles of ADHD as exhibited during the programme.

The appropriate tool to enable an evaluation of the respective music education provision was regarded to be a Likert-like rating scale, a rating scale ‘commonly used in social and

---

74 A Likert scale is a ‘rating system, used in questionnaires, that is designed to measure people’s attitudes, opinions, or perceptions.[...] Often, the categories of response are coded numerically, in which case the numerical values must be defined for that specific study, such as 1 = strongly agree, 2 = agree, and so on.’ Encyclopædia Britannica (2018). Retrieved from https://academic.eb.com/levels/collegiate/article/Likert-scale/605393
This scale was developed initially to measure individuals’ attitudes, opinions and perceptions. The ordinal scale generates data in that the surveyed person responds to a series of questions or topics by stating to which extent they agree or disagree. The scale uses a predefined range of fixed choice response options. They can be statements or questions. Each response option is assigned a value (hence ‘rating’), whereby it is assumed that the kind/intensity of answers is on a continuum and therefore attitudes, perceptions and opinions can be measured, i.e., ‘how much’ the statement applies (Munshi, 2014; Burns, 2000). For example, ‘if five alternatives are used, it is necessary to assign values from one to five with the three assigned to the undecided position’ (Likert 1932). In order for the respondent to answer the questions or comment on their agreement, each value of the scale is assigned appropriate descriptions in the shape of words (adjectives or adverbs) or statements that will elicit the answer (Munshi, 2014). In short, the scale intends to describe or reflect the statement to be measured.

For the purpose of this study, the key factors to determine good practice (see Chapter 3.4.4) were posed as the set of statements. Each factor/statement was measured in terms of their consistency in the music programmes. The scale was designed as a 5-point interval scale. Every response/point had a numerical value. The scale points were assigned by the researcher. The values on a scale from 0-5 represented the consistency that was observed for each factor – in that the number n=0 represents the absence of a certain aspect, number n=1 stands for observed rarely, n=2 means observed occasionally, n=3 means observed regularly, and n=4 means observed consistently through the entire programme.

Taking into account the above mentioned frameworks’ designs and types of grading, the data were intended to describe (a) whether the provision in the three pedagogical domains (1) content, (2) teaching, and (3) learning was ideal, good, required improvement, or was rated to be inadequate. Each domain was rated separately, in that the data of the series of statements generated a summative (mean) rating for the domain. Eventually, the overall quality and effectiveness of the music provision could be rated.
The design of the rating scale to assess the cases’ music provision effectiveness is as follows (Figure 4.2).

![Rating Scale](image)

Figure 4.2. The effective music education provision scale

### 4.8 Research Phases

#### 4.8.1 Phase 1: Initial explorations and preparations

The first fieldwork phase started quite early into the research. The main purpose was to collect crucial information on primary and / or Secondary school-aged pupils in Greater London who were (a) engaged in sustained music education of any kind and (b) had a formal statement of ADHD. Many schools, teachers and professionals in the field of music education were contacted regarding potential participation in the study. In addition – as a result of the researcher’s active participation in conferences on music education and SEND – several music tutors approached the researcher and reported that they were interested in the research project and might have prospect case subjects to participate in the study. Hence, not only did the researcher travel to neighbouring counties in England to observe and participate in music making programmes in Primary schools and cultural centres, but opportunity was also taken to have informal conversations with the teachers/tutors on their opinions, beliefs and perspectives on children with ADHD in the music making setting. Visited programmes entailed a SEND choir, a large-scale drumming project in a Secondary school, clarinet and general musicianship lessons in a Primary school, and a literacy and music programme in a Special school.

All individuals were very open and willing to help and participate in the research. However, after several initial visits and voluntary work of the researcher within the programmes, it turned out that – contrary to the tutors’ assumptions – most of the programmes did not comprise children and young people with a formal statement with ADHD.
Eventually, through professional contacts, a boy in Year 4 in a mainstream Primary school in London was identified that subsequently (and after obtaining ethical permission) acted as the participant for the pilot exploratory action case study.

4.8.2 Phase 2: A preliminary exploratory action case study – a pilot study

The second fieldwork phase was considered to be of an exploratory nature. Because of a general lack of literature to describe musical engagement of young people with ADHD, a pilot exploratory action case study conducted over two school terms served to gain an initial understanding of the phenomenon that was to be investigated (case and case environment). Furthermore, opportunity was taken to pilot the research methodology, approach, methods and types of analysis. The researcher was an active participant in the pilot study, in that music lessons to a group of four pupils (including one boy with ADHD) were designed and enacted by the researcher, who is an experienced musician and music teacher. It was decided to conduct an exploratory case study by applying action research methodology in order to investigate how these children behaved in a wide range of music activities. Therefore, the foci on music and pedagogy were multiple to allow relevant issues to arise. After obtaining consent, classroom observations in terms of video recordings were undertaken and analysed subsequent to the lessons. Furthermore, the researcher observed the pupils in their daily classroom environment. Analyses followed an inductive approach, in that the researcher coded field notes, lesson transcripts and video data. Ultimately, results (both regarding the research phenomenon and the design of the study) fed into the conceptualisation of the main study’s design and determined the foci. Furthermore, this phase entailed the recruitment process for the main study.

4.8.3 Phase 3: Main study data collection

The third phase of fieldwork embraced the main data collection. The researcher conducted a multiple case study with four cases located in the Greater London area. Two case participants were located in one setting, whereas the third case individual was the unit of enquiry in two different settings. The observed contexts were various and embraced music programmes comprised of one-to-one instrumental tuition, orchestra rehearsals and whole class instrumental tuition. The settings were two Special schools and one cultural centre. Employed methods of data collection were music classroom / setting observations (field notes), video recordings and collection of formal documents regarding the cases’ medical
conditions (ADHD) and academic performance (EHC plans). Alongside this, the Sounds of Intent musical development framework for children and young people with special needs and disabilities was applied to map the pupils’ musical behaviours. Following the data collection, analyses were started.

4.8.4 Phase 4: Data analyses and reporting
The fourth phase contained analyses and writing. This included the transcription of video/audio data and thematic analysis of these and fieldnotes. Furthermore, the researcher applied the Sounds of Intent musical development framework for children and young people with special needs and disabilities (Ockelford, 2015; Ockelford et al., 2005; Welch et al., 2009; Cheng et al., 2009; Vogiatzoglou et al., 2011) as a tool for musical behaviour analysis. In addition, observational data were used to inform the application of a specially designed scale in order to make a summative judgement as to whether the pedagogical context (i.e., quality of music provision) was effective or not. Observational (video) data were also used to make quantitative statements related to ADHD behaviour, frequency of symptoms, frequency of particular pupil and tutor actions, as well as the structure and content of the lessons.

4.9 Selection of cases – choice of settings and recruitment of participants
Cresswell (2009) describes a qualitative approach as a situation in which the researcher investigates the meaning of a phenomenon from the participants’ view. In particular, this implies that the phenomenon should be investigated in its real-life context. In the case of human beings or groups, the focus is on ‘how [they] develop shared patterns of behaviour over time (...). One of the key elements of collecting data in this way is to observe participants’ behaviours by engaging in their activities’ (Cresswell, 2009, p. 16). Furthermore, case studies are regarded as studies involving small number of cases and interactions with many variables (Gomm and Hammersely, 2000). Moreover, Gomm and Hammersely (2000) promote a systematic sampling of cases, as this enhances the generalisability of such studies. In this regard, the current researcher sought to identify participants - the cases - of similar age with similar medical/behavioural/academic profiles.
As mentioned before, a case study approach requires a ‘bounded’ setting (Cresswell, 2009). Therefore, the study was centred upon various educational as opposed to clinical or laboratory settings. The rationale for choosing public sites such as schools, music schools and similar settings as the fields of this research, is the intention to study events within their real-life context’ (Yin, 2003, p.72). Participants were observed in their natural environment, where they were considered likely to feel comfortable and secure.

Moreover, the researcher tried to ensure the highest possible typicality of selected cases (Brannen et al., 2012) and, therefore, select the participants by the following criteria: First, wherever possible, it was intended to choose participants in schools. Underlying this intention was the general understanding that schools are settings where ADHD is mostly noticed first and can pose a hindrance (see Chapter 2). Indeed, children with ADHD are usually integrated in both special settings and mainstream (non-special) schools. Nevertheless, recruiting participants turned out to be challenging as they were not easily identified. The intention was to focus on pupils with an official statement to ensure the reliability of evidence and results. In the early stages, the intention was to, preferably, restrict the study to participants without medication. This was because the literature suggests that medication can impact on children’s behaviours, and so it was believed that it would be important to eliminate such ‘distortions’ of behaviour. However, pupils with ADHD that were treated with medication had to be considered, as finding participants that were not medicated turned out to be very difficult. Ultimately, however, the researcher regarded the factor of medication as a potential benefit – if not a necessity – to the study as (a) such cases would represent the reality and (b) related findings could pose valuable insights into the relation of (medicated) ADHD behaviour and music education. According to Yin (2014) a case must be carefully selected so that it either (a) predicts similar results [...] or (b) predicts contrasting results but for anticipatable reasons (p. 57). In the framework of this research, cases were chosen for pragmatic reasons, i.e., because there were hardly any identical cases to be identified or found. At first sight, this may seem as conflicting with the research aim. However, on closer examination, a richness was regarded to add to the study rather than be of hindrance and the concept of what constitute the case was the same in every case. According to Stake (1995), however, a case study is not a sampling research technique, and therefore choice and selection of cases should be based on how these can provide a maximum of understanding of the research issue.
Despite many difficulties, efforts were made that resulted in prospective and later definitive cases being found through various sources, such as, for example, personal contacts, online appearances of schools, music hubs and social media. The selected participants were engaged variously in musical activities, musical tuition and music education in two school settings – both of which were Special schools – and in one cultural centre that was used as the location for orchestral rehearsals. The ADHD individuals engaged in music in various grouping, ranging from one-to-one through to whole class tuition with peers including those who were or were not diagnosed with ADHD.

Furthermore, the settings, types of music provision, groupings and other contextual factors differed from each other. The following table outlines the cases (with additional reference of the pilot study):

Table 4.1. Outline of the cases and contexts

<table>
<thead>
<tr>
<th>Case</th>
<th>Type of Music Programme</th>
<th>Setting</th>
<th>Music Provider</th>
<th>Case Individuals (Anonymised)</th>
<th>Medical Conditions &amp; ADHD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Keyboard lessons, whole class tuition</td>
<td>SEN Primary school</td>
<td>External instrumental tuition provider (2 tutors in total)</td>
<td>Simon</td>
<td>ADHD; Oppositional Behaviour; Dyslexia; Dyspraxia; No medication</td>
</tr>
<tr>
<td>2</td>
<td>Keyboard lessons, whole class tuition</td>
<td>SEN Primary school</td>
<td>External instrumental tuition provider (2 tutors in total)</td>
<td>Kevin</td>
<td>ADHD combined type; Developmental delay; Autism; Oppositional Defiant; Disorder (DOD); On medication</td>
</tr>
<tr>
<td>3</td>
<td>Drumming lessons / one-to-one tuition</td>
<td>SEND community school, Key Stage 5, 4 and 5 – with an additional special education programme for students older than sixteen years</td>
<td>External tutor / experienced in teaching instruments to SEND children</td>
<td>Daniel</td>
<td>ADHD; Autism; Syndrome related to a genetic disorder; On medication</td>
</tr>
<tr>
<td>4</td>
<td>SEND orchestra</td>
<td>Culture centres / public sites</td>
<td>1 or 2 lead tutors &amp; up to 6 assistant tutors</td>
<td>Daniel (same as above)</td>
<td>(same as above)</td>
</tr>
<tr>
<td>Pilot Study</td>
<td>Multiple music interventions General musicianship</td>
<td>Mainstream Primary school</td>
<td>Researcher as experienced music teacher</td>
<td>Phillip</td>
<td>ADHD combined type severe presentation; Oppositional Defiant Disorder (DOD); No medication</td>
</tr>
</tbody>
</table>

From Table 4.1, it can be seen that the cases were different in many respects apart from the fact that the individuals with ADHD engaged in regular music education in some way. In order to investigate education in and through music of pupils with ADHD, the diversity was seen as something that could provide an in-depth understanding of the research topic, rather than believed to pose a hindrance.
4.10 Ethical Considerations

The multiple-case study research approach was conducted across the period 2016-2017 and all appropriate ethical permissions were obtained in line with university requirements and BERA (British Educational Research Association) guidance. A common standard procedure was followed, including opt-in sampling. This means that research activities started only when all formal and written consents were signed and received from all participants and their carers. The case participants could withdraw at any time, for any or no reason and without any impact on them in terms of their status at school. Participation was entirely voluntary. In addition, all data were anonymised, treated confidentially and used only for the purpose of the study. No child, teacher(s), nor settings are able to be identified in any reporting. Moreover, in accordance with Murphy et al. (2007), a principle was followed in that consent could be negotiated and renegotiated over time as the research developed, especially as there was multimodal data collection and hence various participant involvements in this study.

4.11 Validity of the study

As mentioned above, to ensure validity of this study, the researcher’s judgements on the severity of ADHD behaviour, on effective pedagogy, as well as on the SOI musical behaviour ratings were validated by inviting the researcher’s supervisor to make his own judgements and ratings on a selection of data and code the children’s behaviours based on anonymised video recordings. Being no active participant in the study, he was asked to rate one complete set of data together with the researcher. The rating and opinions on the data turned out to be consistent. Furthermore, analyses based on video data, although limited in some instance, was also regarded as representative for behaviour in the overall observed programmes.

This chapter has presented the rationale for the selected study design and methodology in order to investigate and answer the particular research questions (Q 1, 2, 3). The research approach, preliminary investigations, methods of analysis, data collection strategies, the different research phases, and the selection of cases have been presented subsequent to finally reporting ethical considerations and the study’s validity.
The following chapters (Chapters 5, 6, and 7) present the analyses of the case data that were collected using the study’s adopted research methodology. The focus of these chapters has been on musical behaviour, ADHD presentations, as well as the pedagogical and environmental context of the case individuals. Chapter 5 presents describes two individuals in one music education setting (Simon and Kevin), whereas Chapters 6 and 7 present the analysis of generated data of one individual (Daniel) engaging in two separate music education settings respectively.
Chapter 5. Case Analyses of Simon and Kevin

5.1 Description of the case environment and framework of instrumental learning (RQ 3)

5.1.1 Learning and teaching environment

This particular setting in which the instrumental tuition took place is a Special school for Primary-aged pupils with special needs. Pupils with social, emotional, behavioural difficulties and mental health needs comprise the school population. They are taught in small classes with a high adult per pupil ratio. Usually, a pupil in this school is taught there for three days per week. The other two days are spent in an assigned mainstream school, where they are meant to benefit from their said mainstream placement. The Special school maintains partnerships with outside agencies in order to seek a high-quality education for its pupils. The purpose is to meet the needs of the pupils and help them manage their social, emotional and behavioural difficulties. The aim for these individuals is eventually to be readmitted at least part-time and wholly integrated into their assigned mainstream school on a full-time basis.

The school’s staff are firmly convinced that engagement in music is likely to be beneficial for their pupil’s self-esteem, social relationships, emotion regulation, behaviour management and resilience. However, the school had never been able to offer any musical input due to a lack of qualified staff trained in music education. Consequently, a local instrumental music tuition organisation, core funded by the Local Authority, was tasked to provide lessons on the school’s premises. For the observed class, the agreed focus was on keyboard tuition.

The observed class consisted of n=6 pupils in Year 6, of which n=1 pupil was a girl and the other n=5 pupils were boys, including the two case study individuals. Apart from the class teacher, there was a teaching assistant present in all music sessions plus two music tutors. It is important to note that all the pupils of this class were diagnosed with ADHD. However, apart from the two case study participants whose detailed medical reports were accessible under the agreed ethical procedures, it is not possible to say whether ADHD was the main condition for other pupils, nor what the other potentially co-morbid conditions were. Nevertheless, all of these pupils were reported frequently to display challenging behaviour with accompanying symptoms attributed to ADHD. In this class, it was common that pupils would shout at each other or at the teacher. Occasionally, individuals would feel provoked,
which would result in them having an emotional outburst that culminated in violent behaviour – in that they were inclined towards hitting other pupils, or run after them and have an argument.

5.1.2 Concept of instrumental tuition provision
The instrumental tuition provider offers instrumental tuition for Primary school age pupils. Their main objective is to engage young people who might not otherwise have the access nor opportunity to take part in music education, such as learning an instrument and acquiring musical skills, including reading music notation (Tutor Handbook, 2016\textsuperscript{75}). Furthermore, the provider reported that they hoped to enhance motivation and confidence of pupils through music. The experience was aimed at inspiring children to engage in music beyond the programme. Here, one focus was on enabling children to make music together in groups, as well as in the wider community. The official reported conviction was that playing an instrument was in many ways beneficial for children. In particular, the organisation believed that it can positively affect children’s general performance and learning experiences at school. As reported in their brochure (2017, not disclosed here for anonymity reasons), their view draws upon research suggesting that music can help improve academic performance, enhance social skills and promote a positive self-esteem (in line with research literature, see Chapter 3). In most cases, the school management, together with the organiser, are asked to agree on a particular choice of instrument to be taught to small groups or whole classes in their school, dependent on what the school’s goals for its pupils are. Normally, lessons last for 30 minutes, but can be extended according to the particular type of aims, music tuition and target group.

According to the official guidelines, lessons are, ideally, aimed to be a variation of practical activities, theory and discussion (Tutor Handbook, op. cit.). Tutors are advised to maintain a positive approach, even if some pupils display disruptive and difficult behaviour that might both negatively affect the tutor’s work and the individual’s, as well as the group’s ability to learn. The organisation emphasises that effective management is required to deal with or change these pupils’ complex behaviour, including those with emotional, behavioural and social difficulties. Irrespective of the taught instrument, setting and target group, every tutor is required to organise a formal assessment of competency and development at the end of the academic year, using an official framework provided in association with a local

\textsuperscript{75} Tutor handbook not available for public

161
university music department. A designated assessor comes to the participating school and moderates the tutor’s attainments of pupil achievement.

The instrumental tuition sessions were led by a visiting team of two music tutors from the above mentioned organisation. Normally, such a small group would be led by one tutor only. However, since the lead tutor was a beginner tutor, she was mentored and assisted by a more experienced tutor. The lead tutor had a Bachelor of Music (BMus) degree in Music Performance and also an ABRSM (Associated Board of the Royal Schools of Music) Diploma in Teaching. Within the music tuition framework, as presented here, she acted as a keyboard tutor. The mentor, who regularly also happened to share the role as tutor, was a professional musician and composer. He also offered instrumental tuition in the framework of the company’s programme. The tutors had a firm perception of both the pupils’ abilities in music and their behaviour related to ADHD prior to the programme. Informal conversations with the researcher revealed that the tutors believed that the pupils involved in the programme would not be able to acquire many musical skills and develop to the same extent as their non-SEND peers, conditioned by their behaviour and developmental difficulties. Their assumption was that the pupils’ receptiveness would be ‘very limited’. The mentor also, personally, claimed that he had a particular outlook as an instrumental teacher, in that he generally ‘presume(s) the worst of the students’ (private correspondence). Hence, the primary aim was to ‘not be too ambitious, but keep them engaged really’ (ibid).

5.1.3 Programme content, learning space and lesson proceedings

Overall, the musical input at the observed setting, as mentioned above, embraced a weekly programme of forty-five-minute instrumental keyboard tuition sessions. The music intervention was primarily class-based in which the pupils participated together as a collective, and with a considerable proportion of individual work. Overall, lessons comprised theoretical as well as practical activities. As mentioned above, the class teacher and teaching assistant were also present, in addition to the two instrumental tutors.

The musical repertoire that was the tutor’s focus in the framework of this programme and comprised a simple arrangement of Ludwig van Beethoven’s ‘Ode to Joy’, the piece ‘Go for it’, and three exercises that were created spontaneously by the tutor during the lessons. The theoretical input comprised of (a) learning the names of the notes, (b) learning the length of particular notes in terms of beats (semibreve, minim, crotchet, quaver),
recognising rhythm patterns, and (d) learning to distinguish between major and minor chords in terms of their tonal character. The tutors created and implemented specific activities, by which the pupils were meant to learn, practise and cement their new theoretical knowledge. These activities included clapping games and guessing games.

Technical skills were taught regarding (a) how to play a melody with one (right) hand, and (b) how to play with both hands (playing the chords with the left hand in addition to the melody of the right hand). Playing the chords with the left hand was restricted to pressing down one key. Conditioned by switching on a certain mode on the keyboard in advance, the particular chord would be heard in whole if the root note only was played. In addition to the melody and chords, pupils practised playing the tunes without, and eventually with, a backing track.

Observational data show that overall, most lessons followed a certain pattern in terms of contents and pedagogical approach. The short musical pieces and exercises were practised piece by piece, and in segments. The sequence (either in a session, or over a period of few sessions) was generally first to define and learn the names of the notes and then practise the rhythm (clapping games). That would happen musically line-by-line. Then, the pupils were asked to practise playing the melody with one hand (right hand). Finally, the task was to add the chords and/or the backing track to the melody of the piece. The culmination of most lessons was planned to be a small and informal performance, whereby all pupils would play to the group what they had learnt. However, very often, particular pupils refused to perform, but rather listened to their peers, who either did not mind performing, or very much liked to show off their skills. At one occasion, the class was encouraged to create their own short tunes, guided by the tutors’ help. In this respect, the ‘composition’ task entailed writing down a rhythm pattern onto the flipchart and also assigning each note a letter. Subsequently, pupils were instructed to practise their short tune and, if willing, play it to the whole group. However, some lessons addressed some of these contents, and the intensity or length of those also varied in each lesson.

The seating arrangement varied from lesson to lesson. However, four seating arrangements tended to prevail. The following figures illustrate the classroom setup in terms of how the furniture was placed and where the pupils were seated. Seating arrangement ‘A’ (see figure 5.1) was observed to a greater extent at the very beginning of the programme. Later, arrangement ‘B’ (see figure 5.2) and ‘C’ (see figure 5.3) were the most common seating arrangements. Sitting arrangement ‘B’, however, was only observed when there were less
than n=6 pupils present. Arrangement ‘D’ (see figure 5.4) was observed on only one occasion. On this occasion there were n=4 pupils present in the room.

Figure 5.1 Seating arrangement A

Figure 5.2 Seating arrangement B
As seen in the figures, the flipchart always stayed in the same or similar position and mostly to the side of the pupils. It was observed that in each seating arrangement there were always pupils, who, due to the alignment of their individual table and keyboard, had to turn to the side or turn around in order to see the flipchart. The tables were always arranged in
advance before the tutors arrived in the room. However, whatever the existing setup, tutors never changed the arrangement. Although the figures show that the teaching assistants’ desk was at one side of the classroom, she regularly got up from her desk and sat next to a pupil to assist. That also applied to the class teacher, although in very few instances.

5.2 Academic and medical (ADHD) profiles of case individuals

5.2.1 Simon’s medical and academic profile

Simon’s reports on personal and emotional development, behaviour needs and school performance (Class teacher, 2017; Local Authority A, 2017 and 2016; Care coordinator, personal communication, 2017) describe him as a boy presenting many challenges. The ten-year-old boy is reported to have many difficulties at school that are linked with his developmental issues, related to diagnosed dyscalculia, diagnosed dyspraxia and diagnosed ADHD (as referenced in his Education, Health and care Plan as well as correspondence between placement school and doctors/care coordinators as seen above; original ADHD statement was not available). Furthermore, he displays well below average motor coordination skills (Learning Assessor, 2016). Simon is regarded as being disruptive to peers, attention seeking and having difficulties in staying on task. He is described as challenging to adults and having mood swings. Moreover, he is also reported to display emotional problems, such as being overly anxious and having low self-esteem (Class teacher, 2017). According to his mother, Simon does not like loud noises and will cover his ears (Educational psychologist, 2016).

In contrast, according to his formal Education, Health and Care Plan (EHC) (Local Authority A, 2017), Simon sees himself as a sporty, funny and respectful boy, who listens to others’ opinions and with a good sense of fairness and justice. He likes to help other people, as well as accepting support from others. Also, he thinks that he is calmer than he used to be in the past and able to follow instructions. Reflecting on the things that are important to him, he states that speaking slower and staying calm when excited is what he aims for. It is important to him to be spoken to in a normal and calm way. He would appreciate it if adults were noticing him making the right choices. Moreover, he likes being listened to and praised for good behaviour (Local Authority A, 2017; Local Authority A, 2016). Simon is also reported to experience social difficulties, in that he thinks that peers do not want to play with him. This results in him being sad (Educational psychologist, 2016). He also regards
himself as a person who is able to reflect on his behaviour and accept responsibility for his actions. Simon thinks that there are areas in which he could be assisted more. One such is in the understanding of tasks, in so far as tasks being explained and demonstrated in advance before being asked to undertake a task. Additionally, he states that noisy environments, difficult tasks and unstructured time are difficult for him to deal with. Finally, he reports that completing tasks within a set time seems hard to accomplish (Local Authority A, 2017, pp. 5-6).

Staff at school state that, in terms of academic performance, Simon is three or four years behind his chronological age. Although he is making progress, his emotional and behavioural needs are reported to pose a hindrance to progress at school (Local Authority A, 2016). His teachers regard him as a thoughtful boy, who is inquisitive and explores his environment. Nevertheless, they report that he has a short attention and concentration span, and is easily distracted. Conversely, his social skills are said to have improved. In this respect, he is regarded as polite and helpful to others. However, he displays difficulties in engaging in small group activities and interacting with others. His work avoidance behaviour is reported to have lessened, but that still there is still room for improvement. Also, Simon is viewed as a child with a lot of fears and anxieties and as someone who wants to be in control (Local Authority, 2014). Concerning this, he is seen as being very much reliant on adult support. Independent work is said to be feasible for approximately five minutes only. Nevertheless, he responds well to short-term targets and rewards (Local Authority, 2017). Consequently, the amended statement of special educational needs documentation suggested that they had developed strategies designed to help Simon with his behaviour management and learning difficulties. Teachers are meant to be (a) providing differentiated work, (b) setting clear boundaries, (c) ensuring encouragement and praise, and (d) providing opportunities for him to make choices and take responsibility. Also, (e) the assignment of meaningful tasks that build on his interests and strengths are reported to be important (Local authority A, 2015). It is also stated that he needs to be given opportunities to develop his gross and fine motor skills and to do strengthening exercises for his joint hypermobility (Local Authority A, 2016). The EHC plan reported that the school planned to provide more opportunities for Simon to engage with others socially, i.e., group activities and activities that address his emotional needs. Thereby, the school staff seek to somehow help reduce conflicts and major incidents with his peers (Local Authority A, 2017).
As part of the EHC, Simon has been diagnosed with ADHD. His medical / behavioural profile also comprises Behavioural, Emotional and Social difficulties (BESD) and Oppositional Behaviour, as stated in the ‘Conners 3-Teacher’ questionnaire (Class teacher, 2016). The class teacher (2016) rates Simon as severely inattentive and hyperactive, as well as impulsive. The following behaviours attributed to ADHD are reported to be typical for Simon:

Related to attention:

- difficulties with giving close attention to details;
- being easily distracted;
- making careless mistakes;
- not keeping focused on tasks;
- not listening;
- not following instructions and finishing schoolwork;
- not being organised; and
- avoiding or disliking things that take a lot of mental effort.

Related to hyperactivity:

- squirming in seat;
- being restless;
- getting up from seat;
- running about and climbing when and where not appropriate;
- trouble with playing quietly;
- being ‘on the go’; and
- talking excessively.

Related to impulsivity:

- being impulsive;
- blurting out answers before questions have been finished;
- not able to wait his turn;
- interruptive and intrusive; and
- breaking in on conversations.
Furthermore, his teachers repeatedly comment that Simon can occasionally be oppositional (Class teacher, 2016, op. cit; Local Authority A, 2017).

Simon is not taking any medication at present as he is reported to have experienced serious side effects in the past. His mother reported that medication was tried but it changed his personality in a negative way (Placement school, 2015). Consequently, medication was stopped by the doctor as both, the boy and his mother did not want to comply with the medication (Local authority A, 2017, p.8). In addition to this, Simon himself has stated that he would prefer not to take his medication as he does not think that it makes a difference in his learning (Local Authority A, 2017, p.5). In contrast, teachers are reported to believe that his behaviour would pose a hindrance to being reintegrated in his mainstream school, if he did not continue to be treated medically (Class teacher, personal communication, 2016). Nevertheless, Simon was not on any medication throughout the entire duration of the music programme.

5.2.2 Kevin’s medical and ADHD profile

Kevin attended the aforementioned Special school for Primary school-aged pupils with emotional, behavioural, social and mental health needs (see Section 5.1.1) on a full time basis at the time of observations. According to his medical statements, school reports, school documents and parent reports, he had been diagnosed with developmental delay with accompanying motor skills problems, ADHD combined type, Autism, Oppositional defiant disorder (ODD), growth retardation, and is reported to display an overall challenging behaviour both at home and school (Specialty doctor in charge, 2016; Kevin’s Mother, 2016; Former placement school, 2016; Child & Family Consultation Service, (n.d.); Consultant child and adolescent psychiatrist, 2013 & 2010).

According to Kevin’s school reports (Placement school, 2016), he is a boy who presents with many academic, social and emotional needs. It is stated that he is working significantly below his peers (Former Placement School, 2016). Furthermore, the eleven-year-old boy struggles to organise himself and solve problems (Placement school, op. cit.). Additionally, he is reported to have difficulties in articulating and appropriately expressing his feelings in situations that are challenging or uncomfortable. It is said that in these instances he is happy to let others to advocate on his behalf (Former school placement, op. cit.). In terms of social skills, he is reported to display difficulties in engaging with and communicating effectively with his peers (Placement school, 2016; Former placement school, op. cit.).
Kevin is frequently observed to engage in activities alone and play on his own. However, he is reported to form good relationships with adults and is able to maintain strong relationships with few of his peers (School Placement Request, 2016).

Kevin’s special needs are regarded to be the reason for him not to engage in joint activities to the same extent as others would do. It is reported that there are difficulties in initiating and even responding to social interactions. His occupational therapy report (2013) revealed that he does not willingly contribute. Nevertheless, he happily shares his views when prompted (Occupational therapist; 2013, op. cit., Placement school, 2016). Furthermore, Kevin is observed to display repetitive stereotyped behaviour, as well as to give the impression of being not present (Consultant child and adolescent psychiatrist, 2013). Furthermore, he displays fine motor coordination difficulties (Medical Report, 2015). In addition, he is regarded as a hyperactive and inattentive boy, who struggles to stay focused on the task (Occupational therapist, 2013). Related to his working style, it had been observed that Kevin prefers to be alone and work on his own rather than in a group. He also finds it easier to stay focused on independent tasks (Consultant child and adolescent psychiatrist, 2013). In addition, Kevin is observed to have difficulties in understanding tasks (Multidisciplinary clinic, 2015). Nevertheless, his teachers reported that he is able to focus and engage in activities for about twenty minutes (Therapist Report, 2016).

Moreover, Kevin is regarded as having trouble with turn-taking situations, both in games and conversations at school. Kevin is reported to having difficulties in responding to adult instructions and directions (Occupational therapist, 2013). As reported, he can be very defiant, swears at adults and other children and outbursts, and he is able to destroy things and upturn rooms (Placement school staff, 2016). Kevin is also described as an impulsive boy, who does things very quickly and does not think them through (Occupational therapist, 2013). He is also considered to be easily distracted (Occupational therapist, 2013, ibid.), restless and frequently gets up from his seat (Senior leader B, 2016, Multidisciplinary clinic, 2015). Too much sensory stimulation is observed to be too difficult to cope for him (Occupational therapist, 2013). Despite his challenges, Kevin is considered to be capable of achieving the expected rate of progress in some areas, albeit he presents with a significantly slow rate of learning (Senior leader A, 2015). Furthermore, it is said that Kevin is capable to and easily triggered to becoming physical or abusive to others and attack people. This may happen when he perceives that others are looking at him (Kevin’s Mother, 2016). His parents stated that he has low self-esteem and is severely anxious (School’s parent questionnaire, 2015). Moreover, Kevin had been tested to be well below
the average in cognitive functioning. In this respect, impulsivity is regarded as posing a hindrance in performing (cognitively) to his real potential (Multidisciplinary clinic, 2015).

According to his mother’s notes, it is very stressful for the parents to manage Kevin’s challenging behaviour and his ADHD symptoms at home. To treat and manage his ADHD symptoms, Kevin had been prescribed medication. In this respect, his ability to self-regulate has been observed to be better when taking medication (Multidisciplinary clinic, op. cit.). However, Kevin’s mother reported that his medication wears off by 2pm (Kevin’s Mother, 2016). Medical professionals (a multidisciplinary team of paediatricians, speech and language therapists and educational psychologists), who are involved with Kevin’s case, suggest that, in addition to his medication, structured interventions could and should be created in order for Kevin to develop self-regulation and maintain positive, appropriate social interactions with peers and supporting adults. It was suggested that a distraction free environment could be beneficial for his learning and behaviour. Furthermore, opportunities should be sought to provide meaningful and immediate reward. Also, it was recommended to engage Kevin in activities that require gross motor skills, like whole arm movements (Multidisciplinary clinic, op. cit.). In addition, teaching staff at his school think that he is believed to need a smaller and more intimate learning environment (Inclusion manager, 2016).

In his ‘All About Me’-Questionnaire, Kevin reports that he is a very happy and funny boy, who is helping his family and friends. He believes that people notice him trying to overcome his difficulties. He also states that: ‘People must understand I need help with things, otherwise I struggle and then I get upset and agitated and then I take it out on others which I don’t mean’ (Kevin, 2016). When asked which ways would be best to support him, Kevin says that he would need somebody always by his side to help and encourage him, speak for him, as well as keeping him and others safe. In spite of these things, he thinks that he is very happy and keeps smiling (Kevin, 2016).
5.3 Analyses of musical abilities and engagement using the SOI framework (RQ 1)

5.3.1 Analyses of Simon’s musical abilities and engagement

Throughout the entire duration of the observations, Simon presented as a very ambitious pupil, who constantly tried to improve his musical skills and performance. He practised to a greater extent than his peers and sought help from tutors and teachers if he was at loss or uncertain as to how things worked on the keyboard. Simon was very determined to be able to take and pass the music programme’s exam at the end of year. In fact, he very often inquired what material was still left to learn in order to do the exam. This boy was convinced that he would be successful in doing the examination and get a certificate. The following quote illustrates his attitude towards the exam: ‘I can do it. It’s easy. Even three more (pieces) to learn’ (as told to his tutor in one lesson). The prospect of getting a certificate seemed to be a huge motivation. Alongside this, Simon frequently asked the tutor whether he played correctly and sought approval of his attainments. When he played correctly, he was very happy and seemed to be pleased with himself. Occasionally, he asked to be rewarded with bonus points that were part of the class’ reward scheme. Also, of all the pupils participating in the music programme, Simon was the boy who was attending the lessons the most, as well as being encouraged in the musical activities the most. Furthermore, he was observed to be the most advanced pupil and the learner who implemented the tasks and acquired the whole pieces the quickest.

Apart from the above mentioned enthusiasm in making music, Simon exhibited a range of musical behaviours. The following sections are aimed to illustrate Simon’s musical behaviours and gauge his musical abilities using the Sounds of Intent (SoI) musical development framework for children and young people with special needs and disabilities (Ockelford, 2015; Welch & Ockelford, 2015). These sections present examples of Simon’s musical behaviours in the SoI Reactive, Proactive and Interactive domains.

(a) Reactive musical behaviours

Simon exhibited a good understanding of musical elements, such as rhythm, pitch and melody. He also displayed a remarkable sense of sound and the use of sound effects for varying moods. He was a good listener and very responsive to heard music in that he communicated his associations with particular sounds, sequence of notes and melodies.
He responded in various ways to the music that he recreated or created himself. The following examples illustrate instances in which Simon reacted musically.

Simon very frequently responded to music with body expressions. When he listened to the keyboard’s backing track, he would move to the beat. While seated, he used arms and feet in rhythm to the track. His head would move from side to side and occasionally he would use his index fingers to drum along on the table. The same happened when music was heard coming from other keyboards. Simon was also moving rhythmically when he played something on the keyboard to himself and improvised.

Simon was observed to frequently associate by his own accord the sounds and music he heard with other sounds and melodies he had heard beyond the programme. Mostly, he linked the music to soundtracks of films or television series. He expressed how these snippets of music sounded to him and how he felt. For example, in one instance, a sequence of semi-tones, that he just happened to play on his keyboard while exploring the instrument and improvising, reminded him of the famous soundtrack to the Hollywood thriller film ‘Jaws’ from 1975. This film was about a white shark that attacks beachgoers and is, rather dramatically, hunted by a police officer. Simon also demonstrated his discovery very proudly to the tutor and commented that he ‘found the song of it. The sharks!’ (Simon in lesson 27.02.2017). At another instance, Simon linked a short tune, or rather snippet thereof, to the soundtrack of the Hollywood film ‘The Hunger Games’. He was very agitated when making the connection and said aloud that ‘that sounds like Hunger Games!’ (Simon in lesson 20.02.2017). Once, one tutor played a melody to the class that was to be practised next. Simon was associating it with something that he had heard before. He was so fascinated by that melody so that he set to work immediately and practised the tune: ‘I’ve heard that before…on Spooky Story!’ (Simon in lesson 21.11.2016).

In one instance, pupils were asked to comment on the tonal characteristics of major and minor chords. Simon was very engaged in that task and raised his hand to guess whether the played chords were minor or major. He was as many times right as he was wrong, and eventually he asked: ‘But what is the difference between major and minor? Minor sounds sad.’ (Simon in lesson 20.02.2017).

These musical behaviours represent Simon’s musical behaviours attributed to the SoI Reactive domain. He recognised and responded to whole pieces of music and showed a good understanding of rhythm and pitch. Furthermore, Simon associated the heard music pieces and sounds with emotions or films that he had seen in his free time.
The instances were observed very frequently and can be rated as typical of Reactive Level 5 of the SOI framework (Figure 5.5) when matched against the Level descriptor ‘attends to whole pieces; recognises prominent structural features (e.g., choruses); responds to general characteristics (e.g., tempo); develops preferences’ (see Appendix 2 & 4).

![Figure 5.5 Simon’s observed musical behaviours in the Reactive domain](image)

(b) Proactive musical behaviours

Proactive musical behaviour was evidenced by recreating (practising / performing) musical pieces and rhythms. In addition, Simon was often playing to himself. Creative engagement and improvisation was evidenced by Simon independently exploring the instrument in the way that he was playing apparently randomly, and also when improvising. This happened unprompted and in moments when pupils were asked to practise a certain piece, or wait for the tutor’s instructions. Simon invented his own short snippets of music, such as the aforementioned sequence of semi-tones. Most of the improvised pieces were not audible to an external listener, as Simon – like the other pupils – most often had his headphones on. However, this way of working seemed to encourage such proactive behaviour in the first place, because tutors could not necessarily hear that pupils were playing something different if they were not directly looking at them and observing their fingers. It was observed that Simon explored, invented and improvised musically because at such times his hand/finger movements on the keyboard did not match the assigned piece. More often than not, these autonomous musical actions were not encouraged, nor deepened further by the tutors.
Simon showed proficiency in creating his own rhythms, which was prompted by the tutors in a couple of instances. Additionally, Simon was one of the boys who invented names that represented certain notes (see the use of word ‘Fanta’ instead of ‘Water’ in Figure 5.6).

![Figure 5.6 Simon’s invented rhythmical pattern with names of note length](image)

Further proactive engagement was evidenced in Simon practising the music programme’s pieces to himself. Simon managed to practise and correctly play short exercises. However, Simon mostly played the melody either with one finger or two. He displayed difficulties in playing in one steady speed, as he constantly had to rearrange his hand. That seemed to be one obstacle to playing fluently. Yet, the tutors had never instructed Simon nor the other pupils on how to play with all five fingers of one hand. One of the exercises that Simon played was as follows (Figure 5.7):

![Figure 5.7 Example of a keyboard exercise](image)

The following pieces were played with the occasional addition of major and minor chords and with / without a backing track, which Simon coped with very well (Figures 5.8, 5.9):
In one instance during the programme, pupils were encouraged to compose their own musical piece. Simon, like every other pupil, had to choose a particular sequence of rhythm and assign letters to the notes. These letters were the names of the notes. Finally, after practising that piece, pupils were asked to perform their piece to the class. Simon was more than happy to do so. His piece looked like this (Figure 5.10):
Overall, Simon’s proactive musical behaviour matched the descriptions that are representative of Level 5 (Figure 5.11) of the Sol Proactive domain, represented by the descriptor ‘(re)creates short and simple pieces of music; potentially of growing length and complexity; increasingly ‘in time’ and (where relevant) ‘in tune’ (see Appendix 4).

Figure 5.11 Observed musical behaviours in the Proactive domain

(c) Interactive musical behaviours
Interactive musical behaviour was evidenced in every lesson. However, the range of Sol interactive activities that used to trigger various interactive behaviours was limited. The standard interactions in which Simon successfully participated embraced (a) the collective clapping of patterns (clapping games), (b) together inventing rhythms in the shape of two bars of a sequence of different notes, and (c) building up a chord by each pupil being assigned to play a particular note of a chord and then play in synchrony. Apart from these activities, all pupils, including Simon, learned the names of the notes, their duration, the symbols of chords (chord boxes) and other key signatures. Pupils were frequently prompted and asked to remember and recite this theoretical knowledge as a group. Simon was an active participator, although he did not always get every answer correct. At times, he seemed to guess. In addition, Simon was very enthusiastic to perform the music to the rest of the class, or only to the tutors, dependent on who wanted to listen. He was the pupil who performed the most. However, as performances happened briefly at the end of the lesson when both most pupils and tutors were already in the mood of packing up, Simon did not get to perform as much as he could if the sessions had been structured differently, and so did not get as much attention as he might have had.
Overall, the above mentioned examples of interactive musical behaviour are representative of the Sol Level 3 of the Interactive domain (Figure 5.12 below) that is defined by the descriptor ‘interacts imitating others’ sounds or through recognising self being imitated’ (see Appendix 4). Simon recognised rhythmical patterns and was able to copy them in synchrony with his peers, perform, as well as create chords in the framework of a group activity.

Figure 5.12 Observed musical behaviours in the Interactive domain

Observing Simon’s capability and speculating about his potential, the ratings for interactive behaviour could have been higher if there were more opportunities for playing in a group as well as as a group. In no instances was partner work required. Accordingly, playing a piece as a collective never happened. Consequently, ratings for musical interaction were mitigated by the lack of variation in activities and group constellations. Noting Simon’s ability to associate sound with melodies, which he had heard beyond the school programme, and observing his ability to describe sounds, suggests that there was a missed opportunity for further interaction and development. Tutors did either not notice these behaviours, or did not deepen these by taking up the signals and use these for spontaneous interactive musicking. Additionally, apart from being prompted occasionally, the discussing of musical impressions did happen spontaneously between pupils and Simon would shout out his impressions to the others. However, these potentially productive discussions among pupils did not appear to be encouraged.
(d) Summary

Overall, the mapping of the observed musical behaviours against the SoI framework suggest that Simon responded to music and created music, as well as interacted in music in various ways. There were examples of musical behaviours that showed good understanding of sound and musical elements such as rhythm, pitch, melody and harmony. Furthermore, Simon was able to acquire and demonstrate skills that enabled him to play and perform on the keyboard successfully. However, Simon was not exposed to a wide range of music in terms of number, genre and style. The musical repertoire was rather limited and the selected pieces were studied over several consecutive lessons. Moreover, there were few opportunities to engage in actually playing music, and no instances of creative music making, nor ensemble play.

In some instances, musical behaviours were overlapping and, therefore, could be attributed to two dimensions, so that it is also possible to suggest that the dimensions are not necessarily always discrete per se. In addition, the Sounds of Intent data show that overall, Interactive behaviours were generally rated two levels lower than those mapped in the Reactive and Proactive domains. Arguably, the lower rating in the Interactive domain may be due to the lack of opportunities in engaging in group music making activities that went beyond clapping together or trying to build up chords as a whole group activity, rather than the individual ADHD profile.

The rating of Simon’s musical behaviours seemed closely related to the socio-musical context. In this regard, musical abilities, although rated highly, appeared to be constrained by pedagogical and / or organisational factors. The impression was that Simon could have benefited from both more individual assistance and more challenging musical activities. In addition, his proactive behaviour in the shape of improvisation was hardly noticed, picked up on, nor deepened by the tutors during the observed sessions. A large amount of the lesson time was taken up by talk and other events not directly related to music making.

In other words, Simon demonstrated a positive engagement in music and it seemed that there was potential for further development if promoted. The following figure illustrates the average rating of the Sounds of Intent data for Simon (Figure 5.13).
5.3.2 Analyses of Kevin’s musical abilities and engagement

During the observation period, Kevin was observed to be by far the quietest boy in the music lessons. He was very shy and reluctant to answer the tutors’ questions and not enthusiastic to perform to the class. His participation in musical activities was limited due to his tendency to engage in other than musical activities or paying attention to other than musical things. Moreover, Kevin inclined to engage in an activity (i.e. practising) for a short moment only. Furthermore, the generally noisy teaching and learning environment made it difficult to note Kevin’s engagement in the activities and contributions to the music programme. In addition to his reluctance to play, the fact that Kevin regularly had his headphones plugged in the keyboard meant that his achievements and acquired skills in playing the keyboard were rarely audible – in that his attainments or playing accuracy could not be determined by listening to the musical results. Nevertheless, field notes and video data facilitated an in-depth observation and analysis of Kevin’s – sometimes very subtle –
musical behaviours. It became apparent that Kevin exhibited musical behaviours in all three Sol domains (Reactive, Proactive and Interactive). He showed a good understanding of the basic concepts of rhythm, pitch, notation and harmony, and evidenced that he is able to follow directions and can play the music notation with accuracy. The following examples illustrate Kevin’s musical behaviour and abilities that he exhibited during the observations.

(a) Reactive musical behaviours

Kevin was observed to recognise and respond to the characteristics of and difference (in length) between various notes such as crotchets, quavers, minims, and semibreves. This was evidenced by Kevin’s ability to correctly recreate (clap) particular rhythmical patterns – a combination of the different music notes - as demonstrated by the tutors. His clapping was not as loud and enthusiastic as that of his peers. Also, he did not shout out the given names of the notes (tea, coffee, water, Lucozade) as his peers did, but he rather spoke very softly or mimed them. Nevertheless, he showed confidence and accuracy.

Furthermore, Kevin responded to the different tonal features of chords. Arguably, he was able to distinguish between minor and major chords, although he was not always correct in assigning the terms (major and minor) to the chords that were played by the tutor. It may be assumed that Kevin had a different perception of the chords’ tonal characters, in that they evoked different associations from what the tutors were trying to tell the class (major chord=happy, minor chord=sad). In this regard, a major chord could sound happy to Kevin, as illustrated by the following conversation between the tutor and Kevin (as observed in lesson on 20.02.2017):

Tutor: That we call a minor chord. Listen to the two [playing both minor and major chords]. What is the difference?’ [one pupil shouts: ‘One is frightening!’]

Kevin: Sad.

Simon: Emotionless.

Tutor: [now plays the minor chord again, but now as a minor seventh chord with a major seventh (Ammaj7 upwards as an arpeggio, holding the highest note (seventh) a little bit longer] what do you think?

Kevin: Happy. [Tutor is puzzled by this statement, but does not investigate further why he said so].

---

76 Lucozade is the name of a soft drink.
77 Arpeggio is a style of playing a music chord The single notes are broken into a sequence, usually played starting from the lowest note leading up to the highest note.
It must be added that in total, the tonal character of chords was discussed on two occasions only. Hence, pupils may not have had the opportunity to familiarise themselves with the concept of different chords and their tonal characteristics (apart from playing them with the melody when practising the pieces). Furthermore, the explanation that one chord sounds happy, whereas the other one sounds sad seems oversimplified; in particular if played in a manner that can make a minor chord sound bright (see use of an Ammaj7 chord in example above) and cause the pupils to think that a minor sound indeed can sound ‘happy’. Therefore, Kevin’s association is not evaluated as wrong or thought to be an indication of a lack of understanding of the concept of tonal characters of chords.

Overall, Kevin recognised and responded to music, namely that he was (1) able to name and copy rhythmical patterns, as well as (2) he understood the concept of harmony and its symbolisation of, or association with emotions. Therefore, the general tendency for the observed behaviours was to be rated as representative of Reactive Level 4 of the Sol framework (Figure 5.14) which is represented by the descriptor ‘recognises and responds to distinctive groups of musical sounds (motifs)’ and the relationships between them (e.g., in ‘call and response’).

![Figure 5.14 Kevin’s observed musical behaviours in the Reactive domain](image-url)
(b) Proactive musical behaviours

Proactive musical behaviour was evidenced in every lesson. However, Kevin’s engagement in the musical activities, in particular practising the musical pieces on the keyboard, was observed not to be consistent. Meaning, that he often either did not follow the instructions and refused to practise, or engaged in playing the instrument for a short moment only. Despite the limited engagement in practising, Kevin showed that he was able to play the pieces; both the melody and the chords. In this regard, he was observed to have the ability to play the melody with two hands respectively. Furthermore, he could play the chords by using three fingers of one hand (each finger for one note).

Furthermore, Kevin was observed to occasionally play with all fingers of his hand instead of using one finger only – which most of his peers did. It is important to note that it had not been taught how to play with all fingers. Nevertheless, Kevin seemed to do this intuitively in a correct way. The following two figures illustrate how the fingering looked like by the example of a few bars of the melody that Kevin played (see Figure 5.15 and Figure 5.16):

Fingering 1 2 3 4 5

![Figure 5.15 Advanced fingering of the beginning of one keyboard exercise](image1)

Fingering 1 1 1 1 1

![Figure 5.16 A raw beginner’s fingering of the beginning of one keyboard exercise](image2)

---

78 Fingering: The numbers commonly represent a particular finger of the hand. 1= thumb, 2= index finger, 3=middle finger, 4=ring finger, 5=pinky
Moreover, in one instance, Kevin was observed to play the beginning of the melody (see Figure 5.17) on every octave on the keyboard.

![Sequence of keys]

This indicates that Kevin recognised the arrangement and repeating pattern of white and black keys on the keyboard (see figure keys) and therefore understood the concept of transposition. Additionally, it was observed that one of Kevin’s habits was to write and rewrite the names of the notes on the keys with a whiteboard pen.

Moreover, Kevin was observed frequently to explore the instrument. He played around on it to himself and switched on various backing tracks. Usually, this was unprompted and happened in moments when all the pupils were expected to practise a specific tune.

On two occasions, the class was creating their own rhythmical patterns. Although Kevin was reluctant to invent his own pattern in front of the class, he managed to create a sequence of various notes (see Figure 5.18) with the help of the tutor. He either pointed at the notes or nodded to the tutor’s suggestions.

![Figure 5.18 Kevin’s invented rhythmical pattern with names of note length]

In aggregate, Kevin showed various proactive musical behaviours. He created and recreated distinctive groups of notes of varying length (rhythmical patterns). Furthermore, he exhibited the ability to create and recreate (practise) short musical pieces or snippets thereof. Consequently, these behaviours can be rated as typical of Proactive Level 4 of the
SOI framework (Figure 5.19). This level is represented by the descriptor ‘(re)creates distinctive groups of musical sounds (‘motifs’) and links them coherently’.

![Figure 5.19 Kevin’s observed musical behaviours in the Proactive domain](image)

**Figure 5.19 Kevin’s observed musical behaviours in the Proactive domain**

**c** Interactive musical behaviours

Apart from one instance, interactive musical behaviour was evidenced in every lesson that Kevin participated in. His engagement in interactive musical activities was, however, not as intensive as it was evidenced to be in other pupils in that class. Meaning, Kevin did engage in the clapping games but he usually did not voluntarily raise his hand to answer a question, nor shouted the answers as his peers used to do. Moreover, Kevin did not want to perform. Even when prompted, he preferred to listen to others’ performances rather than play to the class.

Tutor: Kevin, would you like to play us what you have done? [Kevin shakes his head] No? Okay, well, maybe when we come back from half term we can hear a bit.

(Tutor and Kevin, lesson on 6.02.17)

Occasionally, Kevin would refuse to participate in certain activities and engaged himself with other activities or went to see the teaching assistant in order to talk to her or just stand next to her and observe the class.

As mentioned before (see chapter 5.1.3.), the range of provided interactive activities, however, was limited. As described previously for Simon, the standard interactions in which Kevin participated also embraced (a) the collective clapping of patterns (clapping games), (b) together inventing rhythms in the shape of two bars of a sequence of different notes (albeit prompted), and (c) building up a chord by each pupil being assigned to play a
particular note of a chord and then play in synchrony. Furthermore, in the context of whole class activities, Kevin learned the names of the notes, their duration, the symbols of chords (chord boxes) and other key signatures. Typically, Kevin had to be prompted in order to recite this theoretical knowledge, since he did not communicate the answers of his own accord. Despite his preference to observe the events in the classroom, listen to others, and play to himself, he was happy to share what he had learnt if a tutor or teacher stood next to him and listened. However, these one-to-one interactions were of a short duration and there were no other opportunities to engage musically with others in more depth.

Overall, Kevin was able to interact musically. He imitated (copied) simple rhythmical patterns made by the tutors simultaneously with his peers. Furthermore, he created one rhythmical pattern with the help of the tutor. Last but not least, he engaged with his peers in playing a musical chord together. The tendency was for the observed interactive behaviours to embrace Levels 3, 4, and very occasionally 5. On average, though, behaviours were thought to be typical of Interactive Level 3 of the SoI framework ('interacts imitating others’ sounds or through recognising self being imitated') (see Figure 5.20).

Figure 5.20 Kevin’s observed musical behaviours in the Interactive domain

However, given the limited variation of activities and the lack of opportunities to interact more with his peers (i.e. partner work or small group activities), it is speculated that Kevin may have had the potential to interact more sophistically, if given the opportunity.
(d) Summary

Overall, the mapping of the observed musical behaviours suggest that Kevin was able to react to, responded to, as well as interacted in music in various ways. He showed a good understanding of rhythm, harmony and the concept of musical notation. However, Kevin exhibited a general tendency to observe, listen and play to himself, rather than voluntarily communicate his musical knowledge and perform. It turned out to be difficult to make a clear statement about his actual musical understanding and musical abilities (i.e. playing skills), because Kevin constantly had his headphones plugged in and it was not possible to ‘hear’ his music on a regular basis. Nevertheless, visual data and tutors’ and teachers’ comments on his playing evidenced that he can play short music pieces on the keyboard if he decides to and improvise to himself. The following figure illustrates the average rating of the Sounds of Intent data for Kevin:

Figure 5.21 Representation of the Sounds of Intent framework data of Kevin’s behaviours embracing all three SoI dimensions
The general impression was that Kevin might have benefitted from more assistance as well as motivation to engage in the musical activities more intensively. Hence, it can only be speculated as to what his real musical potential was.

5.4 Analyses of ADHD profiles during the music programmes (RQ 2, 3)

5.4.1. Simon’s ADHD profile as perceived during the programme

(a) Simon’s ADHD-like behaviour in aggregate

Throughout the entire music programme, Simon exhibited behaviour that matched ADHD criteria. Single symptoms, as well as a set of various symptoms with different severity and extent, were evident at various times in a session. Moreover, symptoms could change from moment to moment. Conversely, there were also moments when no ADHD symptoms were observed. Furthermore, some symptoms that are commonly linked to ADHD were not noticed at all. In the following narrative, Simon’s behavioural profile is presented relating the shape, frequency as well as severity of certain behaviours that were observed and assigned to the three ADHD categories: (1) inattention, (2) hyperactivity, and (3) impulsivity.

Figure 5.22 illustrates the frequency of the particular common ADHD-symptoms that Simon displayed. The numbers of observations (numbers of entry x 30 seconds) were derived from video data analyses (see Chapter 4). Analyses show that Simon’s most frequent ADHD behaviour was related to the cluster of behaviours classified as inattention (n=146 entries). In total, this aspect comprised significantly more instances and a larger variety of underlying symptoms than the other two main clusters. Hyperactivity counted the second highest rates of symptoms with n=102 entries. Impulsivity was the least frequently observed behaviour with total n=28 entries. The highest ranked symptom was being easily distracted (n=75 entries). This was closely followed by fidgeting (n=55 entries) of the hyperactivity category. The symptoms not following instructions (n=30 entries), getting up from seat (n=26 entries), and no sustained attention (n=25 entries) also occurred often.

Conversely, some symptoms attributed to ADHD were not noticed in any instance. These symptoms were (a) being unduly noisy (when engaging in an activity), (b) being forgetful, (c) losing things, (d) having trouble in organising tasks, and (e) not paying attention to details.
Figure 5.22 The frequency of Simon’s ADHD symptoms, categorised by ADHD element and clustering into (1) inattention, (2) hyperactivity, and (3) impulsivity

In the subsequent sections, exhibited symptoms are exemplified in order to describe Simon’s behaviours in more depth.

**Inattention**

Observational data revealed that Simon displayed a wide range of behaviour commonly assigned to symptoms of inattention. Counting these symptoms, being easily distracted was the most frequent behaviour (n=75 entries), followed by not following instructions (n=30 entries). In many instances, Simon would also not pay sustained attention and not listen (n=13 entries). The least exhibited behaviour that was thought to be attributable to inattention was avoiding tasks that required mental effort (n=3 entries). As mentioned above, other symptoms such as not paying attention to details, being forgetful, loosing things and having trouble in organising tasks were not displayed in any music session.

It was noticed that Simon let himself be easily distracted by both other people in the room and things that happened in his surroundings while the lesson was in progress.
He very often would feel annoyed by other pupils who misbehaved. In these instances, usually he tried to prevent these pupils from continuing to disrupt the class. The disruption could be in the shape of talking very loudly and fidgeting or making loud sounds on the keyboard. He then would say:

Stop it. That is annoying! I’m talking to you. And you are still hammering [on the keyboard]. Lucas, stop!’ Stop! Stop!

On these occasions, Simon would also start to fidget or get up from his seat and stop his work. Furthermore, pupils’ behaviours were often triggering the same behaviour in Simon. In this sense, he very often joined in the event that was causing the disruption, such as joining in discussions on topics not related to the lesson. Simon also used to laugh at others, who acted silly. Regularly throughout the programme, pupils would have severe arguments with each other, run around the classroom and get very loud. In these moments, the whole lesson would stop and pupils, including Simon, would pause in their work and eagerly observe what was going on rather than continue with their music. In these instances, ADHD ratings were at the highest. Figure 5.23 is a snapshot of one lesson’s video observation data grid. It illustrates Simon’s behaviour for over a one and a half minutes, as part of a period in which the music session stopped for eight minutes because of an incident between pupils. As seen, Simon shows behaviour related to all categories. Inattention is rated the highest as ‘3’ (the most severe rating). Simon is busy observing a row between two pupils rather than following the tutors’ instructions. They, in turn, unsuccessfully try to get the pupils’ attention and to get them to concentrate on the music programme.

<table>
<thead>
<tr>
<th>Time (Intervals)</th>
<th>30</th>
<th>15</th>
<th>30</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. Interruption/extraneous disturbance</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>8. Group performance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Creating, Improvising</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Present symptoms | Ad, Ali, Hfdg | Ad, Hns, Hfdg | Ad, Hfdg, Hns, Itx |
| Action session description | trying to get attention | same; tutor tries to instruct | Peer disruptive |
| Description pupil | distracted by peers; does join in conversation, not listening to tutors |
| Action pupil | Oa | Oa | Oa |
| Action tutor | Wm | Instr | Wt, Sp |
| Action other tutor | Wm | O | Wt, Sp |

Figure 5.23. Simon’s behaviour in a moment of disruption [13.03.17]
In addition to letting himself be distracted by arguments between other pupils, Simon reacted sensitively to the high sound level during the lessons. He felt annoyed and told his peers to ‘Stop! That is loud!’ (comments derived from field notes and video recording from lesson on 13.03.17). In such moments, it was very common for Simon not to listen to the tutors. Moreover, he sometimes would be immersed in a different activity and seem even not to hear the tutors at all. However, when directly spoken to, Simon would take notice and listen.

Additionally, it was common for Simon to be asked to take time-out and leave the room. This was a common method used by the teachers if pupils misbehaved. In these cases, pupils had to leave the room and take an hour-glass with them that was set with a predefined time and be meant to reflect on their (mis)behaviour. Simon very often felt that he had not done anything incorrect and was accused unjustifiably. The following transcript excerpt describes such an instance. Simon could not hear the tutor because he had his headphones on. Consequently, the tutor had to repeat her question. The class teacher was warning Simon (15.05.2017):

   Class teacher: Simon, can you leave the room, please?
   Simon: Why? I haven’t done anything!
   Class teacher: This is because you have wasted Miss’ time.
   Simon: Oh no!

Leaving the room as a consequence of misbehaviour (or on one’s own account), and therefore being inattentive to the musical input was also rated the highest in terms of ADHD because the pupil was absent from the music learning situation.

**Hyperactivity**

In addition to showing inattention, Simon was observed to present behaviour attributed to ADHD-related to hyperactivity. Data analyses showed that (see Figure 5.22) *fidgeting* occurred the most (n=55 entries), followed by *getting up from his seat* (n=26). *Running about* in the classroom happened in a few instances (n=5 entries). Simon occasionally was unduly noisy when engaging in an activity (n=15 entries). In contrast, Simon never exhibited excessive motor activity.

Very often, Simon would get up from his seat during the lessons and get himself water to drink, despite being nominally being required to sit still. This water collection behaviour
was not forbidden, but rather common-place. However, it resulted in a disruption of the course of the lesson as tutors had to wait for the pupils to be re-seated and/or to repeat their instructions. In one instance, Simon returned to the classroom after he had taken time out and instead of listening to the tutor’s instructions, he joined in a conversation between the class teacher and other pupils. In that moment, the tutor was trying to explain the meaning of chord symbols in the pupils’ music sheets. The pupils, together with Simon, ignored him and got sidetracked by a separate conversation with the class teacher. They were talking about the complexity of telling apart the female name Miranda from a beverage’s name ‘Mirinda’. The conversation starting ten minutes into the lesson. The tutor’s difficulty in getting attention at this moment is illustrated by the following excerpt (transcript of a lesson 06.02.2017):

10.03 Tutor: Okay. So, if…Once we get everyone having a little bit of attention, I’m going to do a little demonstration of what the chord means [tutor sounds frustrated, chatter in background, pupils provoking each other]

10.13 Tutor: But it seems we don’t have any attention from anybody [in annoyed voice]…so...

10.16 Class teacher: Miss, [to teaching assistant] pay attention! […]Thank you! […] Be prepared.

[Some clutter in background, not too loud though]

10.31 Class teacher: Simon and Jacob! Ten more seconds! [playing on instruments to be heard in background]

10.33 Pupil: Sir! Did…[complaining]

Class teacher: No…eight… [counting backwards to indicate that after countdown all are supposed to focus and behave]

10.36 Pupil: [to class teacher] Is there a girl called Merinda?

Other boy: Or Marinda?

10.40 Class teacher: No, boys [boys talking in a muddle; all at once]…Five…Four…Three…[chatter] Two…One…Zero…Simon, I expect you inside [the room], please.

[Chatter]

10.53 Pupil: Sir, so what with Merinda?

10.56 Class teacher: Mirinda [chatter] is a drink…and Miranda is a female’s name. [chatter]

11:02 Pupil: I call her Meranda, though.

11:02 Class teacher: You can call her what you want.

Other pupil: Miranda is quite…
Class teacher: If you say Meranda, people might not know what you are talking about.
[Pupils talk]

Class teacher: You want water? The session has got ten minutes left so you might catch up. [Chatter]
Quick, quick, quick! Get your water and go.
[Tutor sighs, having been ignored throughout]

Furthermore, Simon was fidgeting on a regular basis. One the one hand, his legs were restless and swinging. On the other hand, he would turn around in his chair and busy himself with what was catching his attention. Simon was also moving restlessly in his chair; particularly in moments of group activities. In other instances, when Simon was playing around on his keyboard and exploring sound or practising, he moved accordingly to his own music in a rhythmical fashion. Dependent on the perspective, however, this could also be regarded as musical behaviour rather than a sign of ADHD.

**Impulsivity**

Impulsive behaviour as a whole related to common ADHD criteria was also observed in the course of the programme. As evident from observational data, behaviours attributed to impulsivity, however, were displayed less in total when compared to inattentive behaviour. Figure 5.22 (see above) shows that n=11 entries were made for *not waiting one’s turn*, with n= 8 entries apply for *talking excessively*. Blurtling out answers (n=6 entries) and interrupting/intruding on others (n=3 entries) were rated lower. The symptom *‘being unduly noisy (when engaging in an activity)’* was not observed. Simon used to occasionally sing softly the melody he was practising. Although this was not prompted by the teacher and, therefore, something that may have been unwelcome, this behaviour was not rated as ADHD. On the one hand, nobody seemed to hear this apart from the researcher and it was not distracting any of the other individuals. On the other hand, it was very short and the context allowed this to be rated as musical behaviour.

Not waiting his turn was the most displayed ADHD-like behaviour in terms of impulsivity. Simon displayed a great need to communicate his ideas. This too, led to occasionally blurtling out answers or comments in the context of a musical activity. Additionally, impulsive behaviour in its most severe appearance mostly occurred not as an isolated behaviour, but rather as part of a set of symptoms. This happened in moments of chaos and interruption, which were mostly caused by other pupils’ misbehaviour. Then, not only
Simon was inattentive to the tutors and unable to sit still, but he also joined in a discussion or comment on the event. Field notes describe these situations as ‘mayhem’ or moments of ‘no attention!’ in class. The following observation comments were made for one instance of Simon’s impulsive behaviour of the highest rating (n=3) in the context of a disturbing event:

‘Clara out of control’

‘Simon is off task, distracted and joins the chaos.’

‘Tutor tries to continue; Simon and Martin arguing, pupils distracted’

‘Simon is fascinated by incident and disruptive. When asked, he does play and shows Fiona the rhythm on keyboard.’

‘Pupils distracted by incident with girl and boy.’

‘Situation out of control’ (Fieldnotes 13.03.2017)

Despite challenging circumstances, Simon was able to be quiet and focus on the task when prompted to. Moreover, there were entire lessons in which Simon would not present any impulsive behaviour at all. The following figure illustrates Simon’s ADHD / non-ADHD behaviour in aggregate (Figure 5.24).

![Simon's ADHD behaviour in aggregate](image)

**Figure 5.24** Simon’s ADHD behaviour and non-ADHD behaviour in aggregate

When all noted instances of ADHD and non-ADHD behaviours (entries of ADHD behaviour and the absence of such entries for every 30 second interval of video data) were totalled, it emerged that for approximately half of the music programme’s time (56%), Simon
presented with neurotypical (non-ADHD) behaviour. In the other 44% of time he was observed to exhibit behaviours related to the different presentations of ADHD (related to the three categories). Although all common presentations of ADHD (see Section 2.4) were evidenced, behaviour attributed to the combined type of ADHD prevailed (17%).

(b) ADHD behaviour in the act of engagement in music

In contrast to the above mentioned instances, in the act of performing, no ADHD-like behaviours were presented by Simon. In addition, moments of practising the particular pieces on the instrument were rarely accompanied by any instances of inattention. In other words, in moments of engaging in playing the designated music on his instrument, Simon was able to be attentive and concentrate on his work. The numbers ‘0’ in Figure 5.25 represent an absence of any ADHD-like behaviour (ADHD rated on a scale from 0-3). On only two occasions he showed mild inattention while playing on the keyboard, in that he was briefly distracted by one of his peers, or switched on different playing modes on his keyboard and was briefly distracted from the actual task to play the tune.

Figure 5.25 Example rating of Simon’s non-ADHD behaviour when playing the instrument [20.02.2017]

Furthermore, in one instance Simon did not follow the tutors’ instructions while playing to himself. He was regarded as being rude because he did not listen to the tutor and, therefore, asked to leave the classroom. However, it was evident from the video data that Simon was not able to hear the tutor in the first place because he had his headphones on.
When engaging in playing the pieces on the keyboard, Simon did not show any impulsivity symptoms apart from one occasion. Once, Simon shouted at a peer, ‘Your face is enough’ while playing. This counts as impulsive behaviour. However, it must be added that, shortly before that, Simon was provoked by that very same pupil.

In addition to playing the programme’s music pieces, all pupils, including Simon, were playing around on the keyboard, exploring sounds and generating short snippets of melodies or sequences of notes. In one instance, Simon played to himself and improvised on his keyboard rather than follow the tutor’s instruction and practise the piece. This example demonstrates that Simon was inattentive to the tutor’s instruction (see Figure 5.26). Consequently, evaluating the severity and considering the behaviour in its context, the behaviour was rated as ‘2’. However, seeing Simon’s behaviour from a music making perspective, the boy was engaging in making music. The figure also shows that when the tutor gave her attention to Simon and assisted him, he immediately resumed playing the designated piece.

<table>
<thead>
<tr>
<th>Time (Intervals)</th>
<th>6</th>
<th>30</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Individual performance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Whole class activity/ clapping game etc</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. practicing time-playing on instrume</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>4. Other activity (setting up/packing up/in between activities)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Engaging in musical activity/playing the instrument in/as ensemble</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Waiting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Interruption/extraneous disturbance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Group performance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Creating, Improvising</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Present symptoms (preval Aflw | Aflw

**Action session description**

<table>
<thead>
<tr>
<th>Description pupil</th>
<th>Simon annoyed</th>
<th>playing but off task</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action pupil</td>
<td>Str</td>
<td>Str</td>
</tr>
<tr>
<td>Action tutor</td>
<td>Ass</td>
<td>Ass</td>
</tr>
</tbody>
</table>

Figure 5.26 The ADHD rating for Simon not following instructions [06.03.17] across 90 seconds

In terms of other musical activities such as engaging in clapping games, Simon presented behaviour related to both inattention and hyperactivity. He was fidgeting, as well as being distracted. Whenever distracted, he turned around in his seat to follow the source of disruption. Figure 5.27 as an excerpt of observational data from video recordings illustrates such a situation (13.03.2017).
As the task may suggest, engagement in clapping games was always a whole class activity, which entailed interactions between the individuals and the tutors. This meant that the inherently lively nature of the games, as well as whole class discussions involved, offered opportunities to get distracted or deviate from the actual topic. Pupils generally were not waiting for their turn to answer questions or communicate their ideas, but rather did blurt out answers. Consequently, very often all individuals involved were speaking at the same time. In aggregate, engaging in musical games as a group involved a risk for the pupils to be off task, act silly and fool around. In these instances, ADHD-like symptoms were observed to a greater extent. In contrast to his peers, Simon most often blurted out comments regarding the topic rather than shout out something funny in order to attract attention, or act silly for the sake of being silly. Occasionally, his comments happened to be funny and were a cause for collective laughter. However, comments were meant to be content related. Occasionally, comments became excessive talking. Then, Simon interrupted the tutors and did not wait his turn. However, in these instances Simon was very enthusiastic and engaged in the music programme, in that he could not hold back himself with communicating his ideas and thoughts (see Chapter 5.3). Yet, in the moment of actual clapping, Simon focused on the activity and accomplished clapping the particular rhythms quite successfully. Furthermore, it was observed that Simon never provoked any of his peers himself.

Figure 5.27 The ADHD rating for Simon fidgeting and not paying attention across two minutes [13.03.2017]
Simon displayed a wide range of actions that were either (a) content related, such as playing and performing, or (b) related to things not directly related to the music programme, such as engaging in other activities or spending time out. The following figure illustrates Simon’s overall profile of actions (total entries n=446) as derived from video data (Figure 5.28) across a school year (2016-2017).

It can be seen that of all activities, he spent most of the time in listening to the tutors (n=109 entries). Significantly lower, but still one of the most prevalent activities was playing the instrument (n=63 entries). Slightly more entries were made for engagement in other than musical activities, particularly ADHD-related (n=74 entries). Instances of engagement in other activities were indicating that the pupil was not engaging in what they were supposed to. Speaking, in the sense of talking about other than music-related topics got n=29 entries, which was slightly higher in number than actually engaging in discussions on music (n=26 entries). In comparison, engaging in performing seemed rather low.
However, performing a piece would be short as the tunes were short. Hence, naturally, these entries would self-evidently be lower.

When investigating the severity of behaviour attributed to ADHD and the lesson contexts in which these were exhibited, it can be seen that most of the ADHD-related behaviours happened in the improvisation workshop part and when tutors were talking (see Figure 5.29). Being easily distracted, fidgeting, and talking excessively also happened in a wider range of severity than in the other two categories. Furthermore, the symptoms being easily distracted and fidgeting were observed in all the lessons’ phases/moments. ADHD symptoms were slightly less observed in non-musical situations and very little in lesson sections of playing the instrument (Figure 5.29). It must be added, however, that these symptoms occurred shortly before or after physically playing the instrument.

![Table showing severity of ADHD symptoms](image)

Figure 5.29 Severity of Simon’s ADHD symptoms and moments of symptoms in keyboard lessons

Notwithstanding, Daniel was observed to be able to behave neurotypically in all lesson phases and actions (see column for severity category 0). The following lesson example illustrates Simon’s ADHD behaviour over the course of an entire music lesson in the programme’s context.
(d) Lesson example

This section illustrates a lesson (Lesson on 13.03.2017) in which Simon displayed a slightly larger amount of ADHD-like behaviour than usual (see Figure 5.30). The total amount of Simon’s ADHD behaviour in this lesson was 62 percent of the lesson’s time. Inattention, together with hyperactivity, was displayed most (32 percent), followed by inattention alone. Hyperactivity and impulsivity as standalone behaviours happened less, with four percent and three percent of the lesson’s time, respectively. However, there were also phases of non-ADHD behaviour (in total 38 percent of Lesson A).

![Figure 5.30 Simon’s behaviours as a % in relation to each other [13.03.2017]](image)

Apart from mapping Simon’s ADHD profile for Lesson B, it is important to investigate in what way the lesson context may or may not have been affecting his behaviour.

In this approximately thirty-six minute-long lesson, all six pupils were present. At a certain point, two of the pupils were having an argument. One pupil felt offended by a pupil insomuch that she not only shouted at him, but also got up from her seat and became violent. This brought the whole lesson to a halt and distracted the other pupils, with the result that it was difficult for the two tutors (main and mentor), class teacher and teaching assistant to proceed. Nevertheless, pupils were amused by the incident and appeared to enjoy themselves. Only when the teaching assistant was warning them did the pupils resume their work and listen to the tutors. All in all, it was a challenging lesson for the staff. They could hardly get any attention, nor get the pupils to do their assigned tasks.
In terms of musical content, the pupils’ attainments and progress was accordingly low. Field notes suggest that there was ‘not much learned in that session. Either pupils went out of the classroom, or let themselves be distracted’ (Field notes 13.03.2017). Also, at the beginning of the session, the room was not set up properly. The keyboards were not performance-ready and both headphones and adapters were missing.

Much the same as the other observed sessions, the lesson comprised periods of practising, clapping rhythms and performance. However, these phases were frequently interrupted. Both tutors failed to get attention and draw pupils’ focus to the musical tasks.

The next figure (Figure 5.31) represents Simon’s ADHD behaviour in the three main ADHD categories and is explained in terms of its lesson context.

![Figure 5.31 Simon’s ADHD profile in lesson [13.03.2017]](image_url)

At the beginning, pupils were asked to write down the names of the notes in their music sheets and to practise a particular piece. This was quite unsuccessful, as all the pupils were either not following the instruction, or had trouble with getting the keyboards performance-ready due to missing equipment. Simon had trouble with his instrument, but
he also felt very much annoyed by one other pupil. Consequently, he left his seat (indicated by the red and green horizontal peaks for inattention and hyperactivity between intervals 2 to 12 in Figure 5.31).

The lesson did proceed with a clapping game nine minutes into the lesson. It took the tutor around two minutes to get the pupils’ attention, as they were exploring their instruments. After some clapping, in which Simon engaged enthusiastically (noted as non-ADHD behaviour), all the pupils were distracted by the incident between the two pupils mentioned above. Simon was distracted and joined in the laughter (see ADHD behaviour indicated in spikes and peaks in Figure 5.31 from intervals 20 to 40). The lesson halted for almost seven minutes. During this time, Simon’s attention was completely on the incident. He kept talking to other pupils about the argument. The exact words were not audible to the researcher because of the overall high noise level. Simon ran around the edge of the classroom in order to see what was happening in the corridor and completely ignored the tutors. This is why his ADHD behaviour was rated very highly in all categories (highest severity rating). Only the teaching assistant was in a position to calm down the students and to make them listen to the tutors again. Simon was one of the pupils who did comply immediately. Subsequent to the teaching assistant’s warning speech, pupils resumed their work and practised the piece. In the next thirteen minutes of practising, Simon got up from his seat a lot and did not do what he was asked. He would engage in a discussion with the class teacher or quiz the main tutor about the music exam requirements and proceedings (indicated as a green peak at interval 55 to 60 in Figure 5.31). In addition, his practising was partly impeded by faulty headphones. However, Simon was also feeling distracted by his peers, who ran around the classroom or played on their keyboards without plugging in their headphones. Then, Simon would protest:

   Ryan, stop! Can you stop, please? Stop that!

Moreover, Simon was not only distracted by his peers, but sometimes he was happy to listen to their comments and to join in. On one occasion, he listened to one of his peers and fidgeted in his seat while the tutor was playing the tune to him on his keyboard to demonstrate how to play it. Simon was completely ignoring the tutor (see red peaks in Figure 5.31 between interval 60 and 65).
However, in the act of playing, Simon did not present any behaviour attributed to ADHD. Furthermore, he was very keen to perform at the very end of the lesson. Then, too, he behaved appropriately and did not show any symptoms (see interval 65 to 70). At the very end, he proudly played to the tutor once more in order to get approval:

Before you go: Left hand approving!

It can be seen that apart from a few instances between intervals 13 and 19, and the period between intervals 39 to 43 (mainly listening) and 64 to 75, ADHD behaviours were consistently observed. In contrast, in the moment of playing (see intervals 15, 50, 64-73) ADHD symptoms were not observed.

However, most of the time, Simon would be, or let himself be, distracted and join in other-than-musical activities. The following figure (Figure 5.32) reflects Simon’s activities in the lesson example [Lesson 13.03.2017]. As can be seen, engagement in other activities and being off-task had the most entries (n= 38 entries). This equals approximately seventeen minutes of the approximately thirty-six-minute lesson. In contrast, Simon engaged in playing the instrument for around six minutes (n= 12 entries).

![Figure 5.32 Simon’s actions in lesson [13.03.2017]]
In short, Simon, was not engaging in any musical activity for almost half of the lesson (Figure 5.32). Playing on the instrument was comparatively short and frequently interrupted. Simon concentrated less on the tasks and displayed ADHD behaviour to a greater extent. When comparing his actions with the structure of the lesson (Figure 5.33), it can be inferred that Simon only played for half of the dedicated practising time.

![Graph showing lesson sections 13.03.2017](image)

**Figure 5.33 Lesson sections [13.03.2017]**

However, the interpersonal incident between two pupils threw the whole lesson off course, for Simon as well as the other pupils. Although this is an extreme example of disruption across the observed lessons overall, such incidents – on a smaller scale – were observed commonly. Despite the challenging circumstances, Simon was eager to perform at the end of the lesson. He was the only pupil to do so.

Apparently, it was not in the tutors’ power to prevent or influence the incident between the two pupils. However, they appeared unable to regain the pupils’ attention and get them back on-task. The music tutors seemed overwhelmed by the pupils’ reaction and inattention, and so they were more dependent on the class teacher’s authority. In addition, the tutors were requesting the pupils to focus rather than give clear instructions.
Almost all of their directions were questions and one of the motivations was that, after the pupils did what they did, they would end the session with words like ‘can we try for the last minutes? Just try. Three minutes. A few minutes concentration and then we are packing up’

In comparison, the overall pattern of tutor behaviour was as follows (Figure 5.34).

![Tutors' actions in lesson [13.03.2017]](image)

Figure 5.34. Tutors’ actions in lesson [13.03.2017]

Tutors observed the events in the class and waited for a large amount of time due to the interruptions. They also engaged in activities that were other-than-musical. In this respect, the mentor tutor had the responsibility to fix the keyboards and get new adapters or headphones. He was also observed to be leaving the room to make sure that one of the pupils who was responsible for the main incident remained in the school office. Moreover, they engaged with teachers and pupils in talking about other than musical topics.

As there was very little musical input, actions regarding music making such as demonstrating, musicking, explaining and instructing were comparatively little.
5.4.2 Kevin’s ADHD profile during the programme

(a) Analyses of Kevin’s ADHD-like behaviour in aggregate

At the first glance, Kevin made an impression of being the most behaved person of all the pupils who were participating in the music programme. However, the observations and detailed data analyses show that Kevin’s behaviours were multi-faceted and that, indeed, during the music programme, Kevin intermittently exhibited behaviours characteristic of ADHD symptoms. Conversely, there were also periods of time in which Kevin behaved unobtrusively; namely, that there were moments in which no ADHD symptoms were observed by the researcher. Similar to Simon’s ADHD profile during the music lessons (see Section 5.3.4), analyses show that there were particular symptoms that were never evidenced in Kevin during the observation period. The following figure (Figure 5.35) shows the frequency of the ADHD symptoms that were displayed by Kevin:

![Figure 5.35 The frequency of Kevin’s ADHD symptoms, categorised by ADHD element and clustered into (1) inattention, (2) hyperactivity, and (3) impulsivity](image-url)

Figure 5.35 The frequency of Kevin’s ADHD symptoms, categorised by ADHD element and clustered into (1) inattention, (2) hyperactivity, and (3) impulsivity
Video analyses of Kevin’s behaviour show that his ADHD-like behaviours were mainly related to inattention (total entries n=222). In total, inattention comprised by far more instances and a larger variety of underlying symptoms than the other two main clusters (hyperactivity and impulsivity). Notwithstanding this, it must be added that Kevin displayed all of the possible symptoms from the hyperactivity category (fidgeting=53, getting up from seat=7, running about=2, unduly noisy=1, excessive motor activity=15 entries). Concerning the frequency, hyperactivity counts the second highest rates of symptoms with n=78 entries. The category that was exhibited the least by Kevin was impulsivity with n=2 entries for the symptom interrupting/intruding on others. Overall, the highest ranked symptom was being easily distracted (n=104 entries). This was followed by fidgeting (n=53 entries) of the hyperactivity category, which was very closely followed by not paying sustained attention (n=49 entries). Other symptoms such as not following instructions (n=38 entries), avoiding tasks requiring mental effort (n=18 entries), and displaying excessive motor activity (n=15 entries) were also observed. Symptoms such as not listening (n=10 entries), getting up from seat (n=7 entries), not paying attention to detail (n=2 entries), and running about in the classroom (n=2 entries) were observed less.

In contrast, there are some symptoms that were not evidenced by any behaviour that Kevin exhibited during the observation period. For instance, loosing things, being forgetful – which both belong to the inattention cluster – were never noted, nor to be seen on video. Related to impulsivity, the symptoms talking excessively, blurtling out answers, and having trouble waiting one’s turn were not observed. Indeed, Kevin was seen as the quietest pupil in the class. He would rarely speak and, if so, very softly. Only in one instance did Kevin behave inappropriately – in that he distracted the whole class by provoking his peers, throwing little balls of paper at one boy, and disturbing the whole class by switching the lights on and off. As a consequence of this misbehaviour he had to leave the classroom and take a 30-minute time-out. In the following, it is detailed in what form the exhibited symptoms were perceived in Kevin.

**Inattention**

Although Kevin was observed to be able to follow the lesson’s proceedings, he was also noticed to present with a range of behaviours that are commonly attributed to inattentiveness. It must be added that all exhibited symptoms of inattention were not
discrete, meaning that, for example, being distracted could be followed by not paying sustained attention and involved not listening to the tutors and not following instructions.

*Being easily distracted* counted the most entries (n=104), followed by *not paying sustained attention* (n=49 entries), *not following instructions* (n=38 entries), *avoiding tasks that require mental effort* (n=18 entries), *not listening* (n=10 entries), *not paying attention to details* (n=2 entries), and *having trouble in organising tasks* (n= 1 entry).

Compared to Simon (see Section 5.4.1), who was Kevin’s peer and participated in the same programme, Kevin’s inattentive behaviour was exhibited to a greater extent (Simon’s observed inattention symptoms in total: n=146; Kevin’s noticed inattention symptoms: n=222) and in a different way. Although Kevin, too, let himself be distracted by his peers who presented with challenging (mis)behaviours, above all, being distracted was evidenced in focusing deeply on other things. In many instances of being inattentive to the lesson proceedings, he seemed to be very attentive to other things instead that were happening in the classroom at the same time. In this regard, Kevin was noticed to look around and listen what the class teacher and teaching assistant were discussing or doing. The impression was that – in contrast to Simon, who was mostly distracted by other factors – Kevin was distracting himself and doing other things that interested him and attracted his attention more. The researcher’s field notes reported the following observations:

- Kevin has his backing track on, but he is not playing. Instead, he is observing what is going on in the classroom. He is also playing around with his pen.
- Kevin was very silent and towards the end he seemed not to participate as much as usual as he looked into the air and observed the scene or what was happening rather than participating in the musical activity.
  (Field notes, 20.02. 2017)
- Kevin seems completely off-task at times. Not at all listening/participating.
- Kevin not actively participating to the same extent as others (he hardly speaks), but he listens and observes.
  (Field notes, 20.03.2017)
- Kevin seems to be in his own bubble? (frequently inattentive).
  At first glance, Kevin is the one who does ‘behave’ the most (he is also the quietest one). However, he seems to be frequently inattentive and seems not to listen to the tutor nor taking part in what is going on in terms of music. He is constantly distracted by other things. Kevin is sometimes not participating. Kevin does very often not participate nor listen at all; writing on keys instead. (Field notes, 15.5.17)
In addition, Kevin also let himself be distracted by things in his close surrounding. For instance, he was observed to be distracted by a ticking clock on one occasion.

Furthermore, Kevin usually was able to focus on a task for a certain period of time, before giving his attention to other things, such as writing letters on the keys (names of notes) or playing the instrument to himself in his own way and explore.

He was also observed not to participate in activities, but rather observe the group and listen to the others engaging in music. That means that not participating in the programme did not necessarily mean that he was inattentive. Then he simply would not follow instructions. However, it also happened regularly that Kevin seemed oblivious to what happened during the class. In one instance, the class was discussing what a composition was. Instead of listening and taking part in the discussion, Kevin was playing on his keyboard to himself for approximately three minutes and then wiping off the written letters on the keys. The following symptoms were noted on the observation grid: (a) *Avoiding sustained attention*, (b) *being distracted*, (c) *not following instructions*, and (d) *not listening*. In another instance, Kevin was observed to be oblivious to the tutor’s instructions while he was assisting him. Kevin simply continued to strum to himself on his keyboard. The tutor, in turn, however did not react to this, but rather went away. On the other hand, Kevin made the impression to be very shy. For example, if asked to complete a task in front of the class, Kevin would shake his head and prefer to answer the questions from his seat.

Furthermore, Kevin’s lack of sustained participation when seated was rarely noticed by the tutors. As to why this may be, can be speculated. It might be that the tutors’ attention is drawn towards the more verbal and louder pupils, who – and this should not be disregarded – may display challenging behaviour at the same time that is more noticeable.

However, it must be emphasised that, despite his symptoms attributed to inattention, Kevin was observed to be able to be attentive follow instructions and listen to the tutors, even after seeming to not follow instructions. It may be implied that Kevin, albeit often not making a physical impression, listened to the events around him. It is noticeable that the researcher used to explicitly mention this issue:

> Although Kevin plays to himself, his attention always returns to the tutors and the activity. (Field notes, 15.05.2018)
These examples of being attentive to his surroundings, although not necessarily showing so, made it very difficult to assert his inattention. As Kevin did not speak much, it was also difficult to determine why he ultimately displayed a particular behaviour. In this regard, it is uncertain when Kevin was indeed being distracted, or not interested in the activity. It could be speculated that he occasionally stopped to engage in a task because he might have assumed that he was finished with it and did not need to dwell on it further, or perhaps he was not able to engage in a task for a longer period of time, or because it may have required too much mental effort. Overall, Kevin was evidenced to show behaviours that matched the ADHD-criteria of inattention.

On one occasion, Kevin was observed to not being distracted, but rather disconcerted by his table having been moved. Pupils had moved his table in order to set up the room for the music lesson. This was rather disturbing to Kevin and he started to cry. The teaching assistant reported that Kevin was crying because ‘he is autistic and hence very upset and disturbed if something is being moved or different from what he is used to’ (Teaching assistant, personal communication, 30 January 2017). Despite this incident, Kevin recomposed himself very quickly and swapped places with Simon. The teaching assistant was astonished that he did so and also that he dared to sit at the front, which, apparently, he had never done before. It is noteworthy that for the rest of the observation period, Kevin sat in both places, at the front and the back of the classroom.

**Hyperactivity**

Apart from presenting with inattentive behaviour, Kevin was observed to display behaviours that matched common ADHD symptoms attributed to hyperactivity. Data analyses showed that fidgeting occurred the most (n=53 entries), followed by excessive motor activity (n=15), getting up from seat (n=7 entries), and running about in the classroom (n=2 entries). Being unduly noisy was only entered once.

Kevin was observed to constantly squirm in his seat and swing his legs. Furthermore, very consistently, he turned around to see what was happening behind his back. Usually, he was noticed to fidget in moments of stopping his musical task/activity – not seldom before his peers were finished – and waiting for further instructions. It must be added, though, that Kevin – in comparison to his peers – was a smaller boy and when seated, his feet did not quite reach the floor. Hence, swinging with his legs may not have resulted from his behavioural profile as such, but rather be a result of the inappropriate height of his chair.
Kevin also seemed to need to confide in the class’s teaching assistant on a regular basis. In this regard, he was observed often to stop participating in the music activities (in particular when asked to practise or when waiting), get up from his seat and go to the teaching assistant and either talk to her or just stand next to her. The researcher’s field notes, however, also indicated that Kevin was capable of resuming his activity when returning to his seat:

He very quickly returns to his seat, though, and joins the musical activity.
(15 January 2017)

Related to getting up from the seat, Kevin was also observed to be the boy who went to the loo the most. He would then also disappear for a couple of minutes or stand in the corridor before returning to the classroom. Moreover, Kevin did tend to get up from his seat and pack up his instrument shortly before the lesson was concluded and whilst the tutors were still saying something to the pupils.

He was also frequently and repeatedly writing down notes on the keys of the keyboard. Normally, for other pupils this would be a one-off activity, in that pupils would write down the names of the notes/keys with a whiteboard marker once and rewrite them only if the colour faded. However, Kevin used to keep himself busy with repeatedly writing, wiping off and rewriting the letters. In addition, Kevin occasionally was playing around with his pen during the lesson and tapping with it on the table. Moreover, he was observed to regularly gnaw at his fingernails.

**Impulsivity**

Classroom observations and data analyses showed that Kevin generally did not show any signs of impulsive behaviour in class. As mentioned above, Kevin was the quietest pupil in the class. In one instance however, he was observed to intrude on his peers (n=2 entries) and throw small paper balls at them and switch the lights on and off. As a consequence of this behaviour he had to leave the classroom and take time out, which resulted in him not participating in the music programme for the rest of the lesson.

The following figure (Figure 5.36) shows that, if data entries related ADHD symptoms and non-ADHD behaviour are counted, Kevin behaved neurotypically for approximately half of the lessons'/programme’s time (49%).
In the other 51% of time Kevin was observed to present with behaviours related to the different presentations of ADHD (related to the three categories). Data showed that inattention as standalone was most prevalent (25%), followed by presentation of the ADHD combined type (16%) and the hyperactive presentation (16%).

(b) ADHD behaviour in the act of engagement in music

Overall, Kevin was noticed to participate in the music activities less than his peers. Although Kevin was observed to act inattentively, and occasionally not participate in the activities as well as get up from his seat whilst the music lesson was in progress, he indeed could focus on tasks and engage in music activities. For example, it was noticed that Kevin participated in every clapping game task. Although he did not clap as loud as his peers or say the words aloud, he was observed to clap correctly and whisper or mime the words. In these instances, he also would not turn around in his seat, nor turned his attention to something else. Only his legs would swing while clapping.

In addition, moments of practising the particular pieces on the instrument were not accompanied by any instances of inattention. However, Kevin was observed to only play the selected music pieces for a short time and then either strum to himself and play something to himself on the keyboard or engage in a non-musical activity (e.g., writing names of letters on the keys). His attention was only shortly drawn to playing the piece that the tutors selected. However, if assisted by a tutor or asked to play to the teacher or teaching assistant – who would put on the headphones and listen to how well Kevin could
play the piece – there were no symptoms of ADHD evident. On one occasion only, Kevin suddenly stopped to listen to the tutor, who tried to assist him. Yet, when the tutor went away, Kevin resumed playing (Figure 5.3):

![Figure 5.3](image_url)

**Figure 5.37 Example rating of Kevin’s ADHD behaviour when playing the keyboard [20.02.2017]**

The figure above illustrates a situation when Kevin played the keyboard for approximately four minutes intermittently with the assistance of one of the tutors. There was a moment when Kevin briefly stopped to follow the tutor’s instructions (‘Aflw’) and started to write on the keys (Inattention severity rating ‘1’). Subsequently, after the tutor went away, Kevin resumed with playing on the keyboard (Rating ‘0’ = absence of ADHD).

Playing the pieces as required or playing ‘freestyle’ on the keyboard were occasionally accompanied by fidgeting, meaning that his legs would not stop swinging. In other words, in moments of engaging in playing the designated music on his instrument, Simon was able to be attentive and concentrate on his work albeit (or despite) fidgeting. Furthermore, Kevin was observed very often to be inattentive to the lesson, in that he would not listen to the tutors, nor following instruction, but instead be playing / improvising to himself on the keyboard. This was always rated as high ADHD behaviour by the researcher, meaning that the presentation of ADHD was exhibited to a great extent. Figure 5.38 illustrates all of these instances that happened over a period of a few minutes in a lesson:
The figure above illustrates that Kevin could attentively engage in a clapping game activity (see abbreviation ‘Ms’) and at one moment he stopped participating in the required activity. Then, he was inattentive to the lesson proceedings and engaged himself in a creative musical activity (Str = strumming or improvising to himself / exploring) that was not required at that moment (Inattention rating ‘3’). However, he was also able to draw his attention back to the tutors without showing any signs of ADHD.

In contrast to his peers, and in particular Simon, Kevin refused to perform. Even when prompted, he preferred to either listen or start to pack up his instrument.

**Figure 5.38 Example rating of Kevin’s ADHD behaviour when engaging in musical activities [15.05.2017]**

Kevin presented with a wide range of actions that were either (a) content related, such as playing the instrument and clapping, or (b) related to things not directly related to the music programme, such as engaging in other activities or spending time out. The following figure illustrates Kevin’s overall profile of actions (total entries n=446) as derived from video data (Figure 5.39) over one school year.
It can be seen that overall, the activity in which Kevin engaged in the most was time out with (n=87 entries). This video based summative illustration supports the researcher’s field note impressions during the observation period that Kevin regularly got distracted (or distracted himself) and engaged in doing something else rather than follow instructions and engage in the music activities. However, there is a caveat. In one lesson, Kevin was misbehaving to such an extent, so that he was asked to take time-out for the rest of the lesson. Consequently, apart from the few moments at the beginning of the particular lesson, the absence from the lesson was entered as ‘time-out’. This means that video data entries for this lesson enhanced the total number of ‘off task’ behaviour by n=72 entries. If this number was deducted – because one might argue that this particular behaviour was a one-off and therefore not necessarily representative of Kevin’s behaviour – the total number for off task behaviour would result in n=15. In comparison, other non-musical behaviour that was observed very frequently was engaging in other activities / being off task with n=67 entries, and waiting with n=66 entries. Kevin was not very verbal, both in the sense of excessive talking or engaging in discussions with the tutors and his peers. The variable speaking was only entered n=4 times and there were no entries made for discussing (n=0). These numbers are in accordance with the researcher’s overall impression.
of Kevin to be quiet not hardly talk. However, he was observed to listen to the tutors. In this regard, n=87 entries were made.

Related to musical engagement, Kevin was observed to play as much (n=32 entries) as he would strum on the keyboard (n=30 entries). Participating in clapping games was similarly high in entries (n=24). In total, n=84 entries were made that were related to engagement in music. Translated into actual time, this equals forty-two minutes. When matched against the total amount of time (four lessons x approx. forty-five minutes), this would suggest that Kevin actively made music for only one fourth of time. Listening as an activity totalled in approximately forty-three minutes (n=87 entries), meaning that Kevin listened to tutors and was attentive to what happened related to music tuition for another fourth of total time. Consequently, it can be argued that for half of the total time, Kevin was not engaging in any music. This seems quite astonishing, since the programme was designed to be whole group instrumental tuition. This in turn would imply that the largest amount of time would be spent on engaging in music of some kind.

Furthermore, it was examined to which extent Kevin displayed ADHD symptom-related behaviour in the particular music programme contexts. Thereby, it became apparent that in both the non-music related parts and phases of musicking (clapping games), Kevin exhibited all four severities for not paying sustained attention and being easily distracted, ranging from 0=not evident to 3=severely (Figure 5.40).

<table>
<thead>
<tr>
<th>Criteria for ADHD</th>
<th>Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Playing the instrument</td>
</tr>
<tr>
<td></td>
<td>0</td>
</tr>
<tr>
<td><strong>Inattention</strong></td>
<td></td>
</tr>
<tr>
<td>No sustained attention</td>
<td></td>
</tr>
<tr>
<td>No attention to details</td>
<td></td>
</tr>
<tr>
<td>Not following instructions</td>
<td></td>
</tr>
<tr>
<td>Not listening</td>
<td></td>
</tr>
<tr>
<td>Trouble in organising tasks</td>
<td></td>
</tr>
<tr>
<td>Avoiding tasks requiring mental effort</td>
<td></td>
</tr>
<tr>
<td>Easily distracted</td>
<td></td>
</tr>
<tr>
<td>Loses things</td>
<td></td>
</tr>
<tr>
<td>Forgetful</td>
<td></td>
</tr>
<tr>
<td><strong>Hyperactivity</strong></td>
<td></td>
</tr>
<tr>
<td>Fidgeting</td>
<td></td>
</tr>
<tr>
<td>Getting up from seat</td>
<td></td>
</tr>
<tr>
<td>Running about</td>
<td></td>
</tr>
<tr>
<td>Excessive motor activity</td>
<td></td>
</tr>
<tr>
<td>Unduly noisy</td>
<td></td>
</tr>
<tr>
<td><strong>Impulsivity</strong></td>
<td></td>
</tr>
<tr>
<td>Talking excessively</td>
<td></td>
</tr>
<tr>
<td>Blurtling out answer</td>
<td></td>
</tr>
<tr>
<td>Trouble waiting one's turn</td>
<td></td>
</tr>
<tr>
<td>Interrupting/Intruding on others</td>
<td></td>
</tr>
</tbody>
</table>

Figure 5.40 Severity of Kevin’s ADHD symptoms and moments of symptoms in keyboard lessons

216
Moreover, getting up from seat, being unduly noisy, not listening, and interrupting/intruding on others was only happening in the non-music phases of the lesson. While playing the instrument, merely mild fidgeting was observed. However, in this instance Kevin swung his legs which might had been the result of sitting on a chair that was too high for him so he could not rest his feet on the floor. Notwithstanding, Kevin was observed to also be able to behave neurotypically in all lesson phases and actions (see column for severity category 0 in all three phases). The following section intends to illustrate Kevin’s typical musical and non-musical behaviour in one of the programme’s lessons.

(d) Lesson example

This lesson is representative of his overall behaviour during the programme. In total, three pupils, including Kevin, were participating in this music session. The other three pupils were absent on that day. The following figure (Figure 5.41) represents Kevin’s profile of ADHD behaviour for the entire lesson. The lower the peaks, the milder is the appearance of the symptoms and vice versa. The peaks represent the mean of means of each of the three main ADHD clusters of behaviour.

![Figure 5.41 Kevin’s ADHD profile in lesson example [20.03.2017] (75 intervals = approximately 40 minutes, counting in 30 seconds)
At the beginning of this lesson, for the first couple of minutes, the tutor tried to recapitulate the note lengths and explain rhythms. However, the whole class seemed not to listen to her. The pupils were more engaged with setting up the instruments and talk among each other. After a few attempts to get the pupils’ attention, the first activity of the lesson was a clapping game that lasted for approximately eight minutes. Pupils had to copy the tutors and clap a particular rhythm pattern together with saying the names of the notes (two quavers=coffee; crotchet=tea; minim=water; semibreve=Lucozade). After clapping the usual rhythms, the task was to listen to the tutor and pick out what rhythm she was clapping. Most of the rhythm was written on the flipchart, albeit there was a gap on the paper that she filled. In order to find out which rhythm filled the gap, pupils were asked to join in the clapping. Kevin started to clap along but very quickly lost attention and started to strum to himself. Furthermore, he was distracted by another pupil, with whom he started an argument. Withal he was fidgeting. This is represented by the first peaks for the clusters inattention and hyperactivity. The next peaks in the graph (between intervals 6 and 10) represent Kevin’s inability to pay sustained attention and be off task. He seemed not to listen to the tutors at all and stopped participating in the clapping activity for a moment. Then, after a moment of drawing his attention back to the lesson (see intervals 11 to 13), Kevin again was observed to stop participating (intervals 13 to 17). Now, however, he was briefly distracted by another peer. As seen in the graph, the next intervals 17 to 29 do not display any peaks. In this time, Kevin was either listening, waiting or improvising/ playing to himself on the keyboard while the others were getting their instruments ready to play. In short, there was no music input at that time of lesson. Kevin also had already written down the names of the music notes on the keys, meaning that he had to bridge time. Then he was assisted by one of the tutors to get the right keyboard sound mode switched on (happening between intervals 24 and 28). At this time, the tutors had already started to talk to the class about minor and major chords. The next peak illustrates a short time of noise and clutter. The whole class was talking across each other and Kevin fidgeted in his seat slightly. Then, the peaks between intervals 35 and 52 represent Kevin’s lack of attention and participation in the class’s activities. At first, the class was discussing major and minor chords as well as playing them on the keyboards. Pupils seemed to enjoy listening to the tutor demonstrating changing the chords. Simon, in particular, was fascinated by the sound and exclaimed that ‘that is like a sci-fi’ movie!’. Subsequently, the class was instructed to practice the music piece ‘Go for it’ together with trying to play the chords together with the melody. Overall, pupils, including Kevin, were not participating to
a great extent and made the impression to be rather bored. Fidgeting was quite mild, in
that Kevin would squirm in his seat for a short moment. After this, Kevin was either
improvising to himself, playing or waiting for the next instruction (no peaks). The next
group of peaks illustrate that Kevin, again, was fidgeting and inattentive (intervals 43 to
52). Kevin was fidgeting whilst the class was supposed to engage in practising changing the
chords. When he was regarded to participate and play, he did not follow the instruction.
Instead, he listened and waited (see peak for inattention at interval 52). It must be
mentioned that at this moment, there was chaos in the room and the class teacher had to
warn the pupils. Apart from one pupil, nobody seemed to follow the tutors’ instructions.
Then, as if with delay, Kevin played the chord that he was asked to. Then, Kevin was also
practising the tune for about three minutes straight without interruption (no peaks). After
this short moment of playing, however, Kevin would not actively make any music for the
rest of the lesson, although this was the time of the lesson in which pupils were instructed
to practise the whole music piece and subsequently asked to perform it to the class (see
group of peaks between intervals 58 and 70). At that time, Kevin was distracted by another
pupil, with whom he did swap the headphones. He engaged in playing around with the
headphones and did not engage in practising. At the end, Kevin also refused to perform.
Instead to listen to all the pupils, he started a conversation with one of his peers before
packing up.

On this day, Kevin displayed comparatively less hyperactive behaviour. However, this
lesson example clearly illustrates that his engagement in music was of an ‘on and off’
nature. This behaviour was also evident in the other lessons of the programme. He
evidenced that he could do the tasks (i. e. clap and play correctly) but he tended to not
engage in the activities to a great extent or for a longer period. Conversely, he started to
play to himself in moments in which he was not required to.

In order to complete the picture of Kevin’s behaviour throughout this lesson, the
proportions of ADHD behaviours in relation to non-ADHD behaviour are summed.
The following chart (Figure 5.42) presents Kevin’s behaviours in percental relation to each
other.
The figure above delineates that Kevin was indeed able to focus for almost half of the lesson’s time (in summary). During the other 52%, however, (in summary, not at a stretch) of the lesson, Kevin displayed ADHD-like behaviours of which inattention occurred the most (34%). Hyperactivity alone happened in 9 percent of the time, as well as behaviour that can be attributed to the combined presentation of ADHD (9%). It is also worth mentioning that Kevin has not displayed any impulsive behaviour during this particular lesson. Furthermore, Kevin also exhibited behaviour that was referred to hyperactivity which was not accompanied by other ADHD-related behaviour (such as inattention or impulsivity).

In terms of his actions, Kevin was engaging more in non-musical activities than engaging in musical activities (Figure 5.43):
However, in comparison, many entries were made for listening (n=26 entries). Observations have shown that mainly, apart from three short instances, Kevin behaved neurotypically whilst listening to the tutors. What is also standing out is the fact that the second most activity was waiting. Very often, like in this lesson, Kevin was waiting for the tutors’ new instructions. He finished his tasks quite quickly and waited for the others to finish their tasks, too. Or he stopped until he was told to play again or do something else. It can only be speculated why he behaved like this. Either, he did not know that practising meant repeating one task over and over again. Indeed, the tutors never explained what practising entailed. Or he might had not been able to concentrate for a longer period of time on one task. However, Kevin was frequently observed to play to himself and explore his instrument during practising time, as was the case here, too.

When looking at the lesson’s structure, i.e., the amount of time that was dedicated to the particular activities (Figure 5.44), it can be seen that practicing and playing as an ensemble (playing chords together) happened for approximately half of the lesson’s time (n=45 entries=approx. 23 minutes) which was circa 40 minutes long in total. Also, around 15 minutes (n=31 entries) were dedicated to clapping rhythms and talking about chords.

Figure 5.43 Kevin’s actions in lesson [20.03.2017]
About six minutes (n=15 entries in total) were spent on other than musical activities such as setting up the instruments. Music performance was held quite short (n=4 entries), partly because not all of the pupils wanted to perform and the performed musical pieces were short. However, this illustration should be regarded with caution. Some pupils, including Kevin, did not fully participate in every activity for its entire duration. Hence, the illustration rather describes the time management of the tutors than tries to represent the actual time that was filled with active engagement by all students in a particular activity.

In this lesson, the main tutor’s most frequent actions were explaining and instructing the pupils (n=29 entries), closely followed by waiting (n=20 entries) and assisting (n=16 entries). Assistance was given when pupils were practising the pieces (Figure 5.45). Waiting happened mostly in between and at the beginning of the activities. In these instances, the tutors were waiting for the pupils to stop misbehaving and pay attention to the tutors again. In these moments, usually the lead tutor would wait and the mentor tutor tried to get the pupils’ attention back by asking them to concentrate (see difference of entries in variables speaking and waiting).
This figure also illustrates that in this lesson, the tutors were also swapping their roles, in that also the mentor tutor would occasionally lead the lesson. However, the mentor tutor did also observe the lesson, meaning that he did not interfere in the proceedings. As it was usual, both tutors played very little on the instruments together with or to the group (see variable ‘playing’ in Figure 5.44). Mostly, if at all, they used the instruments in order to demonstrate the task, which happened also rarely (see number of entries for demonstrating). The primary approach to teaching as it the case in this lesson – was talk.

5.5 Analysis of the teaching and learning context and effectiveness of music provision in this programme (RQ 3)

Opportunity was taken to judge this case’s music programme against the backdrop of existing effective music practice frameworks (Section 3.4). It was assessed how consistent the key factors that constitute effective music education provision were observed throughout the programme, in order to rate (a) the musical content, teaching and learning, and (b) make a summative judgement of the quality of the music provision as a whole. A specially designed rating scale was used that follows existing frameworks (see Section 4.7.4). Results are described in the following sections.
5.5.1 Rating of the programme’s content

As described in the previous chapters, the content of this instrumental music programme was limited in diversity of activities, in that a particular number of music pieces was learned and the always the same rhythm / clapping games were played over the whole period of the observations. Only on one occasion, the pupils were engaging in creating their own musical piece. Accordingly, on the five-point scale, the consistency or existence of ‘creating music, i.e. improvisation, composition, this matter was rated as ‘1 rarely’. Furthermore, general music knowledge – as in learning on genre and style of music – was not thematised at all (rating ‘0’). In addition, the content seemed not to enable self-expression in music. To the contrary, as the programme was fixed and tutors were observed not to notice or encourage self-expression, self-expression rather seemed to be hindered (see Simon’s musical behaviour in Chapter 5.3.3). The observed instances of self-expression were observed to happen spontaneously and incidentally when pupils did not follow instructions but rather explored their instruments on their own in these moments. Likewise, the musical content did not seem to foster interpersonal skills as pupils distracted and provoked each other throughout the programme, irrespective of musical activities.

Furthermore, apart from Simon’s musical engagement, pupils were not observed fully to enjoy the instrumental lessons. Regularly, pupils were asking how much longer the lesson was taking. Also, very often pupils claimed to feel bored. In contrast, the learnt music pieces were regularly performed at the end, or at certain points, of most of the lessons. Consequently, this factor was rated positively (rating ‘3’). It must be added that only the same pupils were regularly engaging in performing to the group. Hence, this issue must be treated with caution when looking at performance for each individual. All in all, when summarising ratings for the key factors of the content domain, a mean value was computed of 1.8, rounded up to 2, equating to the ‘needs improvement’ category on the overall rating scale (Figure 5.46).
Figure 5.46 Overall rating for the content domain with three elements

The numerical scale relates to the bias in observations according to frequency (not evident to consistently). This is then equated to an overall categorical value of quality.

5.5.2 Rating of the programme’s teaching

The content of this music programme seemed mostly to match the abilities and needs of the learners. In a few instances, however, the activities seemed to be either too easy, given that some of the activities were regularly repeated in the same manner and not varied nor raised in their difficulty. This is why the content was observed not to generate high achievements. The content simply did not change along with the pupils’ progress. Rarely and not in every aspect of instrumental play or musicianship, did the tutors build on existing knowledge. Teaching methods and strategies were also observed to be constantly the same and limited in range. Although teachers gave the impression of knowing the content and having expertise to some degree, they did not notice pupils’ interest nor disinterest in certain activities. Nor did the tutors regularly structure the activities in a coherent and understandable way. Moreover, they did not enable the pupils to engage in activities in different grouping formats (thus rated as ‘0’).

As reported earlier, there were factors to influence negatively the teaching and learning process. Pupils used to provoke and distract each other regularly. Their conflicts were interpersonal and most often had nothing to do with the music programme. Moreover, tutors were not qualified (in the sense of not being a recognised part of their official music tutor role), nor in a position to intermediate in delicate situations, such as where pupils were physical with each other. This responsibility was apparently the class teacher’s and also the teaching assistant’s role both of whom were present. Furthermore, several pupils seemed to be demotivated and frequently complained that they felt ‘bored’ and asked ‘When do we stop?’ In none of these instances did the tutors react to these comments,
other than telling pupil how much of the lesson remained or asking them to concentrate for another few minutes. Sometimes, the mentor would end the lesson ahead of time, if the pupils were out of their control, unfocused and demotivated. The following comments illustrate the tutors’ reactions such as ‘Okay, can we spend the last few minutes packing up? Another few minutes to go. Let’s concentrate’ Researcher comments such as ‘giving in’ or ‘giving up on the lesson’ would occur in the observation field notes, whilst recognising that these pupils could be challenging.

In terms of the pedagogical approach, tutors were observed to be rather self-centred in their teaching style and did not empower the pupils to lead the lesson, contribute to its proceeding, nor create as a collective. Furthermore, although the tutors’ instructions were clear, their communication style was very question-driven:

Tutor: [voice louder after pupils did not listen to her] Okay, all right. If everyone had a go with the right hand bit now, yeah? So the other half of your keyboard ...and you gonna try the melody. Yeah? [chatter] Have a go ...for me...

Tutor: Sorry, if you want to for the last few minutes, you can try to play the chord with the melody.

Mentor: Clara, do you want to give it a go?...Give it a shot?
Teaching assistant: [indicating] Doesn’t want to have a go.
Mentor: Okay
Teaching assistant: That’s a shame!
Mentor: Okay, maybe next week. You can practise in-between and have a go next week maybe?

Tutor: Right, can we hear everyone giving it a try?
Tutor: Sorry, if you want to for the last few minutes, you can try to play the chord with the melody.

Mentor: Okay Jacob, give it a go, yeah? Jacob, do you want to have a go?

Mentor: So, we’ve said to be polite, yeah, okay?

Can we have your attention, please?

Generally, music tutor requests were observed very often to have little effect and the teacher/teaching assistant then had to interfere. Moreover, speaking took up most of the lessons’ time. Assistance was provided, although it was observed not to be sufficient. Although pupils knew that the instrumental programme was designed to culminate in a graded assessment, they were not working towards it. It can be assumed that this was because the tutors had very low expectations. Even Simon, who was the most able and advanced pupil, was not sure whether he would get the opportunity to be assessed.
However, tutors praised pupils on a regular basis, even if not justified (i.e., praising progress, when in fact a pupil showed the same behaviour as usual). Also, pupils liked to listen to the tutors playing a tune. Nevertheless, tutors played very rarely to the class.

Moreover, pupils were not regularly assisted in their practising. This seems surprising, as there were two tutors present in most of the lessons and, therefore, theoretically they could provide adequate support. More often, tutors stood nearby and observe the pupils.

As evident from the researcher’s observations, it emerged that the tutors were waiting for a significant amount of time each lesson. That was due to interruptions, the pupils’ challenging behaviour, or missing equipment. The tutors would also speak a lot about other-than-musical topics. As mentioned earlier, they were engaged in conversations with the teachers and pupils that had nothing to do with the music task. Playing together as an ensemble with the pupils happened on just a few occasions. This seemed paradoxical to the programme’s nature in being a whole class instrumental education programme.

Reflecting on acquired knowledge and skills hardly ever happened (n=0 entries for the video data). The tutors rather commented on the pupils’ level of playing to keep them motivated.

Mentor: Wow! See, you can all do it when you concentrate on it. That’s the thing...you, you’ve learnt a lot!

Class teacher: Really. They have progressed.
Mentor: Really, I am impressed so far.

A summary of all the ratings generated an overall rating of 1.78. Overall, if projected against quality criteria, this implies that observed teaching would be rated as needing improvement (Figure 5.47).

![Rating Scale](image.png)

Figure 5.47 Overall rating for the teaching domain
5.5.3 Rating of the programme’s learning

As seen from both participants’ (Simon and Kevin) analyses, musical behaviour as well as ADHD profiles in music education programmes can vary from individual to individual. However, the overall rating for learning was made for the programme in general. This does not seem to pose a problem, as (a) both participants displayed different abilities and enthusiasm from the beginning and (b) a good quality provision should include all abilities and needs, as evident from the frameworks. In this music making framework, learners did not necessarily progress to the same extent. Whereas all pupils were confident in the rhythmical / clapping games, individual progress in playing the instrument varied from pupil to pupil. Learners learned in music but musical response was not always welcome – in that improvisation and creation was only occasionally noticed and engaged. As mentioned above, content occasionally and not in all pupils generated enthusiasm and motivation. Pupils were also asking for time-out themselves and to go out of the classroom. Observations suggest that, particularly in moments of discouragement, in between set tasks, or if a pupil thought that they had practised enough, pupils were fidgeting a lot, getting up from their seat, or talking excessively and distracting others.

Individual performances usually happened briefly at the end of the lessons and not every pupil wanted to perform. Other activities that were not music related and comprised setting up instruments were also seen as not insignificant as these disrupted the lessons. Conversely, group performances and creating or improvising were not observed at all in the video-recorded lessons.

It is important to add that playing also started quite late in the course of the lesson. Normally, clapping games would be first. Very often, the class was repeating familiar rhythms and then clapping the rhythm that was underlying the melody of the musical piece that was to be played on that day. Only then were the pupils asked to practise the musical piece. However, partly due to some pupils’ challenging behaviour, the actual practising time often turned out to be quite short. Some pupils engaged in playing/practising more than others. Simon was a boy who practised/played the most. Furthermore, pupils were always practising on their own, when not assisted by a tutor, rather than in a group or pairs. Partner work never happened and playing as an ensemble only happened on one occasion. Likewise, creative work such as composing was observed in one lesson only.

Participation or engagement in ‘playing’ music constituted a small part of the lesson, rather than being the dominant behaviour in the lessons.
In order to determine the amount of time that was spent on certain lesson activities and how they stood in relation to each other, the lesson activities were categorised and, subsequently, each lesson divided into different musical and non-musical elements. The following figures (Figures 5.48 and 5.49) illustrate the actual amount of participation and engagement of the programme’s participants in the underlying activities that emerged by analysing video data across the four lessons. Having consulted all the field notes, it was evident that the other lessons that were not subject to video analysis appeared to be structured in a similar way.

![Simons's Amount of actions in aggregate](image)

**Figure 5.48 The amount of time (%) that Simon spent on particular activities**

It can be seen that whole class activities such as clapping games and discussions about music were most evident (25% of total time), followed by practising/playing on the instrument (22%). It stands out that around third of the time (34%) Simon was off-task, or spent time having time-out. Consequently, this means that he did not witness or take part in a substantial amount of the music programme. The rest of the programme’s time was spent on other activities such as waiting in between tasks.

In contrast, Kevin participated less in the clapping games (8%) than Simon did. Furthermore, Kevin was observed to play the keyboard almost as much as Simon (20% if summed). However, half of this engagement was playing to himself and exploring the instrument rather than practising the music pieces. What is even more striking is that Kevin was observed to be off-task for almost half of the programme’s time.
As can be seen, participation varied in that both pupils showed a different profile of engagement in musical and non-musical activities. It may be speculated that the programme was not meeting every individual’s needs, nor offering opportunities for them to engage in playing on the instruments to a great extent. Furthermore, the other mentioned contextual factors may have contributed to these particular participation profiles (see also Chapters 8 and 9).

As seen above, participants’ contribution to the content of the lesson was rarely noticed and supported. Furthermore, pupils could not build good working relationships as the range of musical activities was small and opportunities for engagement in various groupings were not provided. Nevertheless, participants almost always knew how to work and how to progress. Overall, the summative rating of 1.56 for the learning domain and can be equated to the quality category 2 needs improvement (Figure 5.50).
5.5.4 Rating of the music provision overall

The mean rating of all three summative ratings is 1.71. This implies that the rating only just qualifies for the next higher quality category, which is 2 needs improvement. As a result, the music education provision for the here described instrumental music programme is graded as ‘needs improvement’ (Figure 5.50). It is important to mention that none of the summative ratings reached or exceeded the rating 2 and hence, amounts to the overall rating ‘2’ by projection. This result summarises and underlines the analyses in the other parts of this chapter.

![Rating scale](image)

**Figure 5.51 Overall rating for the music provision**

Additionally, there were many other factors to effect negatively the lessons, which could easily be avoided, regardless of any incidents or the particular behaviour profiles. For example, not properly set up instruments, or missing parts such as adapters and headphones were causing both delays and distraction. In particular, Simon would feel annoyed by other pupils playing very loudly because of not properly working headphones. Having to take time-out was also preventing the pupils from progressing, as they had to catch up when they returned to the classroom. Getting up and drinking water, for example, was not forbidden. However, this too was observed to be causing disruption and music tutors had to wait for pupils before they could proceed. Moreover, tutors engaged in conversations with pupils mid-lesson, or were also distracted by the teachers (class teacher and TA) with their questions. On most occasions, these questions were related to music. Nevertheless, the tutors’ attention was consequently diverted from focusing on the pupils and their work.

Another factor to influence behaviour was the seating arrangement (see Section 5.1.1). Apart from a few instances, there were always pupils who needed to look to the side or turn around to see the tutors and / or the flipchart. Consequently, pupils were fidgeting in
their seats, presumably not only because of their ADHD tendencies, but also because of how they were seated. The tutors and teachers did not seem to notice this, nor reflect that this was less than effective pedagogically because they did never change or adjust the seating plan.

5.6 Summary

This Chapter presented both Simon and Kevin’s musical and non-musical, as well as ADHD-related behaviours that they exhibited during the instrumental music programme. Although both individuals were peers and participating in the same programme, it was observed that their profiles were different in many aspects.

Simon gave the impression of being a very lively and cheerful ten-year-old boy, who was very eager to learn new musical skills. He was fundamentally very enthusiastic, humourous and open to exploring his environment. According to his school profile, Simon was a challenging young boy who struggled academically. However, he was observed to be very ambitious and eager to play the keyboard. Regularly, Simon communicated his ideas in the music that he had heard or played. Notwithstanding, many of his musical behaviours appeared to have stayed unnoticed, or were not encouraged further by the tutors. Also Kevin seemed not to be averse to learning to play the keyboard. Most of all, he seemed to like exploring his instrument and playing to himself. Occasionally, he would communicate his ideas, albeit he rather seemed to be reluctant to speak up or perform in front of the class. However, he displayed a lower level of musical abilities as well as less engagement in the musical activities than Simon did.

Observational data showed that both boys exhibited behaviour attributed to ADHD such as inattention, hyperactivity and impulsivity in the music programme’s lessons. It is also important to note that particular behaviours did not only occur as isolated and standalone symptoms, but very often appeared as a set of various symptoms from either the same or different ADHD categories. These behaviours most often were presented in instances of distraction, interruption, in-between tasks and in phases of group interactions. Moreover, dependent on the perspective, some behaviours could either be seen as ADHD behaviour, or musical behaviour, or behaviour triggered by other circumstances. Conversely, both participants also displayed behaviour that would be expected of them, or was appropriate in the context. Despite their official ADHD statement, they showed that they could be attentive to what happened around them, follow instructions and focus on their work.
Data analyses revealed that, in the act of musical engagement and playing on the instrument, ADHD-like behaviour was less or absent. In fact, in the moment of performance, ADHD behaviour was not been observed at all.

In many lessons (videoed and others), the music equipment was not properly set up, or there were parts missing, which affected the success of the lesson. Conversely, pupils also used to engage in other-than-musical discussions with the tutors or teachers. Often, they would get up from their seat or be asked to leave the room to take time-out. The programme’s tutors organised the lessons with little apparent variation in activities, as well as group formations. Generally, practising or playing on the instrument happened after clapping games and commonly very late into the lesson. Pupils occasionally stated that they felt bored. Also, tutors seemed to have little overt authority. In moments of collective inattention, they would try to control the situation by asking the pupils whether they could concentrate on the task. They used to pose questions and make suggestions rather than giving clear instructions. Consequently, they acted somewhat helplessly at times of challenging pupil behaviour. Tutors also observed a lot and let themselves be distracted. Overall, the provision was regarded to be in need of improvement.
Chapter 6. Case Analyses of Daniel (Setting 1)

6.1 Description of the case study environment and framework of the instrumental learning programme (RQ 3)

6.1.1 Learning and teaching environment

The setting was a community special school for children and young people with severe, profound, and multiple learning difficulties and autism, aged 11-19 years – Key Stage 3, 4 and 5 – with an additional special education programme for students older than sixteen years. According to the school’s admission policy, in order to be admitted a pupil must have a statement of special educational needs, an Education, Health and Care Plan, or be an emergency admission, i.e., approved by the Local Authorities or County Council when the family has just moved to the area, or if the placement at another/previous school is no longer suitable in circumstances (School Admission Policy, 2014, not disclosed). Whilst recognising the students’ complex learning and medical difficulties and needs, the school seeks also to provide access to the National Curriculum and offer opportunities for the pupils to have rich educational and personal experiences. In particular, the focus is on enhancing domains such as communication skills and awareness of safety. According to their website (School website, source not disclosed for reference to ensure anonymity), the school’s intent is to place students at the centre of their learning journey; thus, creating successful learners, who enjoy learning, make good progress and develop to their fullest potential. For that reason, they work in collaboration with other education providers and pursue a multi-agency working style\textsuperscript{79}. Their vision is to meet every individual’s potential and support them in their learning as well as everyday life.

As reported by the school, music lays at the very heart of the school’s curriculum. The aim is to provide opportunities for the students to benefit from music education. They expect improved self-regulation and an enhancement of social performance through engagement in music (retrieved from the school’s website, op. cit.). Moreover, they aspire for their pupils to develop musical abilities through engaging in various forms of music making such as learning an instrument. Every class receives musical input in the shape of weekly music lessons, led by a specialist music teacher. A variety of approaches is used in order to suit the individual needs. Music technology is available, as well as instrumental tuition offered.

\textsuperscript{79} A collaboration and coordination between many agencies by sharing information and decision making to meet the pupil’s needs (MASH Report, 2014).
In addition, according to interest and ability, instrumental lessons (piano, drums and guitar), or singing lessons are provided on a one-to-one basis. Wherever possible, pupils are encouraged to choose their instrument themselves. The particular lesson content is flexible and depends on the pupil’s mood and preference the particular day. In addition, every pupil is encouraged to join the school choir, which aims to cover a wide repertoire. According to the school’s brochure, the musical element at school is intended to build the students’ confidence, enhance their social skills and create a feeling of belonging, and provide opportunities to have fun. Normally, the musical programmes culminate in a school performance at the end of each term, or in their annual concert.

The observed lessons were set up as one-to-one percussion tuition with the sixteen-year-old case study boy Daniel and his tutor. The lessons took place in the school’s music room; a room equipped with various instruments (acoustic, as well as electric) and electrical / digital devices. The technology is used to support music teaching and learning (including amps, microphones, as well as a PC with music programs and internet connection). Sessions were scheduled in the late mornings. It was reported that Daniel occasionally would swap his favoured drum kit for the piano. However, this did not happen over the period of the observed lessons.

6.1.2 Concept of instrumental tuition provision

As emerged from a conversation with the school’s staff, the school had no internal teacher that was qualified in music education. Therefore, they employed an external tutor. This tutor was a freelance musician who was experienced in teaching music and providing instrumental lessons (piano, guitar, drum kit and singing) to children and young people with SEND. He is a self-taught musician, who claimed that he learned to read music notation in his thirties when he commenced training in music education. He said that he very much reinforces and encourages participation by reacting to the pupil’s signals as to what they want to play and what motivates them. Although he put emphasis on playing technique and the correctness of musical elements such as rhythm, pitch and melody, his ethos was to play rather intuitively and improvise than stick to notation. He also reported that he did not necessarily encourage his pupils to improvise, but that this tended to happen spontaneously when the pupil felt comfortable and within a moment when they could ‘let themselves go’. It was apparent from conversations with him that he was very ambitious for the pupil to learn musical skills and act on their feelings in a musical way.
The tutor appeared as a very thoughtful, intuitive and principled in his pedagogical approach. He said that he liked Daniel and that they seemed to have a trustful teacher-tutor relationship. He also seemed to know how far he could push Daniel’s learning and very often he reflected that he had been astonished at how well Daniel was reacting and interacting musically with him, despite his otherwise taciturn manner. The following is a transcript of a conversation between the tutor and the researcher that illustrates his attitudes towards the music programme and his pupils’ musical potential:

Tutor: Yeah, he is a musician. He is innately. Do you know the other people here?

Researcher: No.

Tutor: There is a girl called Molly, who is not so good with language. You know, Daniel is someone who can articulate himself and more able to express himself. Daniel and Molly, they are really innately. I’m, I’m envious of this. I liked to play like that. But, basically, they are really on a high level, really high. Innate level. And it’s, ehm... He is really ‘switched on’, but there are times where he is cautious about where he wants to go. He is enveloped. He is playing well. Safe within his envelope. But sometimes, it’s like ‘wow’. (Transcript of a conversation between tutor and researcher, 16.05.2017)

It was observed that, although praise was very common, there was no object reward system, such as in terms of getting a badge or the like at the very moment when doing well, or immediately after the session. However, in cases where Daniel had a particularly good lesson, the procedure was to ring the class teacher via the internal phone and tell them that the student had done especially well that day. This would result in gaining house points, or some extra rewards that varied each time and were up to the class teacher and the pupil.

6.1.3 Programme content, learning space and lesson proceedings

The observed instrumental tuition took place in the school’s music room. This weekly musical input consisted of a twenty-five to thirty-minute, one-to-one percussion lesson. As the lessons were always scheduled to take place at the same time, Daniel usually appeared in the music room on time. However, sometimes Daniel had to be collected, due to some extra-curricular activities or changes in his timetable.
The school’s teaching and learning policy refers to the learning space as a learning environment, along with furniture, areas of learning in a room and equipment (School’s Learning and Teaching Policy, 2015, not disclosed for anonymity reasons). In that respect, the workspace is required to be kept light, warm and tidy. Furniture should be at the correct height and appropriate for learning. Learning resources should be available, meet the needs of the student and used to extend the student’s ability. Moreover, it was reported that the learning space should be appropriate for the lesson and its programme. The space ought to be free of any potential distractors.

The room arrangement more or less was the same throughout the observation period, although the tutor sometimes changed his seating position. The following figure (Figure 6.1) illustrates the layout of the room, including the position of the instruments, as well as the various places where the individuals were seated.

![Room layout and seating arrangement in percussion lessons](image)

Figure 6.1 Room layout and seating arrangement in percussion lessons

The main instruments were never moved, so Daniel always was seated in the same space in the room. He always had a good view of the tutor, who positioned himself conveniently. Only in one instance, when the tutor played the piano, would Daniel need to slightly turn his head in order to see him. Moreover, the room was quiet and there were no external noise distractions.
Without exception, every time that Daniel entered the room there would be a short recapitulation on what had been the focus the previous week. Then, Daniel could choose whether he wanted to start with the same piece, or play something different. The two focus pieces were: (1) ‘Let it Be’ by The Beatles and (2) a no-name Reggae tune. Most often, he started with ‘Let it Be’, as this appeared to be Daniel’s favourite song.

In the observed lessons, both the tutor and Daniel never played from musical notation. When explaining the rhythms, these were mostly referred to as a combination of words such as ‘apple-ba-na-na, apple-ba-na-na’ or ‘I’m loving the beat’ or ‘Humpty-Dumpty’. However, occasionally, he would refer to particular notes as sixteenths, for example. Moreover, the lesson never used any aids such as a metronome.

When playing the music, the tutor played the melody on the guitar, or the piano and sang the lyrics, and Daniel played the drum kit as an accompaniment. However, Daniel was not merely playing back what he had learnt, but rather acted spontaneously – in that he changed how he would play the instrument on his own account. In that sense, Daniel would also be asked by the tutor to build in variations and to change the volume and speed. In every lesson, Daniel envisaged himself as a musician and practising as well as performing on stage as a part of a rock band. Regularly, he would talk to himself as if he was talking to other band members and agree with himself upon a tempo and count himself in, for example. Hence, every run through seemed to be a kind of a live performance for him.

In addition to playing through the whole pieces in one go, there was always a part of the lesson dedicated to either improving and practising certain techniques, or learning new drumming skills. These included: (1) learning how to play a reggae rhythm; (2) how to use the mallets to make a ‘rim shot’; (3) a kick shot; (4) and a drum fill; and (5) playing a certain rhythmical sequence on the constituent instruments of the drum kit (i.e., bass drum, snare drum, tom toms, or hi-hat) in a particular order. The tutor gave detailed instructions on how to play these techniques and occasionally demonstrated them on Daniel’s drum kit.

The lessons ended mostly with playing a piece through, followed by a short reflection. The tutor praised Daniel, who was an enthusiastic performer and engaged learner. If Daniel had done exceptionally well, the tutor called the class teacher after Daniel left the room in order to inform the teacher about his progress and with a request to award him a house point, or reward him according to how the class teacher felt was appropriate.
6.2 Daniel’s academic and ADHD profile

Daniel is a sixteen-year-old adolescent with various and complex needs. He is described as an anxious boy, who has been diagnosed with Autism, ADHD, and a syndrome related to a genetic disorder which has many underlying symptoms, behaviour characteristics and difficulties such as low muscle tone hypermobility, delayed expressive and receptive language, sensory integration disorder, learning disabilities and hyperactivity, and sensorineural deafness that means that some sounds may seem too loud to him (Consultant Child & Adolescent Psychiatrist, 2011; Local Authority B, 2016). According to his Education, Health and Care plan (EHC) (Local Authority B, 2016, ibid), other behaviours attributed to that syndrome can be, for instance, being outgoing and witty, being eager to please, demanding of attention, anxious over schedules/new tasks/future plans, as well as being impulsive and compulsive.

Regarding cognition and learning, Daniel is reported to be generally outgoing and shows a reasonable understanding of tasks and activities. However, he is considered to find it difficult to follow instructions because he likes doing things on his own terms (Local Authority B, 2016, ibid.). The school outlines that he is easily unsettled by changes in routine and easily stressed if required to do things, which he had not expected. Furthermore, he is described as being anxious over new tasks and in need of attention. Also, he displays concentration problems, which are regarded to be caused by his sensory integration disorder and ADHD (Local Authority B, 2016, ibid.). Despite his challenges, Daniel is the head boy of his school. The head teacher reported that he is one of the most capable pupils at school. The school’s staff believe that he is very musical and are happy for him to having many opportunities to engage in musical activities, which he likes and apparently is very good at (Headteacher, personal communication, 2017).

In terms of communication, Daniel is regarded as a sociable young man, who has good relationships with his peers and adults in the class and within the wider school. In terms of speech and language, he is reported to be verbally able but has difficulties with his receptive and spoken language skills and tends to stutter when he expresses something that is important to him. Despite his challenges related to speech and language, he is perceived as a good communicator, who likes taking on a leading role in familiar classroom activities (Local Authority B, 2016; Tutor C, personal communication, 2017).
His tendency to be hyperactive is thought to be the impact of the diagnosed syndrome that is related to a genetic disorder. Furthermore, he needs to be reminded to face the person with whom he is having a conversation (Local Authority B, 2016, op. cit.).

Regarding his social, emotional wellbeing and behaviour, Daniel is perceived as a cheerful person, who is able to build positive friendships and happy within a calm and friendly peer group. According to his EHC plan (Local Authority B, 2016, op. cit.), it is believed that he needs to increase his social awareness and understand the need of healthy and mutually dependent relations with adults and peers. There, it is also stated that Daniel has difficulties with vocalising what his problem is when he is worried about something. In addition, Daniel is reported to be impulsive and compulsive. In line with the diagnosis of autism, he is displaying a high level of repetitive behaviour, including verbal compulsions. Furthermore, it is stated that Daniel has difficulties with constant anxieties.

In respect to sensory and physical strengths, it is noteworthy that Daniel is reported to have perfect pitch and loves to sing. Overall, he is regarded to be very musical and benefitting from music (Local Authority B, 2016, op. cit.; Tutor C, personal communication, 2017; Daniel’s mother, personal communication, 2016 & 2017). Also, it is reported in his EHC plan that he learns well when music is involved. However, he demonstrates difficulties with gross and fine motor skills. Furthermore, the report presents Daniel as a person, who needs a lot of prompting and motivation to start a practical task. He is also observed to preferably work one handed.

Regarding his ADHD behaviour, it is noted that despite reasonable control of symptoms, Daniel can occasionally be impulsive. This would be manifested in him running out into the road (Local Authority B, 2016, op. cit.). Regarding his ADHD diagnosis, he is described as a very active boy, who is constantly ‘on the go’ and exhibits a decreased level of concentration, which may result in being impulsive. At the time of his ADHD assessment, he displayed high levels of hyperactivity and impulsivity. A diagnosis of ADHD was confirmed and pharmacological treatment (medication) recommended (Consultant Child & Adolescent Psychiatrist, 2011). Five years after the diagnosis was made, Daniel was reported to be still impulsive, despite a reasonable control of ADHD (Local Authority B, 2016, op. cit.).

His EHC plan reveals that Daniel likes ‘to be good’. He also likes ‘talking to people, teachers...school’. Furthermore, he enjoys playing and working with his friends.
The people who are important to him are his parents, his brother, grandmother, his teacher and his friends. In terms of interests, among others, Daniel likes ‘playing musical instruments [...] and using the microphone and recording (his) voice.’ (Local Authority B, 2016, op. cit.). In addition, his mother has told the researcher that he very much loves music and playing the piano and percussion. She reported that music means a lot to Daniel and she is convinced that engaging in music is beneficial for his wellbeing and development (Daniel’s mother, personal communication, 2017). His mother (personal communication, 2017) has also told the researcher that at first, Daniel had started to learn the piano. Later he fancied to learn to play the drum kit but was afraid to give up the piano for it. As a result, he is learning both instruments (in turns) with the same teacher. He had been told that he could always choose between the two instruments in each lesson. However, at the time of the observations he preferred to play the drum kit. In addition, he is playing the piano in an orchestra for young people with special needs, and is singing in a choir and occasionally engages in music therapy.

According to his EHC report (Local Authority B, 2016, op. cit.) Daniel’s parents would like Daniel to be encouraged by his school in his social abilities - through i.e. having access to activities that are typical for young people of his age. They claim that they wish support ‘because he cannot do much alone and needs constant supervision’ (Local Authority B, 2016, ibid.). The parents also report that Daniel loves being in a theatre and is very musical, too. Regarding the latter, it is mentioned in the above mentioned EHC plan that he has a guitar, a celtic harp, a keyboard and a trombone at home. Furthermore, they believe that music therapy has a calming effect on him and has helped Daniel with turn taking. However, at the time of observation Daniel was not attending any music therapy session.

Daniel is also understood to be motivated by music. The parents are also reported to say that he likes attention, applause, and likes to re-enact shows he has seen on TV. Moreover, he is regarded as a ‘lively and mischievous personality, a good imagination and is witty and out-going’ (Daniel’s parents on their son in EHC report, Local Authority B, 2016, op. cit.). Overall, Daniel’s passion for music is recognised and supported by his parents. They would like his education to be focused on performing arts as much as possible (Daniel’s mother, personal communication, 2017).
6.3 Analyses of Daniel’s musical profile and abilities, engagement and development using the SOI framework (RQ 1)

Throughout the observation period, Daniel presented as a very joyful, polite and enthusiastic boy. He appeared as a fundamentally musical person; who was very keen on playing the piano or the drum kit. He was also a very quick learner and immediately applied new things that he just learned. Whilst musicking, Daniel liked to envisage himself being on a stage as a member of a rock group. During the lessons, he enacted the leader of the imaginary ensemble, whose task it was to coordinate with the group as well as count in before starting to play. In the moment of playing or performance, he made the impression to be totally immersed in the music and occasionally starting to sing along to the music. Furthermore, Daniel listened very attentively to the music and played intuitively. That is to say, he anticipated what would happen next musically and acted accordingly.

Occasionally, Daniel seemed to be self-conscious and anxious. This was observed by him having his head down and suddenly replying either with short sentences or using just the minimum amount of words to communicate, such as ‘yes’, ‘no’ or ‘u-hunh’ or ‘mh’.

Although Daniel usually used to speak little, his comments in these instances of apparent insecurity or when he was ‘lost’ (tutor’s words to describe Daniel in these moments) were exceptionally short and accompanied with his hand touching his face or bracing himself. Additionally, he sometimes would rather not try something new or play in a certain manner as he thought that he ‘cannot do that’ (an expression commonly used by Daniel in these instances). Also, he appeared to be losing attention and started to be slightly nervous when he thought he could not play a certain (new) rhythmical pattern or technique. Most often, the tutor was able to persuade him to do it after all. At times however, the tutor would not insist and let Daniel play what he liked instead.

Conversely, he was very easily cheered up and motivated by being allowed to play his favourite song ‘Let It Be’. Also, he was happy when praised and proud of himself. In this respect, most of the time he knew when he had exceeded himself or achieved something new. In these instances, he did also praise himself (personal communication, 5.6.2017):

Daniel: [Pleased with himself] Yeah that was pretty good!
Tutor: Can you do/ad a drum fill to that?
D: [Exclaiming happily] Oh, yeah!
D: [Smiling] I’ve done it, right?
T: You’ve done great, you’ve done very well!’
D: [Jubilant] Yay, I’ve done it. Wow, cool!
Daniel appeared to be a keen performer. He was also not averse to the idea of playing at the school’s concert, which was planned to take place towards the summer holidays. In fact, he was happy and did agree with playing for his school mates and parents:

Tutor: Do you think you would like to perform the reggae? Would you like to think about it?
Daniel: Oh, can I tell him, can I (meaning himself; imagining himself being in a band)?
Tutor: Absolutely
D: [Speaking in different voices] Daniel? Yes. When we do our performance at school...do you want to play? Then we play the reggae. Oh, I bet I do! [cheerful]. Ah, brilliant!
T: So, thank you. Thank you so much! That is courageous. We will practice more next week. Thank you Harry.
D: Thank you. Bye!

(Daniel & Daniel’s tutor, personal communication in Lesson 3, 13.06.2017)

Daniel demonstrated a range of musical behaviours. In the following, Daniel’s musical behaviours and musical abilities are illustrated by consulting the Sounds of Intent (SoI) musical development framework for children and young people with special needs and disabilities (Ockelford, 2015; Welch & Ockelford, 2015). Simon’s musical behaviours are exemplified and categorised into reactive, proactive and interactive domains.

6.3.1 Reactive musical behaviours
Over the course of the observed instrumental lessons, Daniel exhibited a wide range of reactive behaviours and responded to musical input in many ways. He seemed to have a good understanding of various elements of music. Moreover, he was able to follow the pace of the played music and simultaneously sing along to the tutor in the right pitch. However, singing was not explicitly encouraged, but rather happened spontaneously. Daniel also had the ability to anticipate what would happen next in music and act accordingly:

Tutor: What I looked for... when we did the first verse... and I left a little gap. That seemed... Daniel was anticipating the chorus. The correct thing is, you anticipated the chorus but then you stayed on the verse. You can handle it when things change around you very well.
Daniel: Yes, I can!

(Daniel & Daniel’s tutor, personal communication in Lesson 1, 16.05.2017
Daniel responded well to music, in terms of tempo and volume. Regularly, Daniel moved rhythmically to the music while playing. His movements were matching the speed of the piece and the character. He also recognised and understood other technical-musical elements of playing, such as how the hardness of hitting the instruments influences the sound and character (Daniel and tutor, personal communication 05.06.2017):

Tutor: And when you are hitting the drums, do look you around? If I said do look around on the drum to find different sounds....
Daniel: Yeah, I do.
Tutor: And do you have a favourite place on the drum? [demonstrates some Different sounds by hitting the drums]

Daniel at times presented as being very cautious and at times struggled to do something with more difficulty. However, his reluctance did not last long and he was easily motivated and persuaded to try. His tutor regarded Daniel as a good musician:

They are really on a high level really high (The tutor was referring to other pupils, too). Innate level. And it’s, ehm... He is really ‘switched on’ but there are times where he is cautious about where he wants to go. He is enveloped. He is playing well. Safe within his envelope. But sometimes, it’s like ‘wow’.
(Tutor, personal communication, 2017)

Daniel also understood the cue as to when to start to play. When the tutor started to count in, Daniel joined in and went on counting in the correct speed:

Tutor: [Tutor counting in] One, two, three...
Daniel: [joining tutor with counting in] Three and four.
(Daniel & Daniel’s tutor, personal communication in Lesson 1, 16.05.2017)

He also differentiated between the various genres such as rock, pop and reggae and recognised the pieces’ structural features. This was evidenced by appropriate musical responses. In this regard, he was observed to adapt his playing in accordance with the particular piece’s style. Although Daniel was happy to play all of the pieces/songs in his repertoire, he developed a preference towards ‘Let it Be’ by the Beatles. Furthermore, Daniel apparently seemed to understand musical pieces in their meaning; in particular evidenced by his spontaneous reaction to sing the lyrics along to the music. This also shows that the Sol domains were not discrete but rather intertwined.
In aggregate, the above mentioned instances exemplify Daniel’s musical behaviours attributed to the Sol Reactive domain. The instances were observed very frequently and were rated as typical of Level 6 (‘engages with pieces as abstract ‘narratives in sound’ in which patterns of notes are repeated or varied over time to create meaning; differentiates between styles and performances) of the SOI framework (Figure 6.2).

![Figure 6.2 Daniel’s behaviours in the Reactive domain](image)

**6.3.2 Proactive musical behaviours**

Daniel was observed to be an advanced drummer. He not only understood elements of music such as pitch, rhythm and tempo, but he also was skilled in applying the techniques he had learnt in order to vary these elements. When he was asked to play ‘Let it Be’ – after he had not played it for some time - he just hesitated briefly before starting to play. As he had played the piece before he knew the particular sequences by heart. However, whether he followed the same pattern again or improvised, was totally up to him. Furthermore, Daniel occasionally invented his very own rhythmical patterns on various drums by himself that matched both the song’s structure and character. In contrast, in some instances, the tutor prompted Daniel to improvise, create his own patterns and vary them when they were playing the chorus of the piece for example.

Daniel was recreating musical pieces very proficiently. He was able to play back the things that he was shown or instructed to. Generally, he played it right straight away and with no hesitation. In most instances, it was enough for the tutor to just explain what Daniel had to do and how to play it, as opposed to demonstrate it on the instrument. Daniel was easily able to perform a task, such as to play louder and with more ‘muscularity’.
He was also encouraged to explore sounds and how they could be created in terms of technique. One example was the exploration of various changes in sound by changing the position of the stick on the drum. He learned the rhythms and techniques very quickly and varied them in his play and modified them by himself during play / performance. Changes in playing technique and expression differed appropriately according to each segment within a song. The transitions were linked coherently and fluently. This happened regularly and the impression was that Daniel seemed to make changes in his playing style intentionally. On few occasions however, the tutor had to repeat himself or demonstrate the technique on Daniel's drum kit.

In addition to (a) recognising the various structural features of the different musical pieces, and (b) changing patterns within a song as, Daniel also knew to (c) change his playing style between two different pieces in one lesson. Furthermore, Daniel understood the importance of keeping a steady beat and did so across all pieces and lessons. His tutor was impressed by this ability and said, e.g., ‘very great. You should be really proud of yourself. Because you keep the time so steady’ (Tutor, 2017)

Moreover, Daniel not only kept a steady beat but he was also observed to know how to vary the speed across pieces and stay ‘in time’. The tutor thought that this was exceptional:

That’s really good! Because what normally happens [now also directed at researcher] when the drummer goes to the right cymbal is, Daniel didn’t, most drummers go ‘ts ts ts ts’ on the Hi-Hat. They stay very constant in tempo and when they move to the right cymbal it sort of softens and normally they slow down. And you didn’t. (Daniel & Daniel’s tutor, personal communication, 16.05.2017)

Towards the end of the observations, Daniel seemed to play more fluently. He knew how to play the newly learned techniques confidently and when best to apply them. Field notes reported the impression that Daniel ‘has made progress; plays more fluently and confidently in terms of speed, rhythm, accuracy, change of parts and instruments. [He has] a confident and strong sound’ (retrieved from researcher’s field notes, 18.06.2017).

Although Daniel generally followed the tutor’s instructions, he varied his playing when he felt like it. The tutor allowed it to happen.

All in all, his playing was intuitive, expressive and creative with a very good technical competence. He was regularly praised by the tutor for his great musical ability as well as he seemed to be aware of doing well. Daniel’s proactive behaviour can be rated as 6 on the
SOI framework (Figure 6.3). He not only played expressively but also shaped the music by varying musical elements purposefully and confidently. He showed technical proficiency and improvised by using all the techniques he knew. All in all, his abilities matched the Level 6 descriptor ‘seeks to communicate through expressive performance, with increasing technical competence; creates pieces that are intended to convey particular effects’ (see Appendix 4).

6.3.3 Interactive musical behaviours

Daniel showed a very good sense of both reacting to the tutor’s musical behaviours – in that he adjusted his playing to the tutor – and would either follow, lead or just play along with the tutor. As mentioned above, he was observed to be a good and attentive listener as well as an advanced drummer. It seemed that therefore, Daniel was in a position to create music in the moment together with his tutor, each time with different variations. By supposedly intentionally choosing the different playing techniques, he was able to express himself freely, using old and new skills as well as varying them.

Copying the tutor’s style of playing and implementing his instructions, as seen above, was also an interactive activity. The tutor knew how to speak to Daniel and how he could make himself understood. Whenever the tutor came over to Daniel’s drum kit and demonstrated something on it, Daniel was delighted. He was happy that he and the tutor ‘will play together [...] on the drums’ (Daniel, after the tutor decided to go over to Daniel and show him a technique).

Apart from the phases in which the tutor explained or demonstrated things to either correct Daniel or to teach him something new, the entire lesson was a performance.
He saw himself as a part of a band, together with his tutor. He very much enjoyed counting in and playing through the pieces and was very pleased with himself when it went well.

In addition to having the skill to improvise and vary elements of music in the moment, Daniel showed that he could do that across all styles and genres. He was attentive to his tutor’s musicking and anticipated certain actions. He was so sensitive to what was evolving and happening musically, so that he went with what his teacher eventually played. Even subtle changes were recognised. His tutor was impressed by this and commented:

What I looked for... when we did the first verse... and I left a little gap. That seemed Daniel was anticipating the chorus. [Now addressing Daniel] The correct thing is, you anticipated the chorus but then you stayed on the verse. You can handle it when things change around you very well. (Daniel & Daniel’s tutor, personal communication in Lesson, 16.05.2017)

It was observed that even the fluent transition to other pieces did not cause any trouble. Daniel went along with no effort. He also did not let himself be distracted by the tutor’s occasional mistakes:

And what’s great is you’re not confused by my mistakes. And that’s really great (Tutor saying to Daniel after he forgot the chords himself). (Daniel & Daniel’s tutor, personal communication in Lesson 2, 16.05.2017)

Daniel’s ability to confidently interact musically with his tutor can be rated at SOI Level 6 (‘makes music expressively with others, with a widening repertoire, in a range of different styles and genres’, see Appendix 4) (see Figure 6.4). He presented as being aware of the tutor’s playing and played as well as improvised in stylistic coherence. He saw himself as an equal part of the ensemble and enjoyed sharing his skills.

Figure 6.4 Daniel’s behaviours in the Interactive domain
6.3.4 Summary

Overall, Daniel was observed to feel very comfortable in the one-to-one instrumental lessons. He seemed to have a very well-established and trustful relationship with his tutor and on no occasion did he show any challenging behaviour that was particularly troublesome for him or the tutor. Technical novelties and challenges were met and other skills fostered. Daniel used his skills confidently. The greater part of the lesson’s time could be spent on playing, performing and creating together. The musical behaviours were overlapping, in that reacting to a certain behaviour triggered another behaviour and eventually allowed musical interaction on a high level. The SOI rating in the three SOI domains is illustrated in Figure 6.5.

Figure 6.5 Representation of the Sounds of Intent Framework data of Simon’s behaviours embracing all three dimensions
6.4 Daniel’s ADHD profile during the programme (RQ 2, 3)

6.4.1 Analyses of Daniel’s ADHD-like behaviour in aggregate

Throughout the entire observation period (one school term), Daniel showed little ADHD behaviour. On the one hand, he was observed to only exhibit two different symptoms, and on the other hand, the number of entries was very low (total number of entries n=15). Figure 6.6 illustrates the number of the two observed symptoms, as well as shows that other symptoms commonly attributed to ADHD were not observed:

The numbers of observations (numbers of entry x 30 seconds) were derived from video data analyses (see Chapter 4). Analyses show that Daniel’s most frequent ADHD behaviour was related to the cluster of behaviours classified as hyperactivity (n=11 entries). The observed symptom uniformly was fidgeting. The inattention cluster counts n=4 entries for the symptom avoiding tasks requiring mental effort. However, inattentive behaviour in the sense of being an ADHD symptom here, must be regarded with caution. As Daniel was reported to be a very anxious boy, these behaviours might also be affiliated with his anxiety instead of being an ADHD-related behaviour.
In contrast, Daniel was observed never to exhibit any behaviour that could be attributed to any symptom of the impulsivity cluster (different from his behaviours in the orchestra rehearsals; see Chapter 7). Consequently, the data indicates that, apart from two different symptoms related to inattention and hyperactivity respectively, Daniel did not display any other symptoms related to ADHD. Moreover, data analyses revealed that out of n=4 lesson observations, there was one lesson in which Daniel did not display any ADHD-like behaviours at all.

**Inattention and Hyperactivity**

Daniel was noticed to be inattentive on a few occasions. It was observed that inattentive behaviour happened towards the middle or end of the instrumental lessons. Inattention in the shape of *avoiding tasks requiring mental effort* was noticed in instances when the tutor asked him to try something new or play something particular on his instrument which, in turn, Daniel believed he could not do it. Daniel would say ‘I can’t do it!’ (in three lessons). In these instances, Daniel made the impression to be restless, meaning that he would move more than usual and play around with the drum sticks. This kind of fidgeting, however, was always rated to be mild by the researcher (see Figure 6.7). Furthermore, the tutor was always able to encourage Daniel to try and play, despite his reluctance.

I believe you can easily do it. Is it because you don’t want to do it? [Daniel: No] Right…then not…count in…play. (Daniel’s tutor, 13.06.2017)

As soon as Daniel started to play, his challenging behaviour disappeared. As seen in Figure 6.7, in one instance, the researcher decided to rate this behaviour with ‘0’, applying a scale from 0 to 3 for ADHD severity. This was justified with the fact that this kind of inattention seemed to be very brief, and – in the particular context – could be perceived as insecurity rather than being typical ADHD behaviour.
Despite being diagnosed with ADHD and reported to present with challenging behaviour (see section 6.2), Daniel was observed to behave neurotypically for almost the entire time of the lessons/instrumental tuition programme (94%). Moreover, there was one lesson in which Daniel was not noticed to present any ADHD-related behaviour at all. Furthermore, impulsive behaviour was never displayed. The following figure illustrates Daniel’s ADHD / non-ADHD behaviour in aggregate in his percussion lessons (Figure 6.8). ADHD-related behaviour comprised inattentive (1%) and hyperactive behaviour (4%) respectively. A combined type presentation of ADHD was observed once only (1%).

Figure 6.8 Daniel’s ADHD behaviour in percussion lessons in aggregate (the relation of entries of ADHD behaviours and the absence thereof)
6.4.2 ADHD behaviour in the act of engagement in music

Apart from the above mentioned instances of ADHD-like behaviour, in the act of performing / playing the instrument, no ADHD-like behaviours were presented by Daniel. Just some of the moments of instruction, discussion with and listening to the tutor between the playing phases were accompanied by instances of minimally challenging behaviour (see severity of symptoms in Figure 6.11). In other words, in moments of engaging in playing the designated music on his instrument, Simon was always able to be attentive and concentrate on his work, despite some occasional preceding ADHD-like behaviour. The following figure (Figure 6.9) illustrates a period of n=5 minutes of playing on the instrument without showing any signs of ADHD:

Figure 6.9 Example rating of Daniels’s non-ADHD behaviour when playing the instrument 13.06.2017

Apart from showing no behaviours related to ADHD, the figure shows that Daniel seemed to enjoy himself (smiling) and even join in and sing the lyrics together with his tutor.

6.4.3 Daniel’s actions in aggregate

Daniel displayed a wide range of actions that were either content related, such as playing and performing, or related to things not directly related to the music programme, such as waiting (n=5 entries) or engaging in other than musical activities (n=1 entry), albeit this was rare (in comparison to his musical actions). The following figure illustrates Simon’s overall profile of actions (total entries n=291) as derived from video data (Figure 6.10) over a period of four instrumental lessons (one school term).
The figure above shows that of all activities, the activity that was observed the most was *playing /performing* on the instrument (n=144 entries). The second most frequent activity—albeit significantly lower in number of entries—was *discussing*. It must be added that Daniel and his tutors were discussing music content related issues / playing technique and Daniel spoke much less than his tutor. He spoke and/or replied in short sentences only. Conversely, *speaking* was entered n=22 times. This represents negotiations between Daniel and his tutor when Daniel regarded himself not to be able to play certain things on his drum kit. Furthermore, *speaking* also represents informal (non-music related) conversations between them both. Another action that was entered many times is *listening*. This action represents instances of Daniel just listening to the tutor’s instructions and comments. Singing also occurred occasionally (n=18 entries). Conversely, Daniel has only been observed to be off task once and wait for only a short period of time throughout the whole programme (n=5 entries). Overall, it can be seen that the musical actions were predominant, which means that, indeed, Daniel was engaging in music for most of the lesson time.
The severity of behaviour attributed to ADHD was also judged and noted. Furthermore, the researcher noted in which situations these instances of ADHD symptoms and their varying severity occurred. Thereby it became evident that the exhibited ADHD-typical behaviours were always mild (severity 1) (Figure 6.11).

<table>
<thead>
<tr>
<th>Criteria for ADHD</th>
<th>Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Playing the instrument</td>
</tr>
<tr>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Inattention</td>
<td></td>
</tr>
<tr>
<td>No sustained attention</td>
<td>✓</td>
</tr>
<tr>
<td>No attention to details</td>
<td>✓</td>
</tr>
<tr>
<td>Not listening</td>
<td>✓</td>
</tr>
<tr>
<td>Not following instructions</td>
<td>✓</td>
</tr>
<tr>
<td>Trouble in organising tasks</td>
<td>✓</td>
</tr>
<tr>
<td>Avoiding tasks requiring mental effort</td>
<td>✓</td>
</tr>
<tr>
<td>Easily distracted</td>
<td>✓</td>
</tr>
<tr>
<td>Loses things</td>
<td>✓</td>
</tr>
<tr>
<td>Forgetful</td>
<td>✓</td>
</tr>
<tr>
<td>Hyperactivity</td>
<td></td>
</tr>
<tr>
<td>Fidgeting</td>
<td>✓</td>
</tr>
<tr>
<td>Getting up from seat</td>
<td>✓</td>
</tr>
<tr>
<td>Running about</td>
<td>✓</td>
</tr>
<tr>
<td>Excessive motor activity</td>
<td>✓</td>
</tr>
<tr>
<td>Unduly noisy</td>
<td>✓</td>
</tr>
<tr>
<td>Impulsivity</td>
<td></td>
</tr>
<tr>
<td>Talking excessively</td>
<td>✓</td>
</tr>
<tr>
<td>Blurring out answer</td>
<td>✓</td>
</tr>
<tr>
<td>Trouble waiting one’s turn</td>
<td>✓</td>
</tr>
<tr>
<td>Interrupting/intruding on others</td>
<td>✓</td>
</tr>
</tbody>
</table>

Figure 6.11 Severity and moments of symptoms

Figure 6.11 also illustrates that in all of the three situations, there were instances when ADHD symptoms were absent. The tick in brackets in the ‘playing the instrument’ category indicate that these instances of ADHD behaviour happened immediately before Daniel started to play (reluctancy). However, in the act of playing the instrument, these symptoms were absent.
6.4.4 Lesson example

The following lesson example illustrates one lesson of Daniel’s instrumental tuition programme. As can be seen in Figure 6.12, hyperactive and inattentive behaviour was only evidenced at the end of the twenty-three-minute-long lesson. At the beginning and middle part, no ADHD typical behaviours were observed.

![Figure 6.12](image)

Figure 6.12 Daniel’s ADHD profile in percussion lesson [16.05.2017] (47 intervals = 23 minutes, counting in 30 seconds).

The scale with its peaks represents the mean of means of each of the three main ADHD clusters of behaviour. At the beginning of the lesson, when Daniel entered the room, he was praised by the tutor for his musicianship. He asked Daniel what instruments he played and in which music projects he was participating in. After approximately two minutes of informal conversation, the tutor changed the topic and started with the lesson. Daniel was very happy that they were playing ‘Let it Be’ by the Beatles on that day:

Tutor: Right. Do you remember we were playing ‘Let it Be’?
Daniel: [very happy so that gasping for air] Ah! Brilliant! I love ‘Let it Be’! Brilliant.
[Tutor playing softly the chords on his guitar. Daniel seemingly thinking] (16.05.2017)
After Daniel was allowed to count in, they would play the whole piece through. Occasionally, the tutor would call in some instructions for Daniel:

04.44 T: [still while both playing] And if you remember, can you now do the drumfill?

[Daniel reacting to the tutor’s instructions and plays drum fill. Then playing softer when tutor starts to play softer]

04.58 T: [while playing] Okay, one more.

[both still playing]

05.25 T: [while playing] More bass.

[both still playing]

05.41 T: [while playing] Big chorus. Big chorus.

[both still keep playing. Daniel occasionally joining in singing, but very briefly and softly]]

06.20 T: [while playing]. Drum fill.

[both still playing]

06.30 D: [whilst playing] Yes, go.

06.47 D: [Daniel ending with a tremolo and intuitively plays the last beat together with the tutor at the same time. He is pleased with himself] Yipee

After the first run through, they practised to play the drum fill, a combination of snare drums, big drums, and the tom toms to make the sound ‘a bit more orchestral’ (Tutor, 16.05.2017). Then, again, they played the piece through and Daniel applied what he learned a few moments before. This pattern of instructions, playing the particular parts and playing the piece through was repeated throughout the entire lesson.

After a while – circa thirteen minutes into the lesson, Daniel started to be uncomfortable (see first peak in Figure 6.12). He did not want to do what he was instructed to and started to fidget:

12.59 T: So let’s separate this. Take the bass drum away again. And then we go one-and-two-and-three-and-four-and?

13.07 D: [Daniel doing it] So, don’t want to do it again. [head down and bracing himself].

13.13 T: But you did it brilliant last week that piece [means a particular piece, which they are going to play next, instead of ‘Let It Be’ The transition is fluent].

[Daniel mumbling something] It was really fantastic. So it’s [strums]…
Let’s try the pattern without the Hi Hat. So we’re doing [demonstrating] ‘one-and-two three-and-four.’

13.37 D: Well it goes like this. One-and-two and three-and-four. One, two, three-and-four. Yeah! One, two [tutor joins in playing the guitar. Both play]. And again. One, two, three-and-four. Yeah!

(Conversation between Daniel and his tutor, 16.05.2017)

The tutor explained the playing technique to Daniel and ultimately was able to persuade Daniel to play, despite his reluctancy.

After four minutes of more playing, Daniel, again, was reluctant to play what the tutor suggested. He started to be restless in his seat and be unwilling to play. However, in this situation, too, the tutor was able to motivate Daniel to play:

17.27 T: Now, let’s experiment, yeah? [Daniel: Yeah.] I think you keep the bass drum constant. So if you can keep that constant. Play twice the frequency here and do sixteenths?

17.41 D: Oh, I don’t want.

17.41 T: Just try once. See if you can go [hits the Hi-Hat in that manner to demonstrate. Daniel joins in and plays it]

17.49 [both play]

(Conversation between Daniel and his tutor, 16.05.2017)

However, after a while (see peaks representing inattention and hyperactivity between intervals 42 and 46) Daniel once more had a short phase in which he is slightly restless and reluctant to play in a certain way because he ‘[doesn’t] know really [...] Nah don’t love to’. Again, the tutor persuaded the boy by promising that they would only play for ten more seconds. In the end, they played for around another two minutes. The lesson was concluded with Daniel being in a good mood and proud of himself.

Overall, in this lesson, music making was the time that both spent the most time with. In a few instances, Daniel was reluctant to play. However, the tutor was always able to motivate and persuade Daniel to continue playing and try to play what he was instructed to. In the end, this was a productive and successful lesson in which both tutor and pupil were pleased with themselves.
Although Figure 6.12 is showing clearly that Daniel behaved ‘neurotypically’ for most of the lesson, it is intended to follow the other sections’ outlines and complete the picture of Daniel’s behaviour throughout this lesson and depict the proportions of ADHD behaviours in relation to non-ADHD behaviour. The following chart (Figure 6.13) presents Simon’s behaviours in percental relation to each other.

![Daniel's ADHD behaviour in percussion lesson](image)

**Figure 6.13** Figure Daniel’s behaviours as a % in relation to each other [16.05.2017]

It can be seen that in most of the lesson time (90%), Simon behaved ‘neurotypically’ or appropriate to the context and did not exhibit any ADHD-like behaviour. Inattention as such, accounted for four percent of the lesson and another two percent of the time was composed of behaviours that combined hyperactivity and inattention. Furthermore, hyperactivity as a standalone behaviour occurred in also four percent of the lesson’s time.

Furthermore Figure 6.14 is a visual representation of the proportion of what Daniel was engaged with during the lesson (as mentioned in the lesson description above):
Consistent with the researcher’s field notes, video analyses have revealed that in this particular lesson, Daniel was mostly engaged in playing (n=32 entries). Analyses also show that the number of entries for speaking was also not insignificant (n=13). However, it must be clarified that Daniel engaged in an informal conversation at the beginning of the lesson, which was unusual for Daniel. Normally, he would not talk much about himself or his activities outside school. Furthermore, it is to be seen that Daniel was briefly singing in the lesson, too (n=3 entries). As mentioned before, Daniel was capable to listen attentively to his tutor. The amount of listening was as high as speaking (n=13 entries). Overall, this chart not only reflects Daniels actions but also mirrors the structure of the lesson, in that playing was intertwined with listening /instructions and discussing the musical issues.

**Tutor’s Behaviours**

Having described both Daniel’s (non) ADHD behaviour and his actions, it seems equally important to briefly describe the tutor’s behaviours in that lesson. The following figure shows the tutor’s behaviours or actions throughout this lesson (see Figure 6.15).
It is apparent from the figure that the tutor was playing and instructing the most. This was consistent with Daniel’s actions, implying that playing, instructing and listening were cohesive interactions between tutor and student. The figures above show that the tutor and Daniel were playing for almost the same amount of time. This underpins the observation that both were playing together as an ensemble. When matching the tutor’s entries for instruction and demonstration against Daniels total amount of entries for listening, it can be seen that these numbers do not match. However, it must be added that Daniel was not only listening to the tutor, but occasionally would comment (discussing) on what the tutor said. It must be also taken into consideration that in this lesson, Daniel would sometimes say that he did not want to do certain tasks. This would result in an entry for *speaking* rather than *listening*. Notwithstanding these, the tutor used very often to give instructions whilst both were playing, meaning that he would shout the instructions in order for Daniel to apply immediately.
6.5 Analysis of the teaching and learning context and effectiveness of the music provision in percussion lessons (RQ 3)

In order to judge the effectiveness of the music provision in this instrumental music programme, the existent frameworks for effective music provision were consulted (see Section 3.4). By utilising the researcher’s effective music education provision scale – a five-point Likert scale (see Section 4.7.4) – all domains (i.e., content, teaching, learning) were rated separately. Subsequently, a summative rate resulted in an overall grading / judgement of the music provision.

6.5.1 Rating of the programme’s content

The nature of this music programme was not allowing for very much variation in content, i.e., in the number of played music pieces, as Daniel and his tutor were working towards a concert and therefore were rehearsing the same pieces over and over again. However, the tutor used to teach Daniel new playing skills and integrate them into the pieces. Furthermore, the content provided room for improvisation, which Daniel made use of in every observed lesson and to a great extent. In addition, for Daniel every run through was a performance to an imaginative audience. By improvising and being free to play in whichever manner he preferred, Daniel could express himself in music (rating ‘4’ on the scale). Furthermore, Daniel was observed to enjoy the content and left every lesson uplifted. Also, as reported by the tutor, the programme seemed to contribute to an enhancement in interpersonal skills (as reported by the tutor in an informal conversation). However, apart from the tutors’ habit to change his instruments (guitar or keyboard), no other resources or technology were used. Nor, music notation was used in any of the observed lessons. Overall, the summative rating of the programmes content was 2.8, which when rounded up to the rating ‘3’ is judged as ‘good’ (Figure 6.16)

![Figure 6.16 Overall rating for the content domain](image)
6.5.2 Rating of the programme’s teaching

The teaching aspect regarding content was rated for every statement at the highest with 4=ideal. The programme’s content, as well as every activity, was observed to be appropriate, in that it matched Daniel’s needs and abilities. Moreover, the content seemed to challenge Daniel in every possible way (personally as well as in improving his playing skills) so that he progressed within every lesson and also in total. In no instance, his needs seemed to pose a hindrance to engage successfully in music. In every lesson, the music was enabling reactive, proactive and interactive behaviour and all activities were observed to link coherently.

Related to pedagogical approaches and teaching strategies, the tutor was observed to show a high standard of teaching in every lesson and consistently throughout every lesson. The leadership style was a mixture between a teacher- and learner-centred. Furthermore, across all lessons did the tutor know how to talk to Daniel in order to trigger certain behaviour and keep him motivated and enthusiastic (see Sections 6.3 and 6.4). The tutor generally perceived Daniel as an ‘innate’ musician and pushed him to progress to the maximum in each lesson. Moreover, music making was in the foreground of every lesson and speaking was kept to the minimum, meaning that it the tutor and Daniel would rarely engage in a conversation that was not related to the programme or music as such. Figure 6.17 illustrates that for over half of the total lesson time, the tutor was joining in the playing (55% total time). The remaining lesson time was spent primarily on explaining the tasks and instructing Daniel how to ply (42% total time).

![Figure 6.17. Tutor’s actions in aggregate](chart.png)
Tasks were always clear and assistance was provided when needed. The impression was that sometimes, however, Daniel would have benefited from a little bit more of demonstration on his drum kit. Furthermore, there was always room for flexibility, in that the tutor could allow Daniel to lead or meet arising needs and interests. In every lesson, feedback was provided to Daniel and award points given. Despite some anxiety, Daniel was always motivated by the tutor’s engaging approach. Consequently, the programme related to teaching was rated highly. The mean rating was 3.8 and subsequently rounded up to the rating 4 (Figure 6.18).

![Figure 6.18 Overall rating for the teaching domain](image)

### 6.5.3 Rating of the programme’s learning

Throughout all of the observations, Daniel presented as a successful learner. All aspects related to learning and content were rated at the highest. Only his motivation was observed to decrease slightly for a short moment when he felt he could not manage a task (rating 3). In every lesson, progress was observed in Daniel, in that he understood the content and knew how to link new skills with old. He engaged in music for the largest amount of time (68%); only interrupted by instructions and discussions (see Figure 6.19).

![Figure 6.19 Daniel’s actions in aggregate (playing and non-musical actions)](image)
Daniel had the opportunity to respond musically and contribute to the lesson and express himself (see improvising, counting in and leading the imaginative band: Chapter 6.3). This was noticed and encouraged by the tutor. Apart from few short instances, he was always enthusiastic about the programme and very motivated. All in all, Daniel was always fully engaged and knew how to work. However, he did not enjoy a wide range of different musical activities. It may be speculated that the preparation for the concert did not allow room for any other activities. What was very evident in every lesson was the very good working relationship with his tutor. Daniel seemed very confident and able to act on his feelings. Every progress was commented on at the end of the lesson and commented by Daniel, who seemed to be proud of himself. Overall, the summative rating resulted in the mean rating 3.7, which amounts to 4 if rounded up. As a result, Daniel’s learning is to be regarded as ideal (Figure 6.20).

![Figure 6.20 Overall rating for the learning domain](image)

265
6.5.4 Rating of the music provision overall

Overall, it became apparent that the instrumental lesson provision was of good quality and effective. This finding underpins the researcher’s initial impressions. In total, all three ratings result in the overall rating ‘3.4’, which if rounded down (because of decimal place lower than 5) results in ‘3’ or ‘good’ (Figure 6.21). If the three grades (good, ideal, ideal) were considered together, the mean overall grading would be ‘ideal’ (6.22).

![Figure 6.21 Overall rating for the music provision by creating mean rate](image)

![Figure 6.22 Overall rating for the music provision by considering overall grades](image)

6.6 Summary

Daniel presented as a very engaged musician. Despite his ADHD diagnosis and other special needs, he was able to (re)create music as well as improvise on an advanced level of musicianship. He showed a wide range of musical behaviours. Daniel liked to envisage himself as a member of a rock group. Whilst playing, he made the impression to be totally immersed in the music and occasionally starting to sing along to the music. Occasionally, Daniel seemed to be self-conscious and anxious which is consistent with his school and medical reports. Occasionally, he would rather not try something new as he thought that
he could not do it. Also, it was in these instances, in which he appeared to show signs of ADHD-related behaviour, i.e., avoiding tasks that require mental effort and fidget slightly. Conversely, no signs of behaviours that could be attributed to ADHD were evident in the moment of playing the instrument.

Mostly, the tutor was engaging and able to motivate Daniel to resume playing and try the new things if he was reluctant to try new techniques. He saw Daniel as a musician and had high expectations as well as believed that the boy had great musical potential. The amount of musical engagement was high and both played together as a duo to a great extent. All in all, the music practice was observed to be good to ideal.
Chapter 7 Case Analyses of Daniel (Setting 2)

7.1 Description of the case environment and framework of the instrumental learning programme (RQ 3)

7.1.1 Learning and teaching environment and concept of music

Apart from engaging in one-to-one drumming lessons at school (see Chapter 6), Daniel also engaged in playing the piano in an orchestra for young people with special educational needs and disabilities (SEND) at the time of observations. In contrast to his instrumental tuition, which was part of his schooling, the observed music programme was created and provided by a local Music Hub. It is open for all young people with SEND to join voluntarily and outside school. There is a waiting list and every member must apply in order to be admitted, as well as commit themselves to attend regularly, as the success of the ensemble is considered to be dependent on the regular participation of all. This orchestra is a community ensemble that collectively creates musical pieces and works towards concerts.

The regional Music Hub-founded music programme is designed to be accessible and safe for adolescents with SEND, who otherwise would not have the chance to receive music education because of their circumstances and backgrounds. It provides an opportunity to young people to engage in a creative music making process, together with others as a collective and to perform on stage to the public. According to their website, the programme’s goal is to provide meaningful musical experiences to the young members and involve them in music making of a high quality.

The ensemble normally consists of around n=20 members (on average), depending on the particular project and varying slightly from term to term. The individuals’ needs differ in their complexity and severity. Nevertheless, the orchestra’s management regards it as a prerequisite that the members of the ensemble are at least aware of their surroundings and capable of engaging in music making of any sort (as stated on their website, source not disclosed for anonymity reasons). The ensemble does not conform to any common organisational set up in terms of the combination of instruments. Regardless of this, the group refer to themselves as ‘orchestra’. It comprises all kinds of instruments, from acoustic to electric (percussion instruments, maracas, violins, keyboards, trombones) and includes digital music making devices (inclusive music technologies, such as tablets).
Although the range of needs, and thus abilities, do vary hugely, the diversity of instruments and music technology devices are selected to be an appropriate match to the participant young people’s both physical and mental capabilities. In particular, this applies for individuals who do not receive any instrumental education outside the programme. Those members who already learn or have experience on an instrument and have acquired a certain level of playing skills normally stay with their choice of instrument. The ensemble includes participants of all levels of instrumental playing competence and experience. In that sense, some participants may show good playing skills acquired outside the programme and others may not be as advanced, or they may even not engage in any music making beyond the programme.

The tutors claim that the difficulty level in the choice of repertoire to learn and perform seeks to take into account every level of musical skill, in that individuals with advanced playing skills would play the melody and the less advanced would act as the accompaniment. Both roles are thought to be equally important. In other words, it is desired for the members to build on existing musical skills, learn a (new) instrument altogether, or simply engage as well as they can with the easiest possible instrument to play. Where proactive music making engagement is not possible, such as due to physical restrictions, a parent or carer is welcome to help and participate alongside the young person. Overall, the music is created by the participants under the guidance of the tutors, who set the topic or framework and structure of the piece. Depending on the project, singing is also included in the music-making process as well as improvisation.

Rehearsals take place in cultural centres, school halls or other facilities, which are rented by the Music Hub. The one and a half to three hours long rehearsal sessions take place weekly. Usually, the programme culminates in a performance that takes place in various locations and concert halls twice a year. For that reason, sessions tend to include aspects of both creativity and rehearsal.

The service is provided by a team of professional musicians and practitioners, who are employed by the Music Hub. The tutors are experienced in teaching and supporting young people with mental health issues, disabilities, behavioural problems and other special needs. The tutor number varies from project to project and availability. In this particular case study, the observed lessons were led by n=3 tutors, together with other three individuals who acted as assistants/support team. The assisting role included the setup of
instruments in the room and assistance for some individuals during the sessions, as well as joining in the actual playing.

In the framework of the observed programme over one school term, rehearsals took place every fortnight, or every week as the performance approaches. Twenty young people participated in the observed music intervention, of whom all were living in the same county, but who did not necessarily have any contact with each other outside the project.

It was noted that parents seemed to have a considerable involvement in their children’s participation. As the participants were coming from places from across the county, parents had to drive their child to the venue and wait for the whole duration of the session to return home. Many parents used the waiting time as an opportunity to exchange their views, experiences, and expectations. They also used the gathering to have informal chats with other parents. Coffee and biscuits were provided. On one occasion, the project manager was observed to join the parents and report on the young people’s progress, as well as talk about the upcoming performance. Participation in the programme is voluntary and individuals are reported to choose to participate because of interest, and/or their parents expect certain benefits for their child from making music in this context.

7.1.2 Programme content, learning space and lesson proceedings

The biweekly (later weekly) orchestra rehearsals took place in either a community centre or a specially for the purpose rented space in a public building in the Music Hub’s county.

Prior to each rehearsal, the team of tutors and assistants would arrive and set up the room, i.e., arrange the chairs, prepare the music technology and tune stringed instruments, such as guitars and violins. After the arrival of the young musicians, registration and some informal chats with the parents, each took up their instruments (if they had not brought this with them) and sat down on the provided chairs. A few of the young people chose to wear hearing protection because (a) they were very generally sensitive to the volume of the music and/or (b) were playing an instrument that could produce loud noises. Normally, after a brief greeting by the tutors and a short recap of the previous lesson(s), the group started to engage in musical warm ups that were of a fairly improvisatory kind of nature. In these so called ‘workshops’, all musicians (referring to every individual engaging in the activity) went to another room and stood next to each other forming a big circle (see Figure 7.1). The tutors spread themselves equally in the circle among the young people.
Those, who were normally playing on instruments that could not be carried around to the workshop space, such as pianos, took small instruments such as shakers, tambourines and other percussion instruments. The lead tutor set a particular rhythm and the group had to copy it as a collective in the same manner and speed. Once that was established, the tutor pointed at individuals and asked them to play a different rhythm on top of the main rhythm which kept on going. To raise the degree of difficulty, the tutor would conduct the group and make them change dynamics and speed. The rationale of these games was to get the group in the mood for listening and reacting to each other (as reported by the tutors). Additionally, clapping games were implemented. Usually, the tutor would clap a regular beat in a particular rhythmic pattern and the orchestra members had to join in. Then, gradually one beat would be omitted from the pattern and would stand for a rest. Eventually, only the first beat would remain. The difficulty challenge was for the whole group to clap the beat simultaneously instead of every individual clapping at a different time. Also, the aim was to educate the musicians to keep one speed as a collective and make them aware that as a group they have to play together.
After the ‘workshop’, all participants went back to the first room, where the rehearsal of the piece would take place in the original room setup (Figure 7.2) and instrumentation.

![Image of original setup of orchestra for a main rehearsal](image)

**Figure 7.2 Original setup of orchestra for a main rehearsal**

First, the orchestra would play through the musical piece as worked out so far. During the case study observations, the orchestra was rehearsing the piece ‘Carnival’; a piece containing playing, singing and improvising. They had played this piece before, but now practised it in a slightly amended version for the next concert. The lead tutor was playing the flute with the ensemble and also as both the leader and main conductor. In playing her melody part, she made sure that everybody knew which musical sequence followed next. The other tutors and assistants were playing an electric guitar, saxophone and drums. Daniel’s role was to play the piano. Daniel had to switch to an electric piano / keyboard as another pianist of the orchestra was used to playing the upright piano. After having a run through, the tutor commented on the performance and reminded the players about what had been agreed in terms of the musical sequence and ways of playing. Sometimes, the lead tutor also made comments or instructions whilst playing. Then, the group rehearsed particular parts of the piece again, together with singing the lyrics in the relevant section. Those players who could not sing due to their condition were either listening, or playing the accompaniment instead.

Next, the orchestra practised the ‘conduction’ part. This was a musical interlude where one musician stood in front of the other players and invited them to play in a certain manner by
pointing at them. The chosen players, however, were free to interpret the conductor’s movements with their hands and body in their own way. Every musician took the opportunity and, without exception, everyone seemed to enjoy it, as each of them did not want to stop their individual turn. If a member of the orchestra could not conduct due to their physical challenges, then the parent or carer would help, or conduct for them instead.

As a continuation of the conduction part, the orchestra engaged in a creative musical activity called ‘musical conversations’. Here, two or more musicians formed a group and conversed with one tutor – in that they could copy the tutor’s playing, or answer musically in a different style from that of the tutor.

Subsequently, the main piece would be rehearsed again and then played through in its’ entirety once or twice. Subsequently, in the concert, the piece was performed including one improvisation part (a conduction/conducting or musical conversations). At no time did the group play from notated music. All the musical materials were rehearsed and learned by heart. Only the lyrics of the sung part were printed on paper for all to learn at home, if there were difficulties in memorising. Finally, after all the orchestra members went home, the tutors held a debrief in order to review the young musicians’ performance practice and progress, as well as to discuss future actions.

7.2 Analyses of Daniel’s musical abilities, engagement and development using the SOI framework (RQ 1)

Similar to the other setting in which the instrumental tuition took place (see Chapter 6), in this music programme Daniel was observed to be an enthusiastic musician. He was very eager to participate and be part of an orchestra (as reported by his mother in an informal conversation with the researcher). In the framework of this project he played the keyboard. In addition, he played smaller percussion instruments when engaging in other musical activities that were part of the programme, too. Apart from (re)creating and playing the orchestral piece on the piano, this programme also enabled him to engage in creative music making and improvisation.

It was observed that being a part of an ensemble meant that Daniel could not act on his feelings to the same extent as in his other setting but it rather meant that he had to adapt and hold himself back personally as well as musically in some instances. Conditioned by the nature of the programme’s design and the musical content, Daniel neither did have the
opportunity to engage with tutors on a one-to-one basis, nor did he need to work closely with the tutors on his instrumental skills. In contrast to his one-to-one tuition however, Daniel was able to interact musically with others and engage in large group music making. Moreover, he was given the opportunity to express his musical ideas by leading the orchestra as a conductor. Daniel was asked to stand in front of the ensemble and conduct, namely that he was supposed to point at the orchestra or certain individuals and make them play louder or softer or in a certain rhythm. How he would bring about any change in the ensemble’s playing was up to him. However, the output was dependent on each individual’s interpretation of his conducting style.

Daniel was noted to cover his ears quite often; both while playing and while listening to others. Given that the orchestra with all the electric instruments and percussion instruments produced loud music, this is not surprising. Also the researcher wore ear plugs at times due to the noise level. Despite the noise, Daniel never wore ear protection like some of the other participants.

Apart from some exemptions, Daniel’s musical behaviours that were exhibited in this programme differed from those behaviours in his other music making setting. The focus was on rehearsing one particular musical piece as a collective – led by the tutors who were playing along with the young people – and on performance at large, rather than improving each individual’s existing playing skills / technique. Conversely, through integrating conduction and improvisation, creativity in music making was encouraged. As many behaviours were exhibited in the context of group music making, some behaviours can be attributed to more than one or all SOI categories, or rather they are intertwined. The range of musical behaviours that were observed are presented in the following.

7.2.1 Reactive musical behaviours

Daniel was observed to fully understand the structure of the musical piece ‘Carnival’. He recognised the structural features such as a) head, b) bridge, c) flute, d) conduction, e) solo part, f) singing part, and knew what to play in each of these parts of the piece. Furthermore, Daniel understood instructions that were related to dynamics (i.e. soft or loud), tempo (i.e. slow or fast), and performance directions (i.e. energetic or happy) and adapted his playing style to these in. Other instructions relating rhythm such as repetition or change were also understood:
Tutor A: When she is playing, what is she playing? [Daniel mumbling something] Is she playing a long continuous piece of music or is it short? Does she play the same thing every time.

Daniel: I like it a lot!

Tutor A: Let’s play it again! Just listen! One, two, three, four.
[demonstrating with other tutor again]... So, so what is Tina [Tutor B] doing? Is she playing the same over and over again? Does it change all the way through or does it keep going back to the same thing? [...] Yes, it is going back to the same thing.

Tutor B: It is the same as if when you used the garage band and used the loop.

Daniel: Oh, yeah you are going to play a loop. Oh yeah I know! Oh yeah, you are going to be a human loop!

(Daniel & Tutor, Rehearsal, 06.07.2016)

Daniel was also observed to anticipate certain events in music – in that he sensed when the tutor was going to start or stop playing. When the tutor was about to stop playing, Daniel would start to ‘count out’ in good time. Similarly, Daniel seemed to be very attuned to the tutors and their musical movements, because he often started to play on time together with the tutors without them counting in. In many instances, Daniel moved rhythmically to the heard and played music. Very often, this was also accompanied by certain hand gestures as if he was conducting himself or the group from where he was sitting.

While rehearsing with the whole group, Daniel appeared to conduct the musical piece to himself while playing the music with the other hand. Thereby, he used one hand and moved it in a conducting fashion and in rhythm with the played music. In addition, Daniel was observed regularly to move rhythmically along the music. The researcher had the impression that this was a positive behaviour:

Happy, smiling, humming, conducting himself with his hands and playing on time
(Researcher’s field notes, 2016)

When engaging in the ‘conduction’ activity, Daniel interpreted the conductor’s gestures. For example, he played louder when the conductor raised his arms and played faster when hands were shaken in the air. Subsequently, Daniel used the same and other gestures in his own conducting and gave the impression that he understood the conductor’s intentions.
Daniel also showed to be able to make sense of the concept of ‘musical conversations’ – where at least two musicians were copying or contrasting each other’s playing – when introduced to it:

Tutor:  Do you understand?

Daniel: Yes. (Daniel & Tutor, Rehearsal, 2016)

However, Daniel was one of a few individuals, who never got to engage in a ‘musical conversation’ because he had never been picked.

Overall, Daniel recognised and responded to prominent musical-structural features and characteristics as well as the relationship between them. He also seemed to be aware that music can be seen as an abstract narrative I sound. However, he did not get the opportunity to evidence the latter in practice. Despite him showing this reactive behaviour in his other setting, the lack of confirmation here caused the rating to be Level 5 of the Sounds of Intent framework (Figure 7.3).

![Figure 7.3 Daniel’s observed musical behaviours in the Reactive domain](image)

### 7.2.2 Proactive musical behaviours

Daniel was observed to exhibit behaviours that are attributed to the SoI Reactive domain. Just the same as in his other setting, Daniel was very keen to count the orchestra in. Furthermore, he announced the orchestra and programme with pleasure whenever allowed to:

D: Ladies and gentleman, boys and girls, welcome to our show ‘Carnival’! Let’s get started! One, two, three, four! (Daniel, common speech in rehearsals)
Mostly, Daniel was playing with both hands. However, he used one hand to cover his ear while playing when the noise level rose. In these instances, he used the other hand to play either chords or short melodic snippets of music on the instrument. Occasionally, Daniel stopped playing altogether in order to cover both his ears.

His playing was in time and the chords were in tune. It was observed that Daniel used to both, to repeat one note in a particular rhythm and vary the rhythm slightly using different notes. Whatever and however he chose to play, it matched the character of the piece and was in tune. In one passage of the musical piece, Daniel’s task was to play a solo part together with the other pianist. To a certain extent and within a predefined chord sequence, their part was of an improvisatory nature (i.e. the chords were predefined and the musicians were free to vary the rhythm of how the chords were played or add a melody to it). The other boy’s part was more complex in relation to Daniel’s simple variation of chords. However, Daniel seemed to confidently play along his part, as well as listen to the other’s playing with pleasure. Sometimes, he would cheer and applaud ‘Haha. Yeah! Great!’ (Daniel in rehearsals).

In order to bridge time in between tasks, Daniel was playing around on his instrument and playing short snippets of melodies or certain chords to himself. Occasionally, however, he seemed to hit the keys randomly and look around/observe what was going on in the room.

Apart from playing on the piano / keyboard, Daniel enthusiastically engaged in the ‘workshop’. The tasks were (a) to play the instrument in any way everybody wanted and (b) to play a rhythm that would fit the tutor’s particular beat. Daniel was very interested in the instrument – namely a guiro - and started playing it while the tutor was still talking. During the task, he was either hitting instrument in a steady beat or repeating a rhythm over again (in a loop) with occasional small variations. This seemed to come naturally to him as he used to move and look around while playing.

Moreover, Daniel showed that he can use a wide range of gestures to influence the sound of an ensemble, such as evidenced by engaging in the ‘conduction’ activity. Daniel was pointing at people to get them start playing (pointing with index finger) or stop playing (holding up his palm). Occasionally, he murmured something along his gestures. However, the exact words were inaudible to the researcher. Additionally, Daniel commented like ‘yes’ or ‘now everyone’ and then pointing at everyone in one big gesture to make them all play simultaneously. Furthermore, Daniel raised both arms and shook palms to indicate that all should play louder. Conversely, he lowered them to make the orchestra play softer.
Daniel also used short clapping to make the orchestra play short sounds and would make fists to indicate to stop. When finished, Daniel was usually pleased with himself and applauded the orchestra: ‘Well done! Yay!’ (Daniel in rehearsal, 06.07.2016).

Daniel was observed to show various proactive behaviours in different contexts. He not only recreated the musical piece ‘in time’ and ‘in tune’, but also he was able to improvise on the piece in a simple way. Furthermore, he created his own short musical piece by conducting the orchestra and make them play a certain way. Consequently, on the basis of the observed proactive behaviours, his behaviour in the Proactive domain can be rated as on Level 5 of the Sounds of Intent framework (Figure 7.4).

![Figure 7.4 Daniel’s observed musical behaviours in the Proactive domain](image)

### 7.2.3 Interactive musical behaviours

In contrast to the instrumental tuition at Daniel’s school, this programme offered more opportunities to interact both, socially and musically with his peers. Without exception, all musical activities were whole group activities. The musical piece as well as the conduction and musical conversation activities were rehearsed together as a group. Playing the main musical piece in the group seemed not to be of greater challenge for Daniel. He played the piece by heart and seemed to be very confident because he occasionally looked at other players whilst playing his part. Generally, he seemed to enjoy the programme as his expressions and comments used to be very positive.

Daniel was observed frequently to seek musical interactions with his peers - initiated by himself and not prompted. For example, whilst playing his part on the instrument, he was observed to look behind him at the other pianist. He seemingly sought to interact musically in some kind of way. Also, Daniel tried to get the other boy’s attention by speaking to him.
However, he did not react to Daniel’s prompts. As mentioned above, Daniel’s playing matched the boy’s and they both played a musically convincing and harmonious piano part. On some occasions and between tasks however, the tutor reminded Daniel (or both) to turn the attention back to the tutor:

   Tutor: [after Daniel has not stopped on time] It’s always the keyboard players that are hanging on in there. What happens is, David is playing and then Daniel thinks ‘Oh, Daniel is playing so I need to play, too’. I noticed there is a little trend.
   
   (Tutor, Rehearsal, 06.07.2016)

Furthermore, Daniel loved to contribute to the piece by announcing and subsequently counting in the orchestra. Although this part was meant to be for the (real) audience, Daniel insisted on doing it in rehearsals. The orchestra members followed his presenting part without exception. However, Daniel was only allowed to do this occasionally, as most often it was unwelcome or regarded as disturbing (conversation between Daniel and one tutor (Daniel & Tutor, Rehearsal, 06.07.2016):

   Tutor: Daniel, you need to really focus on concentrating on what [tutor] is saying rather than asking to count in all the time. I tell you why. Because once you are asking that you are not concentrating on what [tutor] is saying and then other people might not be able to hear what he is saying. Is that okay?

   Daniel: [with his head down] Okay

   Tutor: Thank you’

Whilst engaging in the workshop activities, Daniel not only did what he was instructed to, but he also tried to lead his group (a small number of boys standing next to Daniel). When the tutor instructed this group to start playing in a freestyle way that somehow would fit the base beat, Daniel turned towards these boys and tried to lead them by affecting their play with certain arm gestures. However, none of these boys – whether out of a lack of understanding or not bothering to – seemed to react to Daniel’s suggestions and attempts to interact musically with them.

Daniel was observed to have developed good ensemble skills. He conducted the orchestra as part of the ‘conduction’ activity with confidence and used a range of conducting directions (see behaviours attributed to the Proactive domain). The orchestra was reacting to his intentions, albeit sometimes slightly reluctantly and with a time delay.
Then – in order to prompt musical behaviour - Daniel exaggerated the movement or gesture and started to use his voice and make verbal instructions (the words were not audible to the researcher).

Overall, Daniel was able to perform and improvise music together with others as a collective. He was able to re-create, vary and improvise on the material that was offered in ensemble performance. Moreover, he was expressing himself using familiar conventions. However, this happened in a simple way as the technical and musical complexity did not match nor require highly advanced and sophisticated playing skills. He understood the concept of turn-taking and the concept of ‘question and answer’ in ensemble play. However, he did not get the opportunity to engage in the creative and collaborative ‘musical conversations’. Hence, he could not evidence to what extent and level he was able to engage in this ensemble playing skill. As a result, his interactive behaviour was rated as Level 5 of the Sounds of Intent framework (Figure 7.5).

![Figure 7.5. Daniel’s observed musical behaviours in the Interactive domain](image)

### 7.2.4 Summary

The mapping of Daniel’s observed musical behaviour against the Sol framework suggests that he was able to respond to music, create and control music and musical sounds. Moreover, he was observed to make music in the context of ensemble play, yet, he maintained an independent part in it. Daniel demonstrated skills that enabled him to play, improvise and perform in a group. Moreover, he showed a good understanding of musical leadership, namely that he knew how to lead the orchestra and both influence and control the group’s musical behaviour / how they played.
As can be seen from the examples of musical behaviour, the dimensions (Reactive, Proactive, Interactive) were not conceptually discrete but rather there were overlaps in the activities. The design of the programme implicated that every musical behaviour was happening in the context of a group activity and therefore musical behaviours were of an interactive nature.

The SoI ratings for this case setting were rated one level lower than the ratings for the other setting, in which Daniel was engaging in instrumental music tuition. It may be argued that the lower rating is due to the design of the programme; namely that also people without any prior knowledge of how to play a musical instrument can take part. Assumingly therefore, the predefined level of the musical piece did not require, nor enhance, advanced instrumental playing skills. Consequently, Daniel played at a lower level than in his other setting. Moreover, the musical repertoire was limited, in that only one musical piece was rehearsed. In contrast, engagement in the musical conversations activity posed an opportunity to interact with orchestra members at a higher level of musicianship. However, participation was dependent on whom the tutors would select to engage in this activity. At no observation, Daniel was chosen. In addition, other orchestra members were observed not to react to Daniel’s musical behaviour as he wished. It can be assumed that a different environment with individuals on a higher level of Reactive behaviour would trigger more sophisticated musical interactions. Overall, Daniel was observed to show a range of musical behaviours that matched the musical content of the programme. However, it seemed that there was potential for further development if the level of musical content and expectation was higher. The following figure poses as an illustrative summary of Daniel’s Sounds of Intent data (please turn page):
7.3 Daniel’s ADHD profile during the programme (RQ 2, 3)

7.3.1 Analyses of Simon’s ADHD-like behaviour in aggregate

Daniel’s behaviour and musicking profile within the orchestra music programme was observed to be different from that showed in his instrumental tuition lessons at school (see Sections 6.3 & 6.4). In this regard, he presented with more instances of ADHD-like behaviour. However, like in his other music provision setting, there were moments in which Daniel was observed to behave ‘neurotypically’ or ‘ADHD-less’. In the following narrative, Daniel’s behavioural profile is described regarding the nature, frequency, severity, as well as the context of certain behaviours that were observed and assigned to the three ADHD categories used in the thesis: (1) inattention, (2) hyperactivity, and (3) impulsivity. Subsequently, Daniel’s behaviours in moments of an absence of ADHD typical behaviours are illustrated.

Figure 7.7 illustrates the frequency of the particular common ADHD-symptoms that Daniel was observed to display. The numbers of observations (numbers of entries x 30 seconds) were derived from video data analyses (see Chapter 4).
In total, n=55 entries regarding ADHD symptoms were made. Overall, analyses show that Daniel’s most frequent ADHD behaviour was related to the cluster of behaviours classified as impulsivity (n=25 entries), but which was not evidenced in his other music making programme. Inattention (n=24 entries) was also observed. Furthermore, Daniel displayed behaviours related to the cluster of behaviours classified as hyperactivity, albeit recorded with a significantly lower number of entries (n=9).

The figure (Figure 7.7) shows that all symptoms listed in the impulsivity category and most of the symptoms of the inattention category were noted in Daniel’s behaviour. Conversely, he exhibited a smaller range of symptoms related to inattention.

The highest ranked symptoms were talking excessively (n=10 entries) and being easily distracted (n=10 entries). This was followed by fidgeting (n=7 entries) of the hyperactivity category. The symptoms trouble waiting one’s turn (n=6 entries), not following instructions (n=6 entries), blurtling out answers (n=5 entries) and not paying sustained attention (n=5 entries) were also observed. Being unduly noisy (when engaging in an activity) was also recorded (n=3 entries). In contrast, the symptoms not listening, avoiding tasks that require mental effort and running about in the room were observed less (n= 2 entries each).

Figure 7.7 The frequency of Simon’s ADHD symptoms, categorised by ADHD element and clustering into (1) inattention, (2) hyperactivity, and (3) impulsivity
A behaviour that was attributable to the ADHD symptom interrupting / intruding on others was only noted once. Conversely, a few symptoms that are commonly attributed to ADHD were not noticed in any instance. These symptoms were (a) excessive motor activity, (b) being forgetful, (c) losing things, (d) having trouble in organising tasks, and (e) not paying attention to details, as well as (f) getting up from the seat.

**Inattention**

Daniel displayed a wide range of behaviour commonly assigned to symptoms of inattention. Observational data revealed that *being easily distracted* was the most frequent behaviour (n=10 entries). The symptoms *not following instructions* and *not paying sustained attention* (n=5 entries each) counted the second highest rates. These were followed by *not listening* (n=2 entries) and *avoiding tasks that required mental effort* (n=2 entries). As mentioned above, other symptoms such as *not paying attention to details*, *being forgetful*, *loosing things* and *having trouble in organising tasks* were not displayed in any music session.

Compared with his other music making setting, Daniel displayed a wider range of ADHD symptoms and he did so more often than in his drumming class. It was observed also that certain behaviours – identical in both settings – were perceived differently in this setting. On the other hand, it emerged that there were factors to negatively impact on Daniel’s behaviours in certain moments in the lesson. In the following, these situations are described and exhibited symptoms are exemplified.

Most instances in which Daniel seemed to be distracted happened during moments when the lead tutor was talking to the group, or Daniel had to wait for his turn to play. It is noteworthy that being distracted was first noted after thirty minutes into the rehearsal. In these instances of inattention, Daniel used to look around the room. In doing so, he was focusing at other people and what they were doing. For example, he gave an impression of being distracted by what the assisting tutors did (i.e., setting up instruments, assisting others, drinking water). In addition, his attention was drawn towards other orchestra members, with whom he started to talk. Occasionally, Daniel would miss his turn to play because of this. Furthermore, Daniel was observed sometimes to speak to himself and look down at his keyboard, or at his body. These instances of being distracted were accompanied with data observations of him not paying sustained attention. It was not clear to the researcher whether Daniel could not pay sustained attention and, therefore,
looked around the room, or was supposedly distracted by something in the room and, therefore, looking at it. In the instances of not listening, the researcher noted that ‘Daniel seemed to daydream’. Again, this happened while the tutor(s) were talking.

At times, when Daniel was noticed not to follow instructions – in that, for example, he would not play, despite being instructed to – he was observed to cover his ears with both his hands. In such cases, it may be speculated that Daniel did not play, not because of being unable able to follow instructions, but rather because he perceived the noise level as too loud and uncomfortable. In one instance, Daniel was warned for not being attentive enough and for commenting on the tutor’s instructions although not asked to. The tutor was cross with him for expressing his opinion – in this case agreeing with the tutor by commenting with ‘Yes’, mumbling something else – and told him to focus:

Daniel, you need to really focus on concentrating on what [tutor] is saying rather than asking to count in all the time. I tell you why. Because once you are asking that, you are not concentrating on what [tutor] is saying and then other people might not be able to hear what he is saying. Is that okay?’ [Daniel replying with okay] Thank you. (Tutor telling Daniel off, 2016)

It is important to note, however, that in this instance Daniel was told off for something he might not have done, as although the tutor assumed that the mumbling meant that Daniel was counting in again, he might have said something else to himself.

**Hyperactivity**

In addition to showing behaviour attributable to inattention, Simon was observed to present behaviour related to hyperactivity. Data analyses showed that fidgeting was noted the most (n=7 entries), followed by being unduly noisy (n=3 entries) and running about in the classroom (n=2 entries) (see Figure 7.7). In contrast, Simon never exhibited excessive motor activity.

Fidgeting mostly occurred in the shape of moving restlessly in his chair. Moreover, Daniel was observed to have the urge to move on the spot or walk forwards and backwards when standing in a circle as part of a rhythm game – which was attributed to the ADHD symptom running about in the classroom. It must be considered, though, that on the occasion this behaviour was observed, Daniel appeared to be moving to the rhythm rather than fidgeting in principle. Daniel was also observed trying to engage his nearby peers to play a certain
rhythm when asked to play ‘freestyle’. He walked over to them and made gestures as if instructing and motivating them to play. As mentioned before, Daniel was used to taking a lead (see Daniel’s musical behaviours in the percussion tuition setting). Therefore, it can be speculated that what seemed to be fidgeting and running might have been a motion related to his drive to lead a group. However, the instances when this was happening and regarded as disruptive were relatively rare. The ratings regarding the severity were accordingly low, i.e., rated as ‘1’.

**Impulsivity**

In contrast to his other, studio-based music programme in which Daniel gave the impression of being a quiet boy, impulsive behaviour as a cluster of behaviours commonly attributed to ADHD criteria was indeed observed in the course of this group programme. As evident from observational data, the most frequent behaviour related to impulsivity, with n=13 entries and was talking excessively (see Figure 7.7). This behaviour was evidenced by Daniel’s tendency to occasionally talk or mumble to himself, and talk to other orchestra members. Usually, this was either not noticed or not commented on. In these instances, this kind of impulsive behaviour was rated as mild. Nevertheless, there were moments when Daniel’s talking and comments were regarded by the tutors as disruptive. In such moments, another impulsivity symptom, such as interrupting/intruding on others, was noted. Then, the teacher would warn him: ‘Can you concentrate, Daniel?’ These instances of impulsive behaviour that disrupted/interrupt the lesson were rated as ‘severe or ‘3’ on a scale from 1 to 3.

Moreover, Daniel was observed also to have trouble waiting his turn and would blurt out answers / comments. Daniel was observed to be the only orchestra member to answer to the tutor’s questions, or affirm their opinions with ‘Yes’, ‘No’, or ‘Yeah!’! However, this seemed not to be expected, in that Daniel was asked to concentrate and not speak. Moreover, although acknowledging that Daniel liked to count in and announce the orchestra to an imaginative audience – a behaviour similar to that in his other music making setting – this behaviour was sometimes regarded as disruptive and inappropriate. Consequently, in these instances, tutors would be less tolerant and the behaviour would be regarded negatively.

Apart from a couple of instances, Daniel’s ADHD related behaviour was never rated above the rating ‘2’. In fact, most of the symptoms were rated as mild (rating ‘1’).
In total, when counting and categorising video observation entries related to ADHD behaviour, it can be seen that he behaved neurotypically (non-ADHD) for a large proportion (72%) of the programme’s time (Figure 7.8).

![Pie chart showing Daniel’s ADHD behaviour in orchestra rehearsals in aggregate]

Figure 7.8. Daniel’s ADHD behaviour in orchestra rehearsals in aggregate in %

In terms of ADHD behaviour, Daniel presented with behaviour attributable to the hyperactive-impulsive type the most (17%), followed by the inattentive presentation (9%). Behaviour related to the combined type of ADHD was observed much less (2%). In summary, Daniel exhibited more behaviours specific to ADHD in his orchestra programme than in his instrumental tuition setting.

7.3.2 ADHD behaviour in the act of engagement in music

Analyses of the observational data suggest that, just as in the other case studies, no ADHD-like symptoms were observed in Daniel in those moments of engagement in playing the keyboard, or when engaging in the ‘conducting’ part. The conducting part was a musical interlude in the main piece. One musician stood (and moved) in front of the orchestra and – as the ‘conductor’ of the ensemble – made them play in a certain manner by pointing at them and offering physical movements and comments as directions. The players, however, were free to interpret the conductor’s movements in their own way on their instruments. Daniel gave the impression of enjoying himself leading the orchestra.
He seemed to be very concentrated and also attentive as to how the orchestra reacted. Figure 7.9 illustrates the observation that there were no ADHD symptoms noted in this situation:

<table>
<thead>
<tr>
<th>Daniel</th>
<th>Time</th>
<th>30</th>
<th>17</th>
<th>30</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>elements of action</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Individual performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Whole class activity/ clapping game</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. practicing time/playing on instrument</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Other activity (setting up/packing up)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Engaging in musical activity/playing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Waiting</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Interruption/extraordinary disturbance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Group performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Creating, Improvising</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Present symptoms (prevalence/frequency of ADHD symptoms in classroom in general)

<table>
<thead>
<tr>
<th>Action session description</th>
<th>just allowed to use hand for conduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description pupil</td>
<td>conducting</td>
</tr>
<tr>
<td>Action pupil</td>
<td>Ms</td>
</tr>
</tbody>
</table>

Figure 7.9 Example rating of Daniel’s non-ADHD behaviour when conducting

Daniel used verbal instructions to make his intentions clear. The researcher’s impression was that he started to speak when the orchestra did not play in the manner that he wanted. Whilst playing, Daniel was observed generally not to show ADHD-like behaviour. Figure 7.10 shows a snapshot of video data analysis, which represent an absence of any ADHD-like behaviour in the act of playing.

<table>
<thead>
<tr>
<th>Daniel</th>
<th>Time / Interval</th>
<th>39</th>
<th>30</th>
<th>40</th>
<th>30</th>
<th>41</th>
<th>30</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>elements of action</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Individual performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Whole class activity/ clapping game</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. practicing time/playing on instrument</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Other activity (setting up/packing up)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Engaging in musical activity/playing</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>6. Waiting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Interruption/extraordinary disturbance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Group performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Creating, Improvising</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Present symptoms (prevalence/frequency of ADHD symptoms in classroom in general)

<table>
<thead>
<tr>
<th>Action session description</th>
<th>same</th>
<th>assisting one person</th>
<th>all playing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description pupil</td>
<td>listening</td>
<td>same</td>
<td>playing</td>
</tr>
<tr>
<td>Action pupil</td>
<td>L</td>
<td>L</td>
<td>L</td>
</tr>
<tr>
<td>Action tutor/s</td>
<td>Ms, Instr</td>
<td>Ms, Instr</td>
<td>Ms, Instr, Ass</td>
</tr>
<tr>
<td>Action other tutor, if applicable</td>
<td>O, Ass, P</td>
<td>O, Ass, P</td>
<td>O, Ass, P</td>
</tr>
</tbody>
</table>

Figure 7.10 Example rating of Daniel’s non-ADHD behaviour when playing the instrument and listening
However, on one occasion Daniel was observed not to wait for the others and to start playing although not instructed to. Albeit, this impulsive behaviour was very brief and regarded as mild. Also, it did not seem to disturb the group. On another occasion – when engaging in a group activity – Daniel stopped playing altogether and covered his ears, as well as started to fidget and be restless. The context suggests, however, that his behaviour was a reaction to the high noise level rather than being a sign of ADHD-related behaviour. As mentioned above, Daniel would occasionally tend to move whilst engaging in a musical game. However, in such instances, the impression was that he was trying to interact with others musically at that moment. Towards the very end of one rehearsal (see lesson example below), Daniel seemed to play rather half-heartedly, in that he started to play with one hand only and to react slower, as well as looking around the room. The tutors noted that the group’s performance was ‘terrible’. The researcher recorded Daniel’s behaviour as a sign of inattention. However, here again, it could be assumed that all pupils were getting tired as the impression was that all orchestra members were not as enthusiastic at playing as they were at the beginning of the session.
7.3.3 Daniel’s actions in aggregate

Like the other participants, Daniel displayed a range of actions that were either (a) content related, such as playing and otherwise engaging in music activities, or (b) related to things not directly connected with the music programme. The following figure illustrates Simon’s overall profile of actions (total entries n=208). Video data from this rehearsal (Figure 7.11) is representative of Daniel’s behaviour throughout the entire programme.

![Figure 7.11 Daniel’s actions in aggregate [orchestra rehearsals]](chart.png)

As can be seen from Figure 7.11, the action that was observed the most in Daniel in this setting was listening (n=50 entries), which is closely followed by playing (n=45 entries). Daniel was also observed to wait a lot (n=39) during rehearsal. Waiting meant either waiting for his turn to play, or waiting for the tutors to set up the instruments, or to assist other pupils. Moreover, it was observed that the actions exploring instrument (n=15 entries), engaging in other activities/off task (n=24 entries) and listening (n=50 entries) were happening in great part whilst waiting. Indeed, the researcher had the impression that the tutors’ time management was a matter for improvement. This was evidenced by the tutors’ habit to unpack certain instruments only when they were needed. As a consequence, a substantial amount of time was used for getting instruments ready to play.
Discussing – or in this case, commenting on the music – and speaking were entered n= 12 and n=15 times respectively. However, it must be added that Daniel’s comments were quite short and mostly consisted of brief exclamations, such as ‘Oh, yeah’ and ‘Yes!’. Last, but not least, musicking was entered n=4 times, which represents the engagement in the ‘conducting’ activity.

When investigating the severity of behaviour attributed to ADHD and the lesson contexts in which these were exhibited, it can be seen that most of the ADHD-related behaviours happened in the improvisation workshop element and when tutors were talking (see Figure 7.12). Being easily distracted, fidgeting, and talking excessively also happened with a wider range of severity than in the other two categories. ADHD symptoms were slightly less observed in non-musical situations and very little in lesson sections that required the playing of his instrument (Figure 7.12).

<table>
<thead>
<tr>
<th>Criteria for ADHD</th>
<th>Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Playing the instrument</td>
</tr>
<tr>
<td></td>
<td>0</td>
</tr>
<tr>
<td>No sustained attention</td>
<td>✓</td>
</tr>
<tr>
<td>No attention to details</td>
<td>✓</td>
</tr>
<tr>
<td>Not listening</td>
<td>✓</td>
</tr>
<tr>
<td>Not following instructions</td>
<td>✓</td>
</tr>
<tr>
<td>Trouble in organising tasks</td>
<td>✓</td>
</tr>
<tr>
<td>Avoiding tasks requiring mental effort</td>
<td>✓</td>
</tr>
<tr>
<td>Easily distracted</td>
<td>✓</td>
</tr>
<tr>
<td>Loses things</td>
<td>✓</td>
</tr>
<tr>
<td>Forgetful</td>
<td>✓</td>
</tr>
<tr>
<td>Fidgeting</td>
<td>✓</td>
</tr>
<tr>
<td>Getting up from seat</td>
<td>✓</td>
</tr>
<tr>
<td>Running about</td>
<td>✓</td>
</tr>
<tr>
<td>Excessive motor activity</td>
<td>✓</td>
</tr>
<tr>
<td>Unduly noisy</td>
<td>✓</td>
</tr>
<tr>
<td>Talking excessively</td>
<td>✓</td>
</tr>
<tr>
<td>Blurt out answer</td>
<td>✓</td>
</tr>
<tr>
<td>Trouble waiting one’s turn</td>
<td>✓</td>
</tr>
<tr>
<td>Interrupting/intruding on others</td>
<td>✓</td>
</tr>
</tbody>
</table>

Figure 7.12 Severity of ADHD symptoms and moments of symptoms in orchestra rehearsals

It must be added that these symptoms occurred shortly before or after physically playing the instrument. Notwithstanding such instances, Daniel was observed to be able to behave neurotypically in all lesson phases and actions (see column for severity category ‘0’).
7.3.4 Lesson example

The following lesson example is representing a typical rehearsal that was video-recorded in the framework of the research observations. This orchestra rehearsal was approximately one hour and twenty minutes. The following figure (Figure 7.13) emerged as a result of video data analysis (see Section 4.6.3) and represents the relative appearance of behaviour attributable to ADHD over time and in terms of degree.

![Figure 7.13 Daniel’s ADHD profile in an orchestra rehearsal [16.07.2016] (155 intervals = 80 minutes, based on 30 second/half minute sections)](image)

This figure is intended to illustrate the profile or history of Daniel’s behaviours in this particular lesson, which emerged to be representative of all other observed rehearsals. The figure provides an overview of Daniel’s ADHD-like behaviour in different contexts.

At the first glance, it is evident that in this lesson, Daniel exhibited behaviours attributable to all ADHD behaviour clusters related to inattention, hyperactivity and impulsivity. Also, there seemed to be discontinuances in particular behaviours because (a) there were times in which certain ADHD behaviours stopped whilst others continued or (re)appeared, and that (b) there were periods in which no ADHD-like behaviour was evidenced.
This patterning is based on the researcher’s observations and field notes, which indicated that there were times/longer periods of time when ADHD was not evidenced.

At the beginning of the rehearsal, one of the tutors gave a speech in which he was talking about the upcoming performance and telling the group what they still needed to practise. Daniel exhibited ADHD-related behaviour whilst listening to the tutor by moving in his chair rather restlessly and commented briefly on the tutor’s speech (see peaks for all three ADHD categories between intervals 1 to 10 in Figure 7.13). However, the researcher’s impression was that his behaviour did not pose any challenges to the tutors, nor the group. Then, the tutor requested the group to get up from their seats, take a percussion instrument and go to the next room in order to start the ‘workshop’ in which the whole group was scheduled to do/play rhythm games together. Daniel seemed to ‘daydream’ a little bit and not immediately get up from his seat.

When all participants were in the room next door and standing in a circle, Daniel would still comment on the tutor’s instructions (confirming that he understood the instructions) as well as explore his instrument – a guiro – and fidget (see peaks between intervals 12 and 17). The next behaviours that could be related to common ADHD symptoms happened when tutors demonstrated the task and explained what the orchestra members were about to do next. Again, Daniel commented on the tutor’s instruction and could not stand still. He asked whether he could count in and, although nobody seemed to hear his request and allowed him to count in, Daniel did not wait his turn and started playing (see peaks between intervals 23 and 30). Between intervals 30 and 35 there were no instances of ADHD behaviour reported. In these moments, Daniel was waiting patiently, and listening attentively to the tutors, as well as playing the guiro as instructed. Daniel was even allowed to count the group in. However, whilst engaging in the next rhythm task, Daniel moved back and forth and tried to instruct his peers to play in a certain way. His peers did not react, nor did the tutors approve of his behaviour – his spontaneous musical behaviour was not accepted and, as a result, was rated as ADHD-like behaviour by the researcher. The tutors also seemed not to tolerate his tendency to speak or butt in during their instructions and warned him (see group of peaks at intervals 35 to 47). After a few moments of attentive listening and playing, Daniel completely stopped mid-task and, therefore, could be regarded as not following instructions (see peaks at intervals 47 to 55). Because he covered his ears, it can be assumed that the noise was too loud for him. Indeed, the researcher also thought that the level of noise was very high and unpleasant. However, the tutors did not seem to mind.
When the music/rhythm stopped and the tutors were talking about the rhythm and how to play, as well as what to do next, Daniel again listened attentively (intervals 55-60). The next activity was back in the first (main) room. All orchestra members sat at their designated places and waited patiently for the next instructions. While the lead tutor was speaking, Daniel was briefly distracted by another tutor, who was helping another child next to Daniel with their instrument (see peak at interval 61). Whilst the group was introduced to the concept of ‘musical conversations’ (see Section 7.1.2), Daniel again started to communicate aloud which, however, seemed not to bother anybody in the room. Furthermore, Daniel suddenly seemed to be distracted and look around in the room, as well as to start fidgeting in his chair (see peaks at interval 66). In the subsequent ‘attention test’ – where the orchestra members had to look at the lead tutor attentively and play if pointed at – all went well and Daniel was observed to be focused. Inattention and impulsivity were observed again a few moments later when Daniel started to comment again, including commenting about himself that he was a confident player. This was regarded by the lead tutor as disturbing and as a sign of inattention. She told Daniel that he had to ‘really focus on concentrating’ (see peaks at intervals 72 and 77, and also the absence of ADHD behaviour while playing between these moments). Then, a period of approximately eight minutes followed, in which the whole group was rehearsing. In that time, Daniel was also chosen to conduct the orchestra, which he did with enthusiasm. After Daniel sat down, he looked around in the room and missed his turn to play the keyboard (see peaks at interval 94). However, he was able quickly to come in and play for three minutes. The peaks between intervals 100 and 110 in Figure 7.13 illustrate Daniel’s tendency briefly to fidget in his seat while he, and so the whole group, waited around five minutes for a tutor to tune a violin. As soon as this was done, the orchestra played the main music piece through. Daniel gave the impression of being focused for another five minutes in which they were rehearsing. Then again, tutors had to adjust things, i.e., tune instruments and fix problems with music technology devices. While waiting again, Daniel started to fidget. He also asked something and subsequently started to play (see peaks at intervals 124 to 127). Towards the end of the session, all orchestra members gave the impression of being demotivated. It could be that people may have been tired after almost one-and-a-half-hours of rehearsal, or they were not enthusiastic to rehearse the very same piece over and over again. The tutors noted that ‘It is horrible, what is wrong?’ Consequently, they asked other pupils to do some more ‘conducting’. Daniel was keeping his head down and it seemed that his attention lessened, too.
This was evidenced by his slow reactions to the instructions and to his peers’ directions while they were conducting (see last peaks regarding inattention). Daniel also had to wait to play, as he was not pointed at for a few minutes. Then, the lesson was concluded with playing a part from the music piece again. At the end Daniel stated happily ‘I’ve done it!’.

The figure above (Figure 7.13) indicates that, indeed, there were moments in the rehearsal in which Daniel exhibited behaviours that could be attributed to ADHD. Yet, there were also periods of time in which he did not display any challenging or troublesome behaviours. Although the graph in Figure 7.13 shows the context and time when particular behaviours were evident in the lesson, the graph – due to its design – cannot clearly represent the relative amounts of time between ADHD and non-ADHD behaviour in this particular rehearsal. Consequently, it was considered that the proportions of ADHD behaviours in relation to non-ADHD behaviour could be summed by using a chart design (as seen in Figure 7.8). The following figure (Figure 7.14) shows the relationship between ADHD and non-ADHD presence in the context of the described lesson.

![Daniel's ADHD behaviour in an orchestra rehearsal](image)

Figure 7.14 Simon’s behaviours in percentage relationship to each other for lesson 16.07.2016

Figure 7.14 illustrates that, overall, Daniel did not display any ADHD-like behaviour in most of the rehearsal’s time (72%). Inattention and impulsivity, as ‘stand-alone’ behaviours, were both the most observed behaviours in terms of ADHD (9%). In particular, the fact that Daniel displayed impulsivity was regarded as somewhat exceptional, as it was not observed

295
in his instrumental tuition setting. Hyperactivity alone (4%) and the hyperactive-impulsive representation of ADHD were noticed in fewer instances (5% and 3% of total time). The combined type of ADHD was observed rarely at 2%.

In order to contextualise Daniel’s behaviour, it seemed necessary to look at how much he really engaged in making music in that rehearsal. Analyses have revealed that, in this particular rehearsal, Daniel was mostly engaged in (a) listening to the tutors and (b) playing on his instrument. However, he was also waiting for a high amount of time (Figure 7.15).

![Daniel's actions in rehearsal 16.07.2016](image)

**Figure 7.15 Daniel’s actions in a rehearsal [16.07.2016]**

Having categorised the lesson’s activities, the lesson can be divided into the segments (a) whole group activities / rhythm workshop, (b) other activities (no musical content), and (c) playing / practising the main piece as an ensemble. The proportions of these lesson components are illustrated in Figure 7.16.
Figure 7.6 shows that the three main lesson/rehearsal elements were almost equal in terms of entries, albeit playing and practising the main music piece with its conducting and improvisation parts took up slightly more time (n=58 entries = 29 minutes). Engaging in other activities, such as tuning and setting up instruments, took up almost one third of the rehearsal’s time. This seems to be consistent with Daniel’s observed amount of waiting in this lesson. However, it must be added that every lesson section contained a large amount of talking, in that tutors would instruct the orchestra.

**Tutors’ Behaviours**

The following figure outlines the respective actions of the lead tutor in the described rehearsal (Figure 7.17). It was observed that, while the lead tutor was leading the session, the other tutors were mainly either assisting the pupils or playing along with the orchestra. Hence, they are not listed separately, nor included in the figure.
Overall, the lead tutor was observed to instruct a lot (n=54 entries), as well as play along with the pupils (n=42 entries), and to lead the group as a conductor (n=32 entries for musicking). Furthermore, the tutor was also observed to assist the orchestra members whilst instructing and talking about the task. It was also noted that tutors explained the tasks rather than modelled them (see variable for ‘demonstrating’ in Figure 7.17).

7.4 Analysis of the teaching and learning context and effectiveness of music provision in this programme (RQ 3)

As in the previous analysis chapter sections (Sections 5.5 and 6.5), the rating of this music education provision was undertaken by consulting the synthesis of what constitutes good quality/effective music education provision (Section 4.6.4). The case study individual with ADHD (Daniel) is the same, who was engaging in the percussion tuition programme as described in Chapter 6. Preceding analyses suggest that in this orchestra programme, to a certain extent, Daniel behaved differently musically as well as personally. This section seeks to evaluate the relative effectiveness of the music provision is rated to be effective when examined against the backdrop of the illustrated effective music education frameworks (see Section 3.4). The findings are presented in the following section.
7.4.1 Rating of the programme’s content

This music programme did not show any variation in its music repertoire (musical pieces), arguably because the orchestra was rehearsing towards a concert and, hence, were trying to improve their playing. However, during the lesson there were several different musical activities in which orchestra members could engage, and so various activities were rehearsed similarly every week. These activities were of a very creative and improvisatory kind of nature (see Chapter 7.1.2). In every lesson, there were opportunities to create and improvise, which enabled all members to express themselves. This, in turn, triggered enthusiasm and motivation to participate. A range of instruments was used; one for playing the musical piece and another instrument to participate in rhythm-games. General music knowledge was taught occasionally and incidentally. Musicians were regularly given the opportunity to engage in music as an ensemble (whole group), as well as in small group activities. However, arguably because the piece had been rehearsed for a while, the researcher had the impression that the orchestra members were not consistently motivated. Furthermore, notation was not observed to be taught, nor required during the period of observation. Overall, the content is rated as 2.7 and rounded up to the overall value of 3 on the specially-designed five-point scale (Figure 7.18) and thus rated as ‘good’.

![Rating Scale](image)

Figure 7.18 Overall rating for the content domain

7.4.2 Rating of the programme’s teaching

The musical content of this programme was observed to match the abilities of all individuals involved and generally met their needs. However, the overall impression was that Daniel was not challenged enough, in that he seemed sometimes to lose attention. Instruments were assigned to the musicians (orchestra members) according to their perceived existing playing skills. Moreover, ear protection was provided for those who were sensitive to noise. The content was well prepared and was observed to be engaging.
Only the selected musical piece (without the improvisation and conducting parts) seemed not to generate much enthusiasm as it had been rehearsed for a long time. Mostly, the musical activities were coherent and selected to link thematically. The tutors were experts in their field and were very confident in their teaching. Their leadership always matched the situation and activities. They also knew how to communicate their ideas, opinions and instructions, as there were never any misunderstandings observed. On the contrary, tutors offered very clear instructions. Tutors always expected good performance and communicated disapproval if they thought that the musicians were not trying hard enough or not concentrating. Conversely, good attainments were recognised and praised regularly.

Apart from playing as a collective, the participants sometimes had the opportunity briefly to make music in a small group, or with another person when engaging in the improvisation activities. Overall, it was observed that one third of a lesson’s time tended to be dedicated to playing the music as an orchestra, i.e., everybody was playing their instrument, and one third of the time was spent in other musical activities, such as improvisation games and conducting (Figure 7.19).

![Figure 7.19. Rehearsal sections in aggregate](image-url)
However, approximately another third of the lesson was spent with changing and setting up the instruments/equipment, or fixing issues with technology. In these instances, the young people had to wait. The orchestra rehearsals were long (up to one-and-a-half hours) and, therefore, the resulting waiting time was not insignificant. It may be that this may have contributed to some inattentive behaviour as well as tiredness and demotivation in the participating individuals, including Daniel.

New activities and musical skills were modelled. However, some participants were observed occasionally to show slight inattention and disinterest. Again, the impression was that this may be due to boredom because of playing the same musical piece over a longer time. Performing and making music was evidenced to be at the heart of every activity. Very often, a lot of time was spent on talking, explaining or setting up instruments.

In total, the impression was that the teaching was overall appropriate. The rating has resulted in an overall rating $n= 3.2$ and if rounded down results in the rating 3 or ‘good’ (Figure 7.20).

![Figure 7.20. Overall rating for the teaching domain](image)
7.4.3 Rating of the programme’s learning

In the framework of this programme, a large amount of time was spent with musicking as a collective. However, some individuals had to wait for some time while the tutors dealt with a small group of musicians. The following figure illustrates the amount of time that Daniel spent on tasks related to engagement in music as well as non-musical tasks and being off-task (Figure 7.21).

![Daniel's amount of actions in aggregate (orchestra)](image)

Figure 7.21 The amount of Daniel’s actions in % in aggregate in orchestra rehearsals

Indeed, if compared with the rehearsal sections in aggregate (see Figure 7.19), it is evident that, for example, the time that Daniel spent on musical engagement is not consistent with the rehearsal’s set up. He was not necessarily actively and/or consistently engaged in music-making during the time for musical activities because either it was not his turn to play (waiting time), or he was off-task.

Most individuals, including Daniel, were observed to make individual progress, triggered by the creative activities that included new challenges. Furthermore, the group made progress as a collective in that they improved in playing the musical piece by rehearsing it and adding the creative parts to it.

The learning objectives were clear and all participants were observed to always understand the content and instructions. Furthermore, participants had opportunities to experiment musically within the framework of ‘guided’ improvisation as well as explore their percussion instruments. However, some participants, including Daniel, did not get the opportunity to engage in a ‘conversation’ game, which would have enabled them to
improvise as a small group. Individuals’ - and in particular Daniels’ – unexpected contributions to the content were sometimes noticed, but hardly encouraged as they were believed not necessarily to fit into the context. Furthermore, the content seemed to generate enthusiasm, albeit with some reservations. In particular, it was the creative activities that seemed to trigger enjoyment. These activities also were regularly challenging musically and triggered good achievements. The impression was (as mentioned above) that the ‘old’ piece caused boredom among the participants. This was evidenced by inattention or demotivation whilst rehearsing the piece. Despite varying needs and abilities of the participants, there was a positive working relationship, in particular between the members as a collective and the tutors. However, participants did not seem to really engage with one another. In the case of Daniel, his attempts to interact (musically and personally) were not noticed nor encouraged.

Wider benefits from engaging in the programme, i.e., on well-being and self-esteem, were reported by the parents in informal discussions. Although progress was regularly discussed, there was no formal assessment in the sense of working towards a test. Progress was measured and commented on against the previous lessons’ attainments. Normally, pupils did not comment on their learning. Daniel was the only boy to comment on the lesson and usually by being pleased with himself and the group.

The analyses of the programme’s effectiveness related to pupil learning and teaching was rated overall as having a mean of 2.5. If rounded up, the overall rating is ‘3’ and consequently regarded as ‘good’ (Figure 7.22). However, there are some caveats. There were some aspects that, as described above, needed improvement. In particular, Daniel made the impression to be able to progress more and contribute more. Hence, it can be speculated that he could have possibly attained more, if given the opportunity.

![Figure 7.22 Overall rating for the learning domain](image)

Figure 7.22 Overall rating for the learning domain
7.4.4 Rating of the music provision overall

The summative rating of this case study’s music education practice resulted in the overall rating of 2.5 and, if rounded up, suggests that the music education practice was of an overall good quality (Figure 7.23). However, within the good practice, some aspects appeared to be in need of improvement. Participants could have benefitted more in their musical engagement perhaps if they were given more opportunities to express own ideas (pace Daniel), create music in smaller groups and speak less, for example. However, it must be noted that the context (rehearsing for a performance) may have hindered any big changes to the content.

![Rating Scale]

Figure 7.23 Overall rating for the music provision by creating mean rate

7.5 Summary

In a similar manner to his percussion lessons, Daniel was observed to be an enthusiastic musician in this instrumental music programme. He was perceived to enjoy the orchestra rehearsals and being part of an ensemble. As in his one-to-one tuition, Daniel displayed advanced musical abilities in this orchestra music programme. Apart from (re)creating and playing the orchestral piece on the piano, he had the opportunity to engage in creative music making and improvisation. However, it seemed that Daniel could not act on his feelings to the same extent as in his other setting. In some instances, he rather had to adapt and hold himself back personally, as well as musically in some instances.

In contrast to his other programme, and despite being on medication in both contexts, Daniel exhibited more ADHD-like behaviour as well as a wider range of symptoms during the orchestra rehearsals. Nevertheless, there were moments in which Daniel was observed to behave neurotypically or ‘ADHD-less’. In particular, whilst playing the keyboard, behaviour related to ADHD was not observed.
The music provision was rated to be of an overall good quality. However, within the good practice, some aspects appeared to be in need of improvement, i.e., participants were believed potentially to benefit more from extended musical engagement if they were given more opportunities to express own ideas and make music in smaller groups. In particular, Daniel’s contributions were not all noticed nor welcome to the same extent as they were in his other instrumental music setting.
Chapter 8 Discussion (RQ 1, 2, 3)

8.1 Introduction

Whereas the previous three chapters (Chapters 5, 6, and 7) presented data analyses of the respective cases in the main study, this chapter seeks to take an overview of the findings, including data comparison across the four cases (pilot and main studies), and to discuss these against the backdrop of the existing literature on music and ADHD as presented in Chapter 2 and Chapter 3.

This thesis has aimed to explore education *in* as well as *through* music for children and young people with ADHD. An analytical lens had been adopted that allowed the researcher – apart from examining individual presentations of musical and non-musical behaviours during the music programmes – to consider a close examination of the cases’ learning contexts which were assumed potentially to play a role in the cases’ musical and non-musical behaviours. The findings that resulted from different data, such as observations, official documents related to medical / ADHD statements and school / academic reports, and informal conversations, are the basis materials of this chapter’s discussion. Findings are examined and discussed in terms of how these relate to existing literature and offer new insights into the research topic.

In the following narrative, four sections are presented. Similarities and differences among the different cases are addressed and the findings are compared with the literature as reviewed in Chapters 2 and 3. The first section addresses (1) musical behaviours as they were exhibited by the case individuals. In particular, behaviours are illustrated by utilising the SoI framework (see section 2.3). The second section discusses (2) the various ADHD behaviours that were exhibited by the participants. Here, their profiles are matched against current literature on ADHD. Subsequently, there are (3) reflections on findings related to the presence (or not) of ADHD-type behaviours in the moment of musical engagement. Finally, the fourth section presents (4) a discussion on findings related to contextual factors that were observed potentially to impact on the data described in the previous three sections. However, it is important to note that these sections are not completely discrete as behaviours overlap categories. In some instances, particular findings relate to more than
one section, meaning that they can only partly be discussed in isolation. Therefore, some findings will be discussed from multiple perspectives.

8.2 Musical behaviours of children and young people diagnosed with ADHD (RQ 1)

During the observation period, all case study individuals presented with a wide range of musical behaviours that, if considered by utilising the Sounds of Intent musical development framework for children and young people with special needs and disabilities (cf Ockelford, 2015), covered three domains of musical behaviours (Reactive, Proactive, Interactive). Furthermore, all four participants – as well as their neuro-diverse or neurotypical peers who were taking part in the respective programmes – exhibited musical behaviours in all three domains. They were able to react to music, (re)create music, and interact musically with their peers and / or tutors, albeit with different levels of competency (Figure 8.1).

Figure 8.1 Representation of the Sounds of Intent Framework data of Simon, Kevin and Daniel’s behaviours embracing all three dimensions
This supports the existing evidence that all individuals, irrespective of their needs and predispositions possess the ability to engage in music (cf Welch & McPherson, 2012; Ockelford 2015). Moreover, all case individuals displayed enjoyment in engaging in musical activities.

### 8.2.1 Musical behaviours in the Reactive domain

Irrespective of the particular music programme and its content, it was observed that all participants showed at least a good and, in one case, an exceptional understanding of music, i.e., in exploring and manipulating musical elements such as rhythm, pitch, and melody, as well as using music / sounds to represent meaning and emotions (Figure 8.2).

![Figure 8.2 Simon, Kevin and Daniel’s observed musical behaviours in the Reactive domain](image)

Simon was very imaginative and attentive to the tonal character of sounds and melodies. He associated the heard music with other music that he had experienced outside school. In addition, the music evoked associations with certain emotions in that he commented that the music sounded in particular ways. Furthermore, Simon recognised and responded to whole pieces of music and showed a good understanding of rhythm and pitch. Kevin, too, recognised and responded appropriately to music. In addition, he was observed to recognise and respond to the characteristics of different note lengths. Also, he seemed to understand the concept of harmony and its symbolisation of, or association with, emotions. However, in contrast to Simon’s rating (Level 5 of the SoI framework), the general tendency for Kevin’s observed behaviours was to be rated as representative of Level 4 – i.e., he recognised and responded to distinctive groups of musical sound sand could repeat, link, and vary them. In addition to showing a different developmental competency,
Kevin also participated less in the activities offered. It cannot be said with any certainty whether or not this was due to his medical condition, or whether he was not as enthusiastic as Simon about making music in the context of that same music programme.

In comparison, Daniel’s Reactive behaviour in his orchestral music programme, where he was a member of a larger group, was rated to be at Level 5, meaning that the music piece’s prominent structural features were recognised and general musical characteristics, such as tempo and pitch, were understood. Overall, Daniel recognised and responded to prominent musical-structural features and characteristics, and the relationships between them. He gave the impression of being aware that music can be seen as an abstract narrative in sound. However, he did not get the opportunity to evidence the latter in practice by engaging in a particular improvisation activity. In the context of his one-to-one drumming lessons, Daniel’s rating for the Reactive domain were regarded to be consistent with Level 6 of the SoI framework, in that he evidenced an understanding of the piece, as well as his improvisations which were abstract ‘narratives in sound’. Furthermore, he was confident in differentiating between styles and genres. Moreover, he knew how to make sense of his tutor’s abstract instructions, such as to play with more ‘muscularity’. Also, he was able to follow the tempo of the played music and, whilst doing so, sing along with the tutor at the correct pitch. Overall, Daniel’s musical reactions in his individual instrumental lessons were more sophisticated than when in the group setting. The reason why he exhibited musical behaviours at a lower SoI level in his orchestral placement (Level 5) might have been that, as a member of a larger group, he did not get as many opportunities to demonstrate his reactions to music to the same extent as in his individual drumming class.

Overall, all individuals showed a unique musical profile. Among the four participants, Daniel was rated the highest on the SoI framework. It can be assumed that, on the one hand, this was because he was a far more advanced musician than the other three case participants (including the pilot study) – who were complete beginners when starting to participate in the programme. On the other hand, Daniel was exposed to more music in his individual lessons and he was given the chance to respond variously in music variously. As mentioned in Chapter 5, some of Simon and Kevin’s musical behaviours were not noticed, nor further encouraged by their tutors, at least in the observed sessions.

Furthermore, findings from the main study participants are consistent with these from the exploratory action case study of the nine-year-old boy Phillip who possessed a good understanding of different aspects of music. At times, Phillip reacted to the music that he
heard by spontaneously standing up and moving and gesturing appropriately to the music without being prompted. His movements and interpretation matched the music’s character. Simon, too, occasionally started to move to the music that he heard, as well as to music played to himself.

In summary, all case study individuals were observed to be able to make sense of the music heard and, in turn, respond and express their understanding in a musical / artistic way (i.e., singing and dancing/moving to the melody).

**8.2.2 Musical behaviours in the Proactive domain**

All individuals presented with musical behaviours that can be attributed to the Sol Proactive domain. Above all, all case individuals were observed happily to create and explore the sounds of their instruments at various times during the lesson. They explored their instruments, created their own short snippets of music, as well as improvised to themselves. What stood out again was that these behaviours were not reinforced by the teachers / tutors, but that the young people rather did this of their own accord. This implies that pupils diagnosed with ADHD are able to make sense of music and express themselves musically, even with limited playing skills (see Simon and Kevin) and without being encouraged to do so.

Only Daniel’s individual percussion tutor was observed explicitly to encourage exploration and improvisation on the instrument and integrated this in his teaching (see Chapter 6). For instance, Daniel’s tutor encouraged him to try and explore how the sound changed when he hit different places of the drum (e.g., near the rim, or in the middle). Any new insights were then used to improve and advance certain playing techniques. Furthermore, Daniel was allowed to improvise within the music piece. However, it must be said that Daniel was an advanced drummer and was technically able to improvise in accordance with the piece. His overall rating for the Sol Proactive domain was observed to be at Level 6. In contrast, his musical abilities in this domain in the orchestral context were rated one level lower (Level 5), similar to his Reactive behaviour. Although the observed activities were more in quantity that in his other solo setting, the musical activities themselves were not as sophisticated as in his drumming lessons. However, Daniel did get an opportunity to lead the orchestra by conducting them in the context of the group programme.
Simon, for example, was motivated to practise by the prospect of taking an exam at the end of year and to get a certificate. He liked to perform to the group, or to the tutors, and sought constant approval. Being praised, in turn, made him very proud. He also liked to invent clapping patterns. His Proactive behaviour was observed to represent Level 5 of the Sol framework. In contrast, Kevin did not participate as much in music making as Simon did. Furthermore, his musical outputs were not as advanced in quality as Simon’s. However, he created and recreated distinctive groups of notes of varying length and demonstrated an ability to create and recreate short musical pieces or snippets thereof. Kevin’s rating (Level 4) must be regarded with some caution, though, as he mostly had his headphones on and, therefore, did not always show his actual abilities. The researcher had to guess his abilities by looking at what his fingers were doing on the keyboard. This was used as an indicator for what he was playing. Furthermore, he did not like to perform, which would have been useful in judging his abilities. The researcher had the impression that, if Kevin were assisted more, he would have gained more from the programme. This was evidenced by good musical outputs that he showed when a teacher/tutor was standing next to him and assisting him.

In summary, Daniel was observed to be the most musically advanced individual in the Proactive domain. Notwithstanding his overall competency, he presented with a slightly different musical profile, depending in which programme he was participating. On average, his exhibited behaviours were rated one level lower in his orchestral music making context than in his one-to-one drumming lessons. Conversely, there could be two varying Proactive profiles in the very same setting (see Simon and Kevin’s ratings) (Figure 8.3). It may be concluded that either the content or the tutor’s approach did not account for all the pupils’ abilities and, therefore, was not appropriate for all.

Figure 8.3 Simon, Kevin and Daniel’s observed musical behaviours in the Proactive domain
This leads to the conclusion that (a) an individual may display different profiles of musical abilities and competency in different contexts, irrespective of their actual potential, and (b) that a pedagogical approach that is appropriate for one pupil may not be appropriate for another. Derived from this, it can be argued that, indeed, there are factors—such as the programme content—that influence the case studies’ presentation of their musical abilities. This is in accordance with the literature presented on effective music practice in Chapter 3.

8.2.3 Musical behaviour in the Interactive domain

Some children and young people with ADHD are reported to have difficulties with social skills (Tarver et al., 2014; Harpin, 2005). On the other hand, there is a wealth of literature to suggest that engagement in music can help develop social competencies (Hallam, 2015; Welch & McPherson, 2012; Ockelford, 2012). In particular, engagement in music in the framework of group activities / ensemble play is evidenced to be beneficial for individuals’ development of social abilities, as well as to experience social inclusion and a feeling of belonging (Creech, 2016; Welch et al, 2014, Dingle, Brander, Ballantyme & Baker, 2012; McDonald, 2009; Fredrikson, 2009). Considering this research evidence, elsewhere in this thesis the researcher reported that she assumed that individuals with ADHD may potentially experience positive effects of music making on personal and social development as well as social inclusion (see Chapter 3). Existing studies on young people diagnosed with ADHD and their musical experiences in an ensemble music context have underpinned this assumption (Section 3.6.3 a). Contrary to these study’s findings, however, the researcher observed that social inclusion and positive social experiences are not necessarily a logical consequence, nor self-evident of music making in a group. The amount and quality of social interactions (in music as well as in non-musical situations) varied among the four music education programmes presented in this study.

Whereas Daniel was confident of interacting musically with his individual tutor, he did not have the opportunity in this context to interact with peers – given that the programme was a one-to-one instrumental lesson. However, his tutor acted both as a teacher and a peer who played in the same ‘imaginary’ band as Daniel. The variety and quality of the musical interactions were rated as representative of Level 6 of the SoI framework. In contrast, Daniel was observed actively to seek musical as well as interpersonal interactions in the orchestral setting. He initiated contact by either starting to talk to his peers, or by starting ‘musical conversations’ (see Section 7.2). Unfortunately, his peers tended not to react to
his attempts. Only the musical interactions that were initiated by the tutors seemed to be fruitful. In this regard, Daniel was a good ensemble player who could adapt to the group dynamic as well as react musically to fellow pupils who were leading the ensemble as part of a conductor activity. Furthermore, he was very keen to conduct the group himself. The overall rating for the Interactive domain was Level 5.

In contrast, Simon and Kevin were not provided with many opportunities to interact musically with their peers (the rating of the Interactive behaviour of both was as on Level 3). This may seem paradoxical as the concept of the programme was whole group instrumental tuition. Nevertheless, apart from clapping back rhythms to the tutors in unison, every peer was mainly practising by themselves. Furthermore, only a few pupils in the class appeared keen to perform, which resulted in the tutors not insisting on this too much. The activities were neither designed to encourage smaller group nor partner work. Rather, that programme promoted a ‘side-by-side learning’. On the other hand, the participants were communicating with each other and the teachers. However, this kind of social interaction was observed to be problematic as it was perceived to disrupt the lesson. Given that existing effective practice frameworks point out that facilitation of group/team work is part of effective practice (see section 3.4.4), the latter music programme would be regarded as ineffective in this regard. The following Figure (Figure 8.4) illustrates Simon, Kevin and Daniel’s ratings in the Interactive domain:

![Figure 8.4 Simon, Kevin and Daniel’s observed musical behaviours in the Interactive domain](image)

In conclusion, it can be argued that engagement in music may not necessarily always entail social benefits. This study found that (a) there are different levels of interactions to be considered, and (b) opportunities for social and musical interactions in a group music making context are dependent both on the musical content and the teaching approach.
8.2.4 Reactions to the pupils’ spontaneously exhibited musical behaviours

In this study, one of the researcher’s foci was on the provision of music education. By looking at applied approaches and strategies, it was found that some tutors (a) were attentive and noticed (spontaneous) musical behaviours, whereas others (b) did not notice these at all, or (c) perceived and valued such behaviours negatively by rating these as ADHD-like behaviour. In this regard, Daniel’s instrumental tutor was observed to be sensitive to how Daniel responded to the music and attentive to what he created by himself whilst playing. When the tutor noticed such things, he would tell his student about this and praise him for that behaviour, for example:

> When we did the first verse... and I left a little gap. That seemed... Daniel was anticipating the chorus. The correct thing is, you anticipated the chorus, but then you stayed on the verse. You can handle it when things change around you very well. (Daniel’s tutor, personal communication in Lesson 2, 05.6.2017)

Daniel’s tutor seemed to welcome and, in some instances, to reinforce, every musical behaviour that Daniel presented. The tutor was observed to be able to handle Daniel’s behaviour flexibly, meaning that he either let Daniel proceed with what he was doing if it matched the music, or corrected a musical behaviour to match the music if needed. The tutor integrated Daniel’s musical behaviours into the lesson, such as by going into more detail about, for example, how to improve certain playing skills. The researcher had the impression that, although the tutor had an overall lesson structure and content plan of the focus for that particular lesson, he integrated unexpected behaviours/responses swiftly into his programme.

In contrast, Simon and Kevin’s tutors, above all, seemed not to notice their students’ musical behaviours. For example, the heard music evoked certain associations in Simon. He connected certain tonal sequences with emotions, or linked some melodies to popular films. However, the tutors did not respond to his ideas, nor did they encourage them. Often, Simon would blurt his comments out unprompted. In these instances, the tutors either ignored him, or, occasionally, told him off because he had not been asked a question. Technically, according to ADHD criteria (DSM-V and ICD-10 & 11, see Section 2.4), blurtting out answers is an indicator of impulsive behaviour. However, the researcher thought that these behaviours (if matched against ADHD criteria) could not only be seen as ADHD-related behaviours, but could also be indicators of enthusiasm in music if regarded through a music education lens.
Similarly, the situation in Daniel’s orchestra music programme was, again, different. Although tutors integrated improvisation tasks into their programme and welcomed creative behaviour within these activities, they seemed to be less tolerant towards spontaneous musical behaviours. In this regard, Daniel was only occasionally allowed to count in. Most of the time, however, this behaviour was seen as disturbing according to the tutors’ reactions. As with Simon, if the context and reason for this type of behaviour are not considered, this could count as typical for ADHD, i.e., to be a symptom of not paying sustained attention, not listening to the tutors (in that moment) and intruding on others.

Moreover, some musical behaviours were not noticed at all. For instance, Daniel liked to lead and decide on who was going to play what music. He would turn to his peers and start to instruct them until he recognised that they did not follow his instructions. It was observed that these instances were left unnoticed. However, there was not much room for individual development within the framework of orchestral rehearsals as the tutors perhaps could not respond to every student individually even though there were a large number of adults present in the rehearsal. In addition, Phillip was observed in the exploratory phase of this study to use every opportunity to express himself in music. One instance has been mentioned in which he listened to music and suddenly got up from his seat to dance with the heard music and to embody own impressions. On that occasion, the teacher researcher was – in addition to being surprised – tolerant towards this behaviour as (a) it did not disturb the others and (b) she did not want to stop the pupil from enjoying himself musically. Furthermore, apart from drawing his impressions on paper, he embodied his impressions, which was regarded by the teacher as an indicator of a good understanding of music.

Thus, it can be argued that tolerance, and appropriate reactions towards the pupils’ (musical) behaviours, as well as the perception of certain actions, are important factors that enable the pupil to enjoy themselves and learn in music. This is consistent with Sherman, Rasmussen and Baydala (2008) who argued that these pedagogical traits constitute part of the profile of good teachers who are suitable to work with pupils with ADHD. Similarly, as described in Section 2.4, the frameworks regarding effective music practice (Inspire-Music, 2017; Everychild, 2016; Ofsted 2012, 2009) indicate that a music lesson is effective if, among other factors, the learners’ contribution to the content is noticed and valued. Also, it is seen as crucial that learners learn in music and respond musically. Indeed, the current study found that the programmes that were observed to be good were supporting these valuing behaviours in their participants.
In these programmes, pupils were seen as musicians (see e.g., Hargreaves et al., 2017; Hallam et al., 2016; MacDonald, Hargreaves & Miell, 2002 on musical identities) rather than their abilities being defined by their conditions (e.g., ADHD). In addition, specific to this study is the finding that if these behaviours are not valued, as in the unfavourable case, these behaviours can be seen negatively by being solely indicators of ADHD symptoms, but not of musical engagement.

8.3 Discussion of ADHD profiles and types of behaviours in the study (RQ 2, 3)

8.3.1 The various ADHD profiles in this study

Although every case study individual was diagnosed with ADHD, it appears that each behavioural profile was unique. Contrary to the participants in Swope’s (2017) study, the current research only involved pupils who were diagnosed with ADHD co-morbid with other conditions. Notwithstanding the difficulties in identifying pupils with ADHD, the researcher has not found any children, nor has been told about any children, that were solely diagnosed with ADHD. This seems consistent with literature that asserts that ADHD rarely exists on its own (cf Brown, 2013; Chandler, 2010; NICE guideline in National Collaborating Centre for Mental Health, 2009). Both the Oppositional Defiant Disorder (ODD) and Conduct Disorder (CD), as well as Autistic Spectrum Disorder (ASD) were part of the case individuals’ profiles. Furthermore, Daniel’s profile suggested with an additional set of conditions that had not been encountered by the researcher. According to Brown (2013), Chandler (2010), Costello (2016) and Holland (2013), some symptoms of certain conditions may overlap, meaning that comorbidities can make it difficult to assign certain behaviour to either any of the perceived conditions. The researcher had the impression that Daniel’s inattentive behaviour may rather stem from his reported anxiety than from his ADHD condition. This assumption was based on his occasional reluctance and claims that he could not or was not able to do the assigned task. Furthermore, the researcher was uncertain which of Kevin’s behaviours may have stemmed from his autistic spectrum disorder rather than ADHD. The researcher’s lack of knowledge on ASD made it difficult to interpret certain behaviours. Also, it may be speculated that some of Simon’s challenging behaviour could have been not a result of a certain condition / disorder but, as the BBC (2013) suggested, rather be a reaction to being constantly told off. Instances of unjustified reprimands, which in turn annoyed Simon, were observed by the researcher (Section 5.4).
In this study, two case individuals were on medication as a treatment for their ADHD symptoms. Despite taking medication, Kevin still presented behaviour that can be attributed to ADHD, i.e., not paying attention and being distracted. Only impulsivity was seldom exhibited. In fact, he was the quietest boy in the classroom – in terms of making noise. This illustrates that ADHD does not always present with very ‘obvious’ behaviour. The researcher’s impression was that – were it not for the video observations – Kevin could have been regarded as behaving much less ADHD-like than Simon, who, due to his urge to communicate might more likely attract attention from adults. Conversely, despite being on medication, Daniel exhibited two different ADHD profiles across the two music programmes. Again, this may suggest that the context in which the education is taking place may impact on the presentation of ADHD-related behaviours.

8.3.2 The exhibited symptoms in this study

One key finding of this study was that, when matched against current standard criteria for the classification of ADHD, at times all case individuals showed a set of typical behaviours or symptoms related to what is commonly regarded as ADHD. The remarkable observation was that, however, the profile could change from lesson to lesson and from moment to moment. This implies that ADHD may not be a static condition, in the sense of always and constantly the same, but rather changeable (Figure 8.5).

<table>
<thead>
<tr>
<th>Criteria for ADHD</th>
<th>Presence of ADHD in Certain Lesson Phases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Playing the instrument</td>
</tr>
<tr>
<td></td>
<td>S</td>
</tr>
<tr>
<td>Inattention</td>
<td></td>
</tr>
<tr>
<td>No sustained attention</td>
<td>✓</td>
</tr>
<tr>
<td>No attention to details</td>
<td></td>
</tr>
<tr>
<td>Not listening</td>
<td>✓</td>
</tr>
<tr>
<td>Not following instructions</td>
<td>✓</td>
</tr>
<tr>
<td>Trouble in organising tasks</td>
<td>✓</td>
</tr>
<tr>
<td>Avoiding tasks requiring mental effort</td>
<td>✓</td>
</tr>
<tr>
<td>Easily distracted</td>
<td>✓</td>
</tr>
<tr>
<td>Loses things</td>
<td>✓</td>
</tr>
<tr>
<td>Forgetful</td>
<td>✓</td>
</tr>
<tr>
<td>Hyperactivity</td>
<td></td>
</tr>
<tr>
<td>Fidgeting</td>
<td>✓</td>
</tr>
<tr>
<td>Getting up from seat</td>
<td></td>
</tr>
<tr>
<td>Running about</td>
<td>✓</td>
</tr>
<tr>
<td>Excessive motor activity</td>
<td>✓</td>
</tr>
<tr>
<td>Unduly noisy</td>
<td>✓</td>
</tr>
<tr>
<td>Impulsivity</td>
<td></td>
</tr>
<tr>
<td>Talking excessively</td>
<td>✓</td>
</tr>
<tr>
<td>Blurtling out answer</td>
<td>✓</td>
</tr>
<tr>
<td>Trouble waiting one's turn</td>
<td></td>
</tr>
<tr>
<td>Interrupting/intruding on others</td>
<td></td>
</tr>
</tbody>
</table>

Figure 8.5. Presence of certain ADHD symptoms in different lesson phases

317
By the same token, it has been observed that the severity of ADHD-related behaviours can vary, too. Investigations of the severity of symptoms and their occurrence in certain phases of the lessons/rehearsals revealed that some symptoms and/or particular severities may only occur in some sections, such as in non-musical moments and while engaging in a musical activity other than playing. Moreover, while engaging in playing the instrument far less or none of the symptoms were observed and if so, then their presentation was mild. Furthermore, observed behaviours of the four individuals evidenced that there can be periods of time in which ADHD is absent.

It was found that the most frequent symptoms were related to inattention. Within that cluster of symptoms, being easily distracted was observed by far the most. This was followed by fidgeting within the hyperactivity category. Other often occurring behaviours were ‘not following instructions’, ‘not paying sustained attention’, ‘getting up from the seat when required to sit still’, and ‘running about when not appropriate’. It emerged that the trend was for behaviours attributed to the impulsivity cluster to be presented the least. Conversely, one surprising finding was that among all the possible symptoms, ‘loosing things’ and ‘being forgetful’ were not observed in any instance. Related to these findings, no literature has been found to address whether there is any potential ranking or hierarchy of symptom occurrence. Only the reports that individuals can be diagnosed with various presentations of ADHD, such as the (a) ‘predominantly inattentive subtype’, (b) the predominantly hyperactive-impulsive subtype, (c) the combined type or (d) otherwise specified (DSM-V, 2013) suggest that the problem of inattention must be somehow equally problematic as hyperactivity and impulsivity together (see section 2.4.1 and 2.4.2).

One of the ICD-11’s (2018) presentations of the hyperkinetic disorder ‘disturbance of activity and attention’ seem to combine inattention with hyperactivity.

Specific to the findings in this study is, that occasionally, two participants (Simon and Kevin) showed all of these sub-types at various times during the programme. Furthermore, all individuals – as well as their peers – were noticed to also exhibit single symptoms, e.g., hyperactive behaviour without impulsivity, or vice versa. Moreover, inattention could be paired with impulsivity as well. Also, more than one symptom of the same category could co-exist, such as that not paying attention and being easily distracted. Undoubtedly, these findings show not only that ADHD as such is complex, but also that defining and assigning particular behaviours to ADHD is not a simple task. Anastopoulos and Shelton (2001) argued almost two decades ago that ADHD criteria were not detailed enough.
In the context of this study, the researcher’s impression was that despite the currently detailed criteria, it can be still difficult to conceptualise ADHD as every individual may present with their unique version of that condition.

Given the complex nature of ADHD, another finding was that it was not always clear what the causes of particular ADHD-related behaviours might have been in the particular situations. The researcher had the impression that one ‘symptom’ could be interpreted in many ways and understood from different perspectives. For example, with reference to Kevin and Daniel, inattention (e.g., being distracted, not listening and not paying sustained attention) could exist or happen on its own terms, meaning that the individual ‘decided’ to withdraw attention from the assigned task or activity and focus at something else instead. Conversely, there may have been factors or ‘distractors’ present that engaged the individual’s attention away from the activity.

8.4 ADHD in and through music (RQ 2)

8.4.1 ADHD occurrence in the process of musical engagement

Notwithstanding the caveats above, the remarkable and perhaps most surprising finding of this study was that, irrespective of behavioural profile, musical ability, type of programme and context, none of the case individuals exhibited any behaviours that could be attributed to ADHD whilst playing on their instruments or performing to the class. Although there were a few instances in which individuals fidgeted with their legs and other instances in which ADHD typical behaviour could be intentionally integrated into the music making process, every individual behaved neurotypically in the act of playing. This finding is specific to this study. Whereas Ockelford (2016 & 2015), Welch (2015) and Welch et al., (2018) report on children and young people who engage successfully in music education despite and ‘with’ their special educational needs and disabilities, this study suggests that ADHD symptoms can be less in music or be entirely absent in the act of playing and performing. Whether this is potentially due to some or a combination of, for example, neurological, cognitive or physical (being engaged) processes that happen in the moment of playing music (i.e., motor, visual, kinaesthetic actions) or other factors is yet unclear, and the researcher is not in a position to make assumptions about this with her limited clinical knowledge. Nevertheless, the investigation of the phenomenon of this relative absence is recommended to be a topic for future research.
8.4.2 Integration of ADHD behaviour into the music making

Not only having tolerance towards unexpected musical behaviours emerged as important in the musical learning outcomes. Also, the conscious integration of particular characteristics of ADHD behaviour was found to be a possible course of action to accommodate this condition in music and, ultimately, wholly include individuals with this condition. In the context of the exploratory pilot action case study, it was observed that Phillip’s need for movement (hyperactivity) could be integrated into the music programme. In this instance, the teacher asked the participants to invent a rap song and, subsequently, perform this to their group. Phillip embraced this task and immersed himself completely in creating the music piece. Not only did he dance excessively, but he also sang with joy along his moves. The other participants followed him. It can be concluded that, in this case, his otherwise negative hyperactive behaviour – and talkativeness (see Hughes and Cooper, 2007 in Section 2.10.b) – could be channelled towards good musical behaviour. This approach towards teaching children with ADHD is consistent with literature that suggests that activities that allow pupils with ADHD to move are appropriate and beneficial for their learning (Kutscher, Attwood & Wolff, 2014; Metcalfe & Metcalfe 2001; Zentall, 1995; DuPaul & Stoner 1994).

Two of the three main study’s programmes were not designed to let the pupils move. Simon and Kevin were engaged in Keyboard lessons. For the reason of the instrument’s design alone, they could not move. Furthermore, the activities and tasks were designed to be undertaken sitting down. However, the ADHD class participants were often getting up from their seats and either moving around in the classroom, getting water, or going outside to take time-out. This type of movement, which was perceived as undesirable, caused interruptions and resulted in participants not taking part in the activities in that moment. Only Simon was observed to be regularly moving in his seat to the music as he played.

Similarly, Daniel could not move, i.e., get up from his seat, because playing the drums required him to sit down. However, he did not show any desire to get up from his seat in the first place. This was different from expectations in his other musical programme. While engaged in the rhythm and conducting games in the context of the orchestral rehearsals, he was required to stand up. It was observed that he was the only one to move back and forth to the music’s beat. However, as he was required to stand still and not talk, this behaviour, if regarded through an ADHD lens, would be perceived as hyperactive and impulsive behaviour.
Consequently, it can be argued that body movement (and speech) need not be a negative thing per se, if integrated into the musical tasks. On the contrary, ADHD symptoms, such as hyperactivity, may be regarded as less or absent if considered in musical contexts and through a musical lens.

8.5 Factors to impact on behaviour (ADHD) and musical outcomes (RQ 3)

8.5.1 External stimuli to impact on challenging behaviour

The previous sub-section mentions that there were certain distractors present in the settings and which might have triggered inattention. Consequently, it can be speculated that an absence of such ‘distractors’ (see section 2.5.3 and 2.10.2) could result in an absence of at least some instances of ADHD behaviour presentation in the case study individuals. This is consistent with Melago (2014), Tabb (2011) and Brock et al.’s (2009) assertions that there are certain things in the classroom, such as decoration, clocks and phones that add to inattention and being distracted, and therefore should be avoided. In fact, on one occasion the researcher observed that Kevin was focusing his attention to a clock in the classroom that was ticking very loudly.

Another factor that could distract in the lessons and, in turn, evoke ADHD-like behaviour in the participants, was distractions coming from outside the classroom. For example, Simon’s and Kevin’s lessons were constantly interrupted by noises coming from both outside and inside the classroom. The noises that came from outside were mostly pupils shouting. This resulted in the arousal, and occasionally laughter, of the whole class – including the teachers and tutors. Furthermore, the class teacher as well as the teaching assistant were regularly engaging in other-than-music related conversations – either with each other, other teachers, or even with the pupils. Horne Martin (2006) argues that a high noise level has an adverse effect on learning. Furthermore, she asserts that many factors related to the physical environment such as density and a crowded space can have a negative effect on cognition, concentration, learning behaviour and, hence, be a ‘powerful teaching instrument’ (Horne Martin, op. cit., p. 101).

In the context of this study, the researcher examined the classroom arrangement in each setting in which the musical education (lessons and rehearsals) took place. It emerged that in Simon’s and Kevin’s classroom, (a) the sitting arrangement varied from week to week
and that (b) generally, there were always pupils who sat sideways or with their backs to their tutors and / or the lesson flipchart. Consequently, these participants had to turn around in their seats very frequently, which, in turn, could be interpreted as a sign of hyperactivity and, in particular as fidgeting in the seat, as per official ADHD criteria (see chapter 2.4). Another finding related to the seating arrangement and furniture was that Kevin’s chair was not appropriate for his height. His feet barely touched the floor. It may be assumed that this is why he (among other potential reasons) was swinging with his legs and fidgeting in his char. Conversely, in the two settings in which Daniel was taking part, all the participants were sitting in an arrangement that enabled them to see the tutor as well as each other. Nobody needed to change their seating position nor feel physically uncomfortable in order to follow the lesson’s proceedings.

Thus – in line with the aforementioned literature (Kutscher, Attwood & Wolff, 2014, Horne Martin in Spencer & Blades, 2006, pp. 91-107; Schneider, 2003; Horne Martin 2002; Lyons, 2001) – success in the music programme was shaped by the physical layout of the teaching space.

Consequently, it can be argued that, at a certain level, ADHD-like behaviours or ‘reactions’ of the case individuals as well as their peers could be reduced. ADHD behaviour is linked to the affected person’s surroundings in which they are learning. By extension, it can be speculated that a Special school environment, such as Simon’s and Kevin’s placement school, might potentially allow or trigger certain behaviours rather than mitigate some challenging behaviours in the first place. This seems paradoxical, as the pupils are placed in these school in order to get ‘special education’ that is addressing their needs. In the case of Simon and Kevin, there were six pupils in the class, all of whom were reported to be diagnosed with ADHD. As mentioned in Chapter 5, the classroom dynamic was of a lively as well as challenging nature. Presumably, Simon, who was distracted very often by his peers, might have shown less ADHD-related behaviour if the learning environment was more conducive to on-task, sustained learning.

As an addition to the literature on distractors in the classroom (cf Melago, 2014; Tabb 2011; Brock et al., 2009; Horne Martin, 2006), a notable finding of this study is that, as paradoxical as it may seem, the musical instruments posed a means for distraction themselves. In line with the pilot study’s findings, pupils were keen to play their instruments for and to themselves. Although this triggered creative musical behaviours, they were often disruptive in the context of the lesson unless planned for pedagogically,
such as in the case of Daniel. This was often seen critically by the tutors because (a) the participants were not focusing on the task at hand and (b) they were disrupting others if playing loudly. Through a music education lens, however, this might be seen only partly as problematic. Despite a pupils’ apparent withdrawal from the assigned tasks, they still engaged themselves in a musical task, albeit a different one (i.e., exploring their instruments and improvising). Presumably, this interest in playing with sounds could be integrated in a lesson plan, on the one hand, in order to give the pupils the permission and chance to play around with sounds and enjoy themselves and, on the other, to link this with particular musical tasks based on such exploration. One example is Daniel’s behaviours in his one-to-one lessons. He was allowed to improvise as well as being encouraged by his tutor to find particular sounds on the drums. Similarly, in the pilot study, exploring instruments and their attributes was one part of the programme. However, in this instance the main distractors were the other available instruments in the music room. Participants were very often driven by an urge and interest to play on these instruments. Sometimes, this was distracting as the teacher had to spend time in redirecting the participants’ focus back to the assigned task, which was not easy because they were engaged with exploration. However, given that all participants in this study, even the teachers in Simon and Kevin’s class, as well as the neurotypical pupils who were participating in the pilot study, were keen to explore the instruments available, pedagogically it would make sense to allow for this possibility in the lesson planning and promote ADHD pupils’ sense of ownership of the music making whilst still having a focus on deepening and developing their musical knowledge.

8.5.2 Teaching context as influencing factor for musical and personal behaviour
Analyses of the music programmes’ teaching contexts and learning suggest that the quality of education and the effectiveness of the provision in music for children with ADHD in these four case settings differed from each other. This is despite each school reporting that they thought musical engagement was or would prove beneficial for their pupils. Whereas Simon and Kevin’s music programme was considered to need improvement (see Section 5.6 4), Daniel’s orchestral project was rated as good and this one-to-one instrumental tuition was rated as ideal. Informal conversations with the tutors revealed that they had varying perceptions of the pupils’ musical potential. Accordingly, they appear to have had either low or high expectations.
Whilst the keyboard tutor (mentor) seemed to assume ‘the worst’ in his students and, therefore, did not push the students musically, the orchestral tutors were seen to challenge their participants every lesson. This is consistent with Hughes and Cooper (2007) who argue that (mainstream) teachers tend to judge pupils – potentially unjustifiably so – on the basis of perceived (dis)abilities and behavioural characteristics. This may result in the contribution to a ‘social exclusion of students who are disadvantaged by the application of pathological labels such as ADHD’ (p. 72). In the case of Simon and Kevin, however, this could also mean that the tutors – who were perceived to determine their teaching on the basis of their beliefs – contributed to an ‘educational exclusion’, meaning that the pupils were not challenged appropriately and consequently did not receive a good quality music education provision. It should be added that the teachers (class teacher and teaching assistant) seemed not to question the provision but rather readily accept the tutors’ provision as well as their judgement on the pupils’ abilities and ultimately attainments.

In short, the teaching and learning process was conceptualised on the basis of beliefs and perceptions.

In contrast, Daniel’s tutor saw him as a musician who could achieve much. Therefore, he reported that he strived to push him as far as he could allowing for Daniel’s situation on that day. These findings are consistent with literature on effective music education practice (see Section 3.4), teaching approaches in the context of ADHD (see Section 2.10.b), and the tenets of culturally responsive pedagogy (Sleeter, 2012; Bondy, Hambacher & Acosta, 2013; Morrison, 2008; Ware, 2006).

Consequently, it can be suggested that, in the context of teaching music to students with ADHD, Morrison et al.’s (2008) key concepts of culturally relevant pedagogy may be translated to (1) high expectations, (2) musical competence (i.e., formation of a positive personal as well as musical identity (see e.g., Hargreaves et al., 2017; Hallam et al., 2016; MacDonald, Hargreaves & Miell, 2002), and (3), critical consciousness, i.e., empowering students to be included despite their challenges.

It was also Daniel’s percussion lessons that were observed to contain the largest amount of actual active music making. In contrast, the keyboard tuition programme contained the least amount of instrumental playing. It could be argued that in that particular context, the challenging classroom dynamics made it hard for the tutors to teach them. Having said this, it must be mentioned that on the one hand, this music programme lacked quality in many aspects (see Section 5.5) whilst, on the other, the tutors generally rated their lesson
outcomes positively. Furthermore, ADHD behaviour was observed the most in the least effective music programme. Perhaps it could be argued that Daniel was on medication and, as a consequence, did not show as much ADHD-related behaviours as Simon and Kevin. However, it can also be argued that, overall, the teaching context to a certain degree will affect learning as well as behaviour because (a) Daniel did show more ADHD symptoms in his orchestral setting, despite being on medication throughout; (b) Kevin, irrespective of his medication, still showed ADHD-related behaviour, and (c) there were educational / contextual aspects and factors to either trigger or enhance ADHD behaviour as mentioned above. When observational data are examined against existing frameworks regarding either the effectiveness of music provision (Inspire-Music, 2017; ECaM, 2016; Ofsted, 2009 & 2012; ), or education for children with ADHD in general (Kutscher, Attwood & Wolff (2014; Sherman, Rasmussen & Baydala, 2008; Hughes & Cooper, 2007; Spohrer, 2006 & 2007; Metcalfe & Metcalfe 2001; and Zentall, 1995), it would seem that effective music education for pupils with ADHD is responsive to the particular profile of such children and young people by scaffolding music learning (Bruner and Haste, 1987) in the desired direction, using any ADHD behaviour as opportunities to be flexibly responsive to the pupils’ needs.

The foci of this chapter have embraced findings on the individuals’ musical behaviours and attainments, presentations of ADHD and changes thereof in the music making process, as well as the factors that were observed to impact on musical and non-musical (ADHD) behaviours. In the light of these findings, the next and concluding Chapter (Chapter 9) answers the research questions and formulates implications, limitations, and recommendations of this study.
Chapter 9 Summary and Conclusion (RQ 1, 2, 3)

9.1 Summary of the study

Building on the preceding chapters in this study, this chapter is designed to revisit and answer the main research questions. Subsequently, it discusses the implications resulting from this research as well as articulating possible limitations. Recommendations for future research, contribution to knowledge and conclusive statements are presented at the end of this chapter.

This study aimed to investigate the nature of music education in and through music for children and young people diagnosed with Attention Deficit Hyperactivity Disorder (ADHD). The three underlying research questions were (1) Can pupils diagnosed with ADHD engage successfully in music education?, (2) Do presentations of ADHD change in the moment of engagement in music and, if so, how?, and (3) Does the educational context and type of pedagogy shape their musical experience and attainments?

Whereas there is a wealth of literature to suggest that music in general, and engagement in sustained music education in particular, can be beneficial for an individual’s emotional, social and academic development (Jaschke, Honing & Scherder. 2018; Hallam, 2015; Williams et al., 2015; Welch et al., 2014; Hallam & MacDonald, 2013; MacDonald et al., 2012; Knox, Beveridge, Mitchell & Macdonald, 2011; Creech, 2016; Hallam, 2015; McDonald, 2009, Welch et al, 2014, Dingle, Brander, Ballantyme & Baker, 2012; Osborne et al., 2016; Gustavsson & Ehrlin, 2018 Macdonald, 2013; Rabinowitch, Cross & Burnard, 2013, Cross et al, 2012 Fredrikson, 2009), there is limited literature to address music in the context of young people with SEND. Moreover, within this SEND literature, there is little research on individuals with ADHD, whose condition pose challenges both at home and school. In addition, there appears to be a perceived common assumption that the primary type of musical engagement for these pupils is music therapy rather than systematic education in music. Moreover, where literature does exist, both the nature of musical competencies and profiles of ADHD behaviours in the music making context are not reported (Swope, 2017; Mullins, 2017; Carrer, 2015; Maloy et al., 2014; Hansen, 2012).

In this respect, the intention of this multiple case study research reported here investigated pupils’ engagement in instrumental music education for four case study individuals, each with a formal statement of ADHD. Drawing on existing literature related to special needs,
musical development and pedagogy, and their resulting implications, an initial exploratory pilot action case study was conducted, leading to the formulation of three research. These investigated (1) whether pupils diagnosed with ADHD can engage successfully in music education; (2) whether presentations of ADHD could change through engagement in music, and, if so, how; and (3) whether the context and type of pedagogy shaped ADHD pupils’ musical experiences and attainments.

The multi-dimensional approach to the research included structured observations and sequenced practical music making. Real-time observational data were gathered, supported by video and audio recordings, in a variety of settings related to the four individual ADHD cases. Furthermore, formal medical and school documents were consulted and informal conversations conducted. The contexts embraced one-to-one lessons, small group music-making, group instrumental lessons and orchestral rehearsals for pupils with a formal assessment of ADHD, with observations made across several school terms. It was hypothesised that contextual factors, such as the case individuals’ school settings, the musical content, and, or the music provision might play an influential role in shaping the participants’ musical experiences and presence (or not) of ADHD-related behaviours.

Overall, a variety of data sources showed that, despite the three core attributes of ADHD (inattention, hyperactivity and impulsivity) being evidenced at different moments in the case individuals’ music making programmes, these were not persistent, nor exhibited in ways that necessarily prevented successful musical engagement. Furthermore, data analyses suggest that the perception of ADHD in music is related to the tutors’ and teachers’ expectations, as well as being related to their pedagogical approach and the nature of the particular educational environment. In particular, negative attitudes towards ADHD behaviours appear to be especially obstructive to pedagogical practices and can have a negative impact on these children’s learning. In contrast, it was observed that adopting an effectively flexible musical strategy can integrate ADHD behaviours into successful music engagement. Moreover, perhaps the most remarkable finding was that, although the three elements of ADHD were displayed at different moments, they were not evident in those moments of playing the instruments and musical performance, nor when being creatively engaged with musical materials.
9.2 Revisiting the research questions (RQ 1, 2, 3)

9.2.1 (RQ 1) Can pupils diagnosed with ADHD engage successfully in music education?

One of the study’s research questions was whether pupils diagnosed with ADHD can engage successfully in music education. Findings suggest that, indeed, such individuals can engage successfully in music. What is more, data evidence suggest that the four case participants with ADHD each possessed an understanding of music and were able to respond to music, (re) create music and interact musically in various ways. Despite their disorder, when appropriate pedagogy was adopted ADHD participants were able to be attentive, remain on-task, engage in learning about music and take part in musical activities being offered. In addition, most individuals - when provided with the opportunity - were observed to be creative and keen to perform, as well as able to show their acquired musical skills. Each participant demonstrated a good sense of rhythm and melody when playing, creating and performing musical pieces. In addition, the majority of individuals illustrated an understanding of music and musical expressions, such as by moving and gesturing appropriately to the music, together with singing along.

However, the success that has been observed is dependent on a number of factors, most of which seem to be related to (in)effective music practice and tutors’ perceptions on their students’ abilities and the conditions with which they present.

9.2.2 (RQ 2) Do presentations of ADHD change through engagement in music, and, if so, how?

One noteworthy observation was that all participants occasionally showed typical behaviours and symptoms related to ADHD which was not surprising in those with an official diagnosis, but more so concerning their non-labelled peers. The most frequent symptoms or behavioural traits were in not paying sustained attention, being distracted, being unable to sit still for a long time, fidgeting, and not following instructions or rules. However, although the three elements of ADHD were displayed at different moments, they were not evident in the moments of musical performance. Moreover, when involved in musical activities that required more active participation and, therefore, overall more physical movement, any ADHD-type behaviour was subsumed by the required musical behaviour, as seen through a music education lens.
Analyses of the data suggest that a teacher’s perception of ADHD in a music lesson is related to the pedagogical approach adopted and the ways that the educational experience is set up. In particular, negative attitudes towards ADHD behaviours can be obstructive to the teachers’ pedagogical practices and thus have a related negative impact on these children’s learning. The ADHD label refers to frequency and persistence, as well as magnitude of constituent behaviours. Nevertheless, these were also observed from time to time. Consequently, negative perceptions of ADHD seemed to determine the tutors’ perception of how much the pupils could achieve and succeed. This contrasts the exemplars of culturally responsive pedagogy (Sleeter, 2012; Bondy, Hambacher & Acosta, 2013; Morrison, 2008; Ware, 2006) as mentioned in Section 2.10. b. Conversely, in the case of Daniel, his tutor had high (musical) expectations despite Daniel’s medical/behavioural profile. He did not identify Daniel with his ADHD diagnosis but rather regarded him as an able musician (see e.g., Hargreaves et al., 2017; Hallam et al., 2016; MacDonald, Hargreaves & Miell, 2002 on musical identities).

In this study, the various adults involved (tutors and teachers) did not perceive participants’ ADHD behaviours, nor their musical attainments, uniformly. Perceptions appeared to be strongly influenced by their individual expectations of appropriate behaviour when young people make music. In this respect, the exact same behaviour was perceived differently in two separate settings by the adults involved. In one, the ADHD-type behaviour was appreciated and even encouraged as an integral part of being immersed in the musical act; whereas—in the other context—the same observed behaviour was not always tolerated and was seen as being inappropriate and disruptive. This included, in one case, the ADHD individual being asked to leave the music classroom. In other words, effective music pedagogy for ADHD individuals is likely to be closely related to the extent to which the teacher’s a priori expectations are positive.

Furthermore, disruptive behaviour was caused on a number of occasions by (often preceding) arguments among particular participants. In such instances, ADHD-like impulsive behaviour was more likely to be evident. In contrast, where interpersonal communication was observed to be positive amongst pupils, ADHD-type behaviour was much less evidenced.
9.2.3 (RQ 3) Does the educational context and type of pedagogy shape their musical experience and attainments?

This study strongly suggests that there are contextual factors that influence the musical experiences of children and young people with ADHD positively as well as negatively.

Data analyses revealed that, for example, there seems to be a clear inverse relationship between the amount of actual music making within a session and the degree of the pupil’s non-musical ADHD behaviour. In general, there seemed to be less ADHD behaviour evident when the pupils were observed to be engaged in active music making, and the more they were empowered to express themselves musically. Moreover, where expectations were high and strategies and approaches of effective teaching practice were followed, musical attainments and progress in music were achieved. Conversely, where individual teachers expressed negative emotions towards ADHD-type behaviour, this seemed to hinder effective pedagogical practice and did little to reduce such behaviour, perversely often making it more evident. In these instances, tutors did not notice or even acknowledge any spontaneous musicking features, nor the evident engagement of their pupils. On the contrary, in the less effective music contexts (where there appeared to be no particular strategy or lesson structure evident), pupils were rather reprimanded for any unexpected and perceived to be uncalled-for behaviour, rather than seeing such behaviours as arising in the moment from their relative non-engagement with music, perhaps because what they were doing was not seen to be valued. Furthermore, factors related to the learning environment, such as inappropriate seating environment and distracting stimuli in the classroom triggered ADHD behaviours related to inattention. Not seldom, other pupils diagnosed with ADHD were a cause for distraction. This may seem paradoxical, since in particular a special education placement accommodates pupils which present challenging behaviours in mainstream schools. However, this study’s findings suggest that a group of peers of whom all are diagnosed with ADHD are distracting each other and hinder effective learning.
9.3 Implications of the study

Among several implications of this study, the most important one is to provide an in-depth understanding of ADHD in the context of music education and raise awareness that children and young people with ADHD – contrary to perceived common assumptions – can engage successfully in music education and therefore should be given the opportunity. Furthermore, it is believed that educators may gain from this study’s findings which suggest that ADHD may not pose a hindrance in the music classroom. On the contrary, an effective inclusive musical strategy can integrate ADHD-typical behaviours into successful music making.

Another implication is to highlight the importance of high quality music education provision. It has emerged that music education is likely only to be beneficial for students with ADHD if the pedagogical approaches are appropriate. Hence, this study seeks to emphasize that, ideally, teaching such individuals requires a certain professional tutor profile in terms of (a) their biography and (b) their (effective) pedagogical approach. This includes having positive attitudes towards ADHD where the pupils’ musical abilities are regarded to be important; findings suggested that negative attitudes, low expectations and prejudiced beliefs can impact negatively on ADHD pupils’ learning in music.

Furthermore, musical activities that allow the ADHD student to be involved in making their own decisions about their musical engagement and express themselves freely, e.g., to improvise and create, have been observed to be particularly beneficial for students with ADHD. In short, it is believed that instrumental tutors, music educators and practitioners in the music sector could gain from this study’s understanding of the nature of the musical abilities, experiences and development of children and young people with ADHD, in that they might review their concept of effective practice and be confident in teaching these pupils.

9.4 Limitations of the study and methodological issues

This study has followed the approach of a multiple case study. Various data were collected and analysed by using multiple approaches. Although rich data could be collected, the impression is that some potentially important and supplementary data could not be obtained. For example, it might be assumed that an interview with the case individuals or a questionnaire could give information on their overall opinion about the programme.
It cannot be said with certainty how much pupils enjoyed (or not) the programmes. Although they seemed to overall like it, there were times in which the researcher had the impression that the participants felt bored or tired. In this regard, the individuals’ perspectives could have deepened the understanding of the research topic even more. However, as mentioned in the methodology chapter, participants seemed quite anxious regarding being interviewed.

Furthermore, the research participants were selected for pragmatic reasons, meaning that the researcher had no choice in sampling the participants. Ultimately, it can be argued that the diversity of cases has contributed to a better understanding of the research topic. However, it cannot be excluded that more cases could have enriched this study or provided more findings. In this regard, apart from one girl in the whole group instrumental lessons, the majority of the participants were boys, in line with the sex bias in the special school population (Department for Education DfE, 2017) and in line with the aforementioned literature to suggest that more boys are diagnosed with ADHD as girls (cf Brown, 2013; Bruchmuller, 2012; Ramtekkar, Reiersen, Todorov, & Todd, 2010. Although the girls’ musical and ADHD profiles have been observed not to offer additional insights, one cannot rule out the possibility that if a gender factor should be considered.

9.5 Recommendations for policy and practice

Building on the insights into the context of music education and ADHD that this study has provided, there are recommendations that can be made regarding policy and practice. Firstly, young individuals with ADHD can engage successfully in music education despite their diagnosis if the (music) pedagogy is appropriate. Consequently, a question for policymakers, practitioners and all those in the music education sector should not be whether or not appropriate music education for these individuals should be provided, but rather how. Authorities need to acknowledge that high quality and systematic music education is of great value. It should be a policy necessity to designate more resources and opportunities for this target group. Secondly, insightful and appropriately trained educators with effective approaches to learning and teaching with ADHD pupils are crucial to provide appropriate (school) music/instrumental tuition. In particular, creative teaching approaches that enable the pupil to express themselves (musically and in music) are thought to be most suited. Ideally, the (ADHD-) music programme, therefore, should follow known,
evidence-based principles of effective teaching and learning practice, and both welcome and integrate behaviour characteristics of ADHD in the music making process.

Addressing those in the sectors related to ADHD (health and education), this study’s findings might provide some impulses for thought regarding the concept of how ADHD is being diagnosed. On the one hand, this study revealed difficulties in determining and attributing certain symptoms to ADHD, as all the participants presented with co-existing conditions with similar symptom profiles. On the other hand, existing symptom descriptors, as presented by current classification, at times seemed to be too vague and to not account for the source or reason as to why a certain behaviour was triggered. This study has shown that certain symptoms such as being easily distracted can be presented by the affected individual of their own accord, as well be caused by external factors such as distracting peers. Not least, in this study, the presentations and profiles of ADHD were not static in the context of music education.

9.6 Recommendations for future research

Grounded in the research findings and acknowledging possible limitations of this study, some recommendations can be made for future research. It is recommended that future studies should build on where this study concluded and investigate in more depth (a) why ADHD symptoms may be absent in the moment of playing and performing and (b) what any underlying musical and other-than-musical factors may play a role in this. A replication of this study with participants with different profiles and backgrounds would also enrich the finding, i.e., extend the findings of this multiple case study to a wider population.

Moreover, any subsequent study could address effective practice and teacher development for pupils with SEND. Although there is some research to suggest what constitutes effective practice, future studies could focus on teacher’s beliefs and their choices of approaches in order to gain an understanding of what might still be needed in order to provide good quality education for all.

The current study potentially could also be extended to other pupils on the SEND spectrum. As these individuals are underrepresented in the field of music education, further research could provide an insight into how these children learn in music as well as through music.
9.7 Conclusions

Overall, the case study data suggest that neither a diagnosis of ADHD, nor evidence of ADHD behaviour need to be an impediment to successful participation in musical activities, particularly where the provision is of high quality in terms of effective engagement and appropriate musical content. Findings from this study are in line with research literature to suggest that every individual is musical and possesses an ability to engage in music and experience success in music education (Welch & McPherson, 2012; Ockelford, 2015). Individuals diagnosed with ADHD are able to acquire musical skills and apply these when involved in creative work (improvising, composing and performing). Hence, there should be no reason not to provide these young people with an education in as well as through music.

Moreover, as well as the pedagogical design of the programme, the professional profiles, pedagogical approaches and attitudes of the teacher also appear to be a critical variable in the promotion of musical behaviour and development of ADHD individuals. This is not to suggest that challenging behaviour should be ignored, but rather to note that, in a moment of performance, ADHD seems to be less evident or even not evident at all. Where teachers overly focused on the perceived challenging behaviours rather than the musical behaviours, the latter appeared not to flourish and the former became more exaggerated and disruptive. Consequently, in the context of music education, it would be useful to conceptualise ADHD as being a more continuously changing, fluid mode of behaviour, rather than a static overriding condition. Using a music education lens suggests that behaviour attributed to ADHD can be channelled into musical behaviour that can enable the affected individuals to act on their feelings and express these musically.

Additionally, as noted earlier, effective practice, including teachers’ perceptions and expectations, seem to determine the success of the ADHD children’s and young people’s music experience and musical development. The implication is that music educators need to understand that their approaches and strategies can impact both positively or negatively on their ADHD pupils (as in mainstream settings with neurotypical pupils) and, therefore, should ensure that their practice adopts a role that includes being a music facilitator as well as an expert resource. Music educators should seek to empower these particular individuals in learning music, as well as in exploring and developing their musical identities. Musical environments should be created to enable children and young people with ADHD to act on their feelings, to explore music and become expressive musicians, irrespective of
their perceived impediments and special educational needs. In conclusion, these findings suggest that, despite ADHD pupils’ considerable impediments, it is possible for them to engage in music successfully and acquire musical skills if the context—including pedagogy—allows. Hence, ADHD can be accommodated in music education and need not pose a barrier to participation, nor success. Furthermore, dynamic musical experiences can promote positive behaviour and enable communication and self-expression through music, which is very valuable from a music education perspective.

9.7.1 Summary of key findings

In both this summarizing chapter (Chapter 9) and the preceding chapter (Chapter 8), findings of this study have been presented and discussed. In essence, in the framework of this multiple case study it has been observed that:

- pupils with ADHD can engage successfully in music;
- ADHD need not be a hindrance for music making and learning;
- ADHD can be integrated in creative music making;
- symptoms/behaviours are difficult to define;
- ADHD profiles are not static but on a spectrum with a changing combination of symptoms;
- ADHD-like behaviour (e.g., being easily distracted occasionally also may be a consequence of / triggered by external factors rather than be a precondition;
- no common ADHD symptoms are evident in the moment of actively creating/playing music;
- music education is beneficial because it reduces symptoms as well as accepts and harnesses those;
- music education is beneficial only if the underlying pedagogy and approaches are effective;
- positive attitudes and high expectations are necessary preconditions;
- classroom design and the way the music provision is set up are crucial for positive music learning and teaching experiences;
- tutors following effective music education practice are more successful;
- creative music activities allowing for self-expression are particularly suited to working with children with ADHD;
- symptoms/behaviours are difficult to define;
• ADHD profiles are not static but on a spectrum with changing symptom combinations; and
• ADHD like behaviour (e.g., being easily distracted occasionally also may be a consequence of / triggered by external factors rather than be a precondition.

9.7.2 Summary of recommendations and implications
Building on this study’s findings, there is a set of recommendations for practice and policy, and future research that is sought to inform and address policy makers, professionals/practitioners, teachers, and all involved in music education for children and young people with ADHD as well as neurotypical children. Also, these aspects seek to address those that are conducting research in music education and related fields. The key recommendations and implications are:

• This study aims to create an awareness that ADHD is no hindrance for learning in music.
• All young people with ADHD should be offered music education.
• Tutors with high expectations, positive attitudes towards children with ADHD and effective practice strategies are particularly suited to working with children with ADHD.
• Good quality music provision is crucial for children and young people with ADHD.
• Music / instrumental teacher training providers should review their concept of effective practice and offer their students an understanding of what is effective teaching and learning practice for this target group.
• Future research into ADHD and music could focus more on individuals’ perceptions of their music/instrumental learning experiences.
• Professionals in the sectors related to ADHD might consider that in music education, ADHD comes not as a static presentation and can be absent in the moment of active musical engagement.
• Further research could provide an insight into any potential differences in musical learning between boys and girls to examine if gender is an additional factor.
• A larger number of case studies may offer further insights into ADHD and music education.
Bibliography


Anon, (2016). Teaching; Study Data from University of Helsinki Update Understanding of Teaching (‘The teacher almost made me cry’ Narrative analysis of teachers’ reactive classroom management strategies as reported by students diagnosed with ADHD). (2016). Education Letter, p. 234.


Doak, J., & Pisecco, Stewart. (2003). The Effect of Teachers' Beliefs, Perceived Stress, and Student Characteristics on Teachers' Acceptance of Treatment Interventions for Attention Deficit Hyperactivity Disorder, ProQuest Dissertations and Theses.


Fischer M, Barkley RA (2007) The persistence of ADHD into adulthood: (once again) it depends on whom you ask. ADHD Rep 15:7–16


Hansen, B., Kos, Ronald P., Dansereau, Diana, & Hourigan, Ryan. (2012). Experiences of Three Students with ADHD in the Middle School Band Ensemble


Lange, Klaus, Reichl, Susanne, Lange, Katharina, Tucha, Lara, & Tucha, Oliver. (2010). The history of attention deficit hyperactivity disorder. ADHD Attention Deficit and Hyperactivity Disorders, 2(4), 241-255


Mullins, W., Williams, Kenneth, Edwards, Jan, & Young, Margaret. (2017). A Survey of Piano Teachers Whose Students Have ADHD: Their Training, Experiences, and Best Practices

351


Psychology. (2017). New Findings from Ghent University in the Area of Psychology Described (A comparison of methods to combine speed and accuracy measures of


Silverman, Michael J. (2015). Music therapy in mental health for illness management and recovery (First ed.).


Sylva, Siraj, Taggart, Siraj, Iram, Taggart, Brenda, & Great Britain. Department for Children, Schools Families. (2008). Final report from the primary phase : Pre-school, school and family influences on children's development during key stage 2 (age 7-11) / Kathy Sylva ... [et al.] (Effective pre-school and primary education 3-11 project). London]: Department for Children, Schools and Families.


Appendices

Appendix 1: Instrumental tuition for young people with SEND in the context of group tuition with non-SEND pupils

In addition to the aforementioned literature, a quantitative analysis of data was undertaken based on data retrieved from an existing research-based dataset related to the instrumental tuition provider ‘Every Child a Musician’ (ECaM) (see Section 3.4.3 for more information on ECaM). The data were used with permission from ECaM and served to explore musical learning outcomes of pupils with SEND, compared to pupils without. The data were part of an existing dataset derived from an investigation of ECaM’s effectiveness in its opening two years. The data represented instrumental tutors’ assessments of pupils’ progress and attainments in their instrument playing over a period of two years. In brief, the new analysis, undertaken for the purposes of this doctoral thesis, indicates that, overall, pupils with SEND are not significantly worse than their peers in their instrumental learning gains. However, there are significant differences within and between participant schools across the Local Authority at that time. The conclusion may be drawn that children with special needs can engage in music and learn an instrument as successfully as their peers if high-quality provision of music/instrumental education is available (see the following tables).
The table (Table 1) above shows that, **within schools**, pupils with SEND provision improved approximately 14 percent of a standard deviation less than their peers without SEN provision. This estimate is statistically significant at the five percent level. It is accounted for at school level, as the schools may differ in their instructional quality, thus affecting gains, and this may also affect a pupil’s SEND provision. Comparing the table above with Table 2 implies that the statistically significant difference observed above is due to something related to in-school provision. Other variables such as gender, free school meals (fsm), choice of instrument, SEND diagnosis and the school level were examined because it can be hypothesized that these variables affect both SEND provision and the pupil’s learning gains.
Table 2 shows that, without accounting for variation between schools, pupils with SEND provision do not differ significantly from their peers.
Table 3 The Association of Different Kinds of SEND Provision with Gains (General)

<table>
<thead>
<tr>
<th>SEN kinds</th>
<th>Coef.</th>
<th></th>
<th>Coef.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>-0.06</td>
<td></td>
<td>-0.87</td>
</tr>
<tr>
<td>P</td>
<td>-0.27</td>
<td></td>
<td>-2.27</td>
</tr>
<tr>
<td>S</td>
<td>-0.79</td>
<td></td>
<td>-2</td>
</tr>
<tr>
<td>Male</td>
<td>-0.06</td>
<td></td>
<td>-1.17</td>
</tr>
<tr>
<td>SEN diagnosis</td>
<td>0.14</td>
<td></td>
<td>0.97</td>
</tr>
<tr>
<td>FSM eligible</td>
<td>-0.04</td>
<td></td>
<td>-0.75</td>
</tr>
</tbody>
</table>

**Instrument**

| Clarinet   | 0.66 | 2.74 |
| Flute      | 0.51 | 2.17 |
| Guitar     | 0.32 | 1.33 |
| Keyboard   | 0.31 | 1.35 |
| Trombone   | 0.01 | 0.05 |
| Trumpet    | 0.36 | 1.51 |
| Viola      | -0.01| -0.04|
| Violin     | 0.04 | 0.17 |
| Constant   | -0.27| -1.18|

**Notes:** Standardised coefficients reported; *T*-test in parentheses. * *p =.05, ** *p =.01, *** *p =.001

This table above (Table 3) shows that without accounting for variation by school, it is the pupils with SEND status ‘P’ who differ significantly from their peers in their learning gains. This is the same within schools (Table 2.4 below), where pupils with SEND provision status ‘P’ improve approximately 26 percent of a standard deviation less than their peers who do not have SEND provision. Within schools, the pupils with SEND provision status ‘A’ also appear to suffer a reduction in their gains by 11 percent of a standard deviation, but this estimate does not reach conventional levels of statistical significance. In both Tables 3 and 4 there is a third group of SEND provision status, ‘S’. But in this group, there are only 6 individuals, and it is not sensible to attribute importance to these estimates.
Table 4 Kinds of SEND Provision (within-Schools)

<table>
<thead>
<tr>
<th></th>
<th>Coef.</th>
<th>T-stat</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEN kinds</td>
<td>-0.11</td>
<td>-1.92</td>
</tr>
<tr>
<td>A</td>
<td>-0.26</td>
<td>-2.08</td>
</tr>
<tr>
<td>P</td>
<td>-0.68</td>
<td>-1.75</td>
</tr>
<tr>
<td>Male</td>
<td>0.01</td>
<td>0.31</td>
</tr>
<tr>
<td>SEN diagnosis</td>
<td>0.11</td>
<td>0.82</td>
</tr>
<tr>
<td>FSM eligible</td>
<td>-0.02</td>
<td>-0.38</td>
</tr>
<tr>
<td>Instrument</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clarinet</td>
<td>0.01</td>
<td>0.02</td>
</tr>
<tr>
<td>Flute</td>
<td>0.07</td>
<td>0.18</td>
</tr>
<tr>
<td>Guitar</td>
<td>0.02</td>
<td>0.05</td>
</tr>
<tr>
<td>Keyboard</td>
<td>0.05</td>
<td>0.14</td>
</tr>
<tr>
<td>Trombone</td>
<td>-0.76</td>
<td>-1.72</td>
</tr>
<tr>
<td>Trumpet</td>
<td>0.23</td>
<td>0.56</td>
</tr>
<tr>
<td>Viola</td>
<td>0.15</td>
<td>0.37</td>
</tr>
<tr>
<td>Violin</td>
<td>-0.15</td>
<td>-0.39</td>
</tr>
<tr>
<td>Constant</td>
<td>0.02</td>
<td>0.06</td>
</tr>
</tbody>
</table>

Notes: Standardised coefficients reported; T-test in parentheses; * p<.05, ** p<.01, *** p<.001
Appendix 2: The Sounds of Intent Framework descriptors

<table>
<thead>
<tr>
<th>REACTIVE DOMAIN</th>
<th>PROACTIVE DOMAIN</th>
<th>INTERACTIVE DOMAIN</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level</strong></td>
<td><strong>R.1</strong></td>
<td><strong>R.2</strong></td>
</tr>
<tr>
<td><strong>Descriptor</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Element A</strong></td>
<td>encounters sounds</td>
<td>shows an emerging awareness of sound</td>
</tr>
<tr>
<td>Element B</td>
<td>is exposed to a rich variety of sounds</td>
<td>shows awareness (of a variety) of sounds</td>
</tr>
<tr>
<td>Element C</td>
<td>is exposed to a wide range of music</td>
<td>responds differently to sound qualities that differ (eg loud/quiet), and/or change (eg getting louder)</td>
</tr>
<tr>
<td>Element D</td>
<td>is exposed to music in different contexts</td>
<td>responds to sounds increasingly independently of context</td>
</tr>
<tr>
<td><strong>Element A</strong></td>
<td>is exposed to sounds that are linked to other sensory input</td>
<td>responds to sounds that are linked to other sensory input</td>
</tr>
</tbody>
</table>

| **Level**       | **P.1**          | **P.2**           | **P.3**           |
| **Descriptor**  |                  |                   |                   |
| **Element A**   | makes sounds unknowingly | makes or controls sounds intentionally | makes simple patterns in sound intentionally |
| Element B       | sounds made by life-processes are enhanced and/or involuntary movements are used to make sounds | makes sounds intentionally, through an increasing variety of means and with greater range and control | intentionally makes simple patterns through repetition |
| Element C       | sounds are made or controlled through co-active movements | expresses feelings through sound | intentionally makes a regular beat |
| Element D       | activities to promote sound production occur in a range of contexts | produces sounds intentionally in a range of contexts | intentionally makes patterns through change |
| **Element A**   | activities to promote sound production are multisensory in nature | produces sounds as part of multisensory activity | uses sound to symbolise other things |

| **Level**       | **I.1**          | **I.2**           | **I.3**           |
| **Descriptor**  |                  |                   |                   |
| **Element A**   | relates unwittingly through sound | interacts with others using sound | interacts imitating others’ sounds or through recognising self being imitated |
| Element B       | co-workers stimulate interaction by prompting with sounds and responding to any sounds that are made | sounds made by another stimulate a response in sound | imitates the sounds made by another |
| Element C       | co-workers model interaction through sound | sounds are made to stimulate a response in sound | shows awareness of own sounds being imitated |
| Element D       | activity to promote interaction through sound occurs in a range of contexts | interactions occur increasingly independently of context | imitates simple patterns in sound made by another |
| **Element A**   | some interaction is multisensory in nature | interaction through sound engages other senses too | recognises own patterns in sound being imitated |

368
## Appendix 3: The Sounds of Intent session form

**Sounds of Intent Session Form**

For reference only, please log onto the SoI website and submit the data online.

### Reactive

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engagement</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Consistency</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**Comments**

### Proactive

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engagement</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Consistency</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**Comments**

### Interactive

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engagement</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Consistency</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**Comments**

### General Comments
Appendix 4: The Sounds of Intent Framework
Appendix 5: Section on effective music pedagogy from Ofsted’s report ‘Making more of music: An evaluation of music in schools 2005/08’

Annex B. Judging music provision

<table>
<thead>
<tr>
<th>Achievement and standards (text in italics is for secondary schools only)</th>
<th>Good</th>
<th>Inadequate</th>
</tr>
</thead>
<tbody>
<tr>
<td>As a result of high expectations for all, learners enjoy their musical experiences and most groups (including learners with learning difficulties and/or disabilities) make good progress in class lessons and extra-curricular activities. Music is a popular subject and pupils actively participate in lessons and extra-curricular activities. Learners show broader benefits from music, for example increased self-confidence and self-esteem.</td>
<td>A significant number of learners make unsatisfactory progress in lessons and in extra-curricular activities. Expectations are too low and there is very little demonstration of quality or depth of musical response. Music is not a popular subject and does little to develop broader outcomes. Few learners take part in extra-curricular activities.</td>
<td></td>
</tr>
<tr>
<td>Learners show a readiness to engage positively with different musical styles and traditions.</td>
<td>Learners either have no opportunity to respond to different musical styles or, when given this opportunity, they respond negatively with shallow comments.</td>
<td></td>
</tr>
</tbody>
</table>

NB: ‘Achievement’ in music includes involvement in activities and development of the broader outcomes, such as self-confidence, as well as the musical outcomes.

Teaching and learning

<table>
<thead>
<tr>
<th></th>
<th>Good</th>
<th>Inadequate</th>
</tr>
</thead>
<tbody>
<tr>
<td>A constant emphasis on musical quality and aural development, and practical music making helps learners learn how to respond musically.</td>
<td>There is a lack of aural development and too much reliance on non-musical activities (for example, worksheets). There is a too narrow emphasis on increasing musical competence.</td>
<td></td>
</tr>
<tr>
<td>Performing is at the heart of all musical activity and learners are given every opportunity to experiment with instruments and voices and to experience making music with others.</td>
<td>Insufficient attention is given to the development of learners’ creativity and to providing opportunity for all learners to perform to others.</td>
<td></td>
</tr>
<tr>
<td>Working relationships are positive so that learners are given the confidence to perform, be creative and learn from mistakes.</td>
<td>Behaviour is often poor because working relationships are not secure and/or not all learners are treated as musicians. Learners are not given the confidence needed to succeed.</td>
<td></td>
</tr>
<tr>
<td>Learning objectives are clear and simple and focus on the musical skills, knowledge and understanding to be learnt by learners rather than the activity to be completed.</td>
<td>Objectives are unclear so that different tasks are often unrelated. Learners are unclear what they are learning and/or how to improve the quality of their work.</td>
<td></td>
</tr>
</tbody>
</table>
### Assessment

<table>
<thead>
<tr>
<th>Assessment helps to maintain a clear focus on learners' musical progression. Audio recordings are an integral part of all work.</th>
<th>Assessment and recordings are not frequent or accurate enough to monitor learners' needs or help them improve.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learners are helped to make connections between their work and the work of others (including established composers) so their work is informed by an increasing range of musical styles and traditions.</td>
<td>Learners are not helped to make connections. The repertoire is too narrow and little attempt is made to extend learners' work through reference to specific features of the work of others.</td>
</tr>
<tr>
<td>Work is made relevant so that tasks are put into context and related to 'real' practice.</td>
<td>Work is unrelated to 'real' practice.</td>
</tr>
</tbody>
</table>

### Curriculum

| Learning is planned according to the needs, experiences and interests of learners. Steps of learning are identified so that teachers and learners are clear what is expected and understand how to improve the quality of work. Tasks are sequenced well to consolidate and extend learning. Progression routes are clear with established courses in all key stages, providing opportunities for all learners to progress and develop well, including those with learning difficulties and/or disabilities. There are good catch-up arrangements for work missed or not understood. | There is an over-reliance on commercially produced schemes which are insufficiently adapted and used to meet the requirements of all learners. Teachers' planning does not demonstrate an understanding of progression in learning. Resources are unsatisfactory and do not include provision for ICT (especially in Key Stage 3). The curriculum does not meet statutory requirements. There are few extra-curricular activities and participation is poor because the activities provided do not meet the needs and interests of all learners. |

### Leadership and management

| The music provision includes all learners. The inclusion of all learners is central to the vision and it is effective in enabling successful participation for all. Learners' progress is tracked so that appropriate support and challenge can be given when necessary. Assessment is effective and related appropriately to National Curriculum levels. All groups are represented in a good range of musical activities. | There is no clear vision of music for all. There may be an over-reliance on extra-curricular activities as a 'shop window' without comparable attention given to music in the curriculum. Learners' progress is not tracked and learners do not know how well they are doing or how to improve their work. Assessment is ineffective and no attempt is made to relate expectations to National Curriculum levels. |
| Partnerships are strong, benefiting all learners. Good partnerships provide greater diversity and inclusion, and promote community cohesion. There are many opportunities for learners to attend regional and community musical activities, to work with different... | Partnerships are underdeveloped. Learners have limited opportunities to attend regional and community musical activities, to work with different... |

*Making more of music*
<table>
<thead>
<tr>
<th>are good links between schools. Where outside specialists work with a whole class, the class teacher is fully involved and plays an active part. Instrumental/vocal programmes and lessons are an integral part of music provision. Learners are encouraged to attend regional and community musical activities.</th>
<th>practising musicians or to experience live music. There are no links between schools and additional experiences are treated as a 'bolt on' – they are not developed as part of a coherent overall music provision.</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is a clear vision for the development of the music provision in the school. There is a good understanding of the school's musical strengths and weaknesses through effective self-evaluation, which takes into account the needs and interests of all learners. Provision is monitored well and there is a good track record in raising achievement and making improvements. Resources are well used, including any extended services, to improve outcomes and to secure good value for money. There is good awareness of national initiatives.</td>
<td>Provision is not mapped or monitored effectively. Not enough time is given to the subject leader to monitor and support the work of colleagues. The quality of self-evaluation is unsatisfactory and priorities for improvement are not clearly identified. There is very little awareness of national initiatives and/or shared discussion and development of any additional activities.</td>
</tr>
</tbody>
</table>
Annex C. Characteristics of good and outstanding instrumental/vocal programmes

Achievement and standards

- Learners enjoy their musical experiences and make good progress as a result of high expectations for all – every child can make, and benefit from, music. Enjoyment and success start from the earliest stages of musical learning. Singing is confident, and attention is given to correct posture and increasing control of intonation, expression, and diction. Instrumental techniques are accurate and secure; there is no need for beginners to be out of tune. Constant attention to detail focuses on aspects that need improvement rather than just singing it all the way through again and again. All groups are involved, for example boys and girls, different abilities and ethnicities.

Teaching and learning

- A constant emphasis on aural development and practical music-making helps learners learn how to respond musically. Rhythmic and melodic skills are developed effectively through singing, playing instruments and creative work. An emphasis on aural perception and aural memory ensures that the visual aspects of decoding notation do not detract from the important aural aspects of playing tunefully and expressively. Work is constantly modelled by the teacher so the learners can see and hear what is expected. Learners are also encouraged to model the work for each other. Demonstration is much more effective than constant oral interruption.

- Performing is at the heart of all musical activity and learners are given every opportunity to experiment with instruments and voices and to experience making music with others. Repertoire is selected carefully to ensure maximum success and enjoyment. Songs are pitched correctly and the language demands gauged appropriately. There is more than one line of music for learners to sing and play, so different levels of attainment are supported and learners can gain greater satisfaction through performing in an ensemble. This is particularly important where more than one instrument is involved.

- Working relationships are positive so that learners are given the confidence to perform, be creative and learn from mistakes. Opportunities to invent patterns, phrases or sections are given from the earliest stages; improvising is part of musical learning from the beginning. Technical exercises and warm-ups are balanced by longer pieces of music so that learner’s have the opportunity to make decisions about interpretation.

- Learning objectives are clear and simple and focus on the musical skills, knowledge, and understanding to be learnt by learners rather than the activity to be completed. All lesson activities are related to the learning
focus and work is developed incrementally. The most able are challenged and appropriate support is given for the less able. Vocal or instrumental starter activities are relevant, progressive and linked with what follows, not just used as warm-ups or an opening ritual. The focus of and achievement in lessons are clear, and learners are able to practise and consolidate their work between lessons.

- Assessment helps to maintain a clear focus on learners’ musical progression. Simple effective information is collected and used to improve learners’ progress. Instrumental tutors and teachers observe and log progress, discuss and monitor learners who need support, and promote those who show a talent for instrumental learning. Recordings of learners’ work are used regularly to help raise the standards of work. Clear assessment data are matched to National Curriculum levels and learners know how well they are doing and what to do to improve. Learners are involved through effective self-assessment.

Curriculum

- Learning is planned according to the needs, experiences and interests of learners. Schemes of work and resources are adapted to meet learners’ different learning needs. Extra-curricular activities extend learners’ musical experiences. Steps of learning are identified so that teachers and learners are clear what is expected and understand how to improve the quality of work. Tasks are sequenced well to consolidate and extend learning. There are good catch-up arrangements for work missed or not understood. There is no attempt to cover all aspects of the National Curriculum in each session as these are delivered through the provision across the whole key stage. Each experience is developed as a coherent part of the whole provision. Good singing techniques are applied across all lessons and singing experiences.

Leadership and management

- The music provision includes all learners. The school promotes music for all. The school knows the learners well so that individual learners are selected proactively for involvement in extra-curricular activities and other musical opportunities on the basis of need and aptitude. All groups are represented in a good range of musical activities and respect is shown for all musical styles and interests.

- Partnerships are strong, benefiting all learners. Instrumental/vocal programmes are developed as an integral part of music provision. Instrumental/vocal work is consolidated between sessions by the class teacher and the class teacher is completely involved in the instrumental/vocal programme. Good links are established with local secondary schools, the music service and other professionals. Learners are encouraged to attend regional and community musical activities.
There is a clear vision for the development of the music provision in the school. The headteacher, or another member of the senior team, and subject leader monitor all provision, including instrumental and vocal sessions; the subject leader has time to work with other teachers and ensure all classes have a similar quality of musical experience. There is good awareness of national initiatives.
Appendix 6: Section on effective music pedagogy from Ofsted’s report ‘Music in schools: wider still, and wider

Priority: challenge inequalities among pupils and between schools

125. As well as wide differences in the quality of teaching and curriculum provision, survey evidence revealed considerable inequities in the way in which different groups of pupils, different schools and different local authorities were benefiting from additional provision in music.25

126. Not enough of the schools surveyed had acted to improve participation in musical activities by under-represented groups. While most were aware, for example, that many more girls than boys participated in choirs, far fewer could provide evidence of concerted action that they had taken to overcome these differences.

127. While most of the schools had policies in place to support pupils from disadvantaged backgrounds who wished to take up additional individual or small-group instrumental or vocal learning, there were wide differences in the expected level of parental contributions. In some schools, there was no charge for tuition whatsoever; in other schools, the full cost was passed to parents. In some cases, this was because of the way that local authorities spent and distributed local and national funding for music education.

128. The government’s ambition to target the participation of less privileged groups, through a weighted funding structure for the new music hubs, reflects welcome recognition that funding has not always reached schools and pupils where the need is greatest. However, senior managers in schools and in music services also have a vital part to play in ensuring that programmes and funding reach these pupils. In the secondary schools surveyed between 2008 and 2011, only 5% of the students who were known to be eligible for free school meals were involved in additional instrumental or vocal tuition, compared with 13% of the students not known to be eligible for free school meals – and yet very few of the schools had considered evaluating the impact of their fee remission policies in increasing the inclusion of these pupils.

129. There was a wide variation in the use and distribution to schools of the Music Education Grant by local authority music services. For example, in some local authorities the Music Education Grant was delegated, pro rata, to all schools; in other authorities, the funds were kept centrally and schools were either identified as priorities or were invited to bid for the money. While not the only reason why music provision was good or inadequate, the extent to which schools were able to access this funding had an important bearing on pupils’ musical achievement and sustained participation.

25 The ‘analysis of participation’ pro-forma offered by inspectors provides a clear starting point for such discussions about inclusion in music. To help start these discussions in all schools, the current (September 2011) version of the participation pro-forma is included in this report as Annex C.
130. The extent to which local authority music services charged primary schools for whole-class instrumental and/or vocal programmes also varied widely. In some cases this reflected variations in the funding by individual local authorities for music education. In the final year of the survey it was reported that some local authorities were reducing or even stopping subsidies for their music services. However, comparison of delegated funding showed that, pro rata, some local authorities were benefiting considerably more than others from the national funding.

131. Some music services provided the Wider Opportunities tuition and instrument loan free of charge for the first year, with the programmes available to every school; others asked the school for a matched contribution, where it was thought that the Music Education Grant would not enable coverage in all schools. However, in some cases it was clear that the full cost of this programme was being passed on to schools, with the music service retaining the Music Education Grant to cover central costs such as buying instruments, CPD and other activities. This was one of the reasons given by schools for not participating in the whole-class instrumental programme.

132. One local music partnership offered a 'Further Opportunities' scheme, where pupils were charged £1 per lesson if they wished to continue learning to play an instrument after the first free year of Wider Opportunities. In one school, located in an area of social and economic advantage, a third of pupils had continued with tuition. However, in another school served by the same partnership, in a much less advantaged area, the initial whole-class instrumental programme had not been successful. Only two out of 110 students had chosen to continue. With the cost of the Further Opportunities lessons being relatively modest, the reasons for poor retention rates in the second school were not solely about cost; the quality of the initial Wider Opportunities experience and the way that the parents were educated about the benefits of instrumental tuition were also key factors.

Priority: ensure that teachers use musical sound as the dominant language of musical teaching and learning

133. Using musical sound as the 'target language' is at the heart of understanding the distinctive nature of good teaching and learning in music. Survey evidence showed, very clearly, that pupils made the most musical progress when they were taught in music, rather than about music.

134. It is very important that, when appropriate, pupils learn how to articulate their thoughts and understanding about music using words, both orally and in writing. Confident and accurate use of music terminology and theoretical concepts is essential for good progression through GCSE, A-level music and other graded music examinations. Using appropriate language about music, and developing understanding of notations, should feature in teaching and learning from an early age. However, in too many of the lessons observed, teachers spent significant amounts of time talking pupils through lengthy learning
objectives that were not related to the language of musical sound, or assessment criteria linked to contrived, subdivided levels that themselves constricted students' musical responses. This problem was not confined to classroom music. In a number of individual and small-group instrumental lessons inspected, peripatetic teachers also spent too much time talking and explaining verbally, rather than demonstrating and modelling.

135. One of the most memorable and effective lessons seen in the entire three-year survey showed how this 'teaching in music' approach leads to outstanding achievement and enjoyment because it has a relentless focus on musical participation and the quality of musical responses. Good musical modelling and good musical behaviour helped to ensure that a class of Year 9 boys understood exactly the teacher's musical intentions throughout the lesson. The music teacher's confidence and ability to communicate through music was vital, and every minute of the music lesson featured musical activity.

The whole lesson was conducted in musical sound. After increasingly complex call-and-response and polyrhythmic games using djembe drums, the teacher added vocal chants. To ensure that everyone was included, the call-and-response was at first between the teacher and the whole class. The pitch of the vocal chants was exactly right to make it comfortable for all to sing, an important consideration as most of the boys' voices were changing. When the responses weren't good enough, the teacher simply repeated the phrase, rather than stopping the musical flow by telling the class verbally. He did this repeatedly until they produced the response that he required.

The students clearly understood, from previous lessons, that in order to get it right they had to listen carefully to and then copy the teacher's musical model. From this, the teacher moved on to demonstrate a variety of riffs on tuned percussion, which again he asked the boys to sing back to him. Only after all this did he explain the learning objective, which was to create a group composition for voices, djembe and tuned percussion that used polyrhythmic patterns, call-and-response vocals, and melodic riffs like those found in the African music that they had listened to at the start of the lesson.

There had been no notation and minimum talking so far in the lesson, but students had developed a deep aural understanding of these musical devices through the superbly led practical activities. There had been no formal sharing of verbal objectives, but the students knew absolutely what the teachers' musical intentions were. The teacher had assessed students' responses constantly throughout the lesson and had corrected them when necessary, although in this session he did not award any formal grades or sub-levels. But importantly, this lesson was characterised by good-natured laughter, exemplary working relationships between students and the teacher, much enjoyment and much musical learning. It was simply outstanding.
136. This example demonstrates how important it is to use musical sound as the dominant language of musical teaching and learning. Good music lessons require clear musical learning intentions that should be shared with and understood by pupils. This is not to say, however, that these musical learning intentions are best communicated verbally, or always and/or only at the start of a lesson. What is much more important is that, through good musical modelling and good musical behaviour, pupils understand the teacher’s musical intentions throughout the lesson. Teachers’ confidence and ability to communicate through music is vital. As importantly, they need the recognition, support and permission of senior managers to take this approach to teaching. Teachers also require assessment methods that not only acknowledge the unique nature of musical learning but which are also practically realistic, allowing teachers and students to make the very best of whatever curriculum time is made available for music.

137. It is important to emphasise that, throughout the survey, there was rarely concern about the diligence and professionalism with which teachers prepared lesson plans and resources. What was also very clear, from inspection evidence, was that teachers’ personal musical preparation for lessons is just as important. This is not only about preparing to give a confident musical performance to pupils, it is also about the teacher listening to and understanding the music, and considering how the music might best be presented to and used by pupils to improve their musical understanding. These aspects of lesson preparation are important whether the teacher is a specialist or a non-specialist. Good leadership, whether it is in the school or from an outside partner such as a music hub, can also help by giving teachers the confidence, permission and support to take this musical approach to planning lessons.

Priority: plan for pupils’ musical progression through and across the curriculum, and provide sufficient curriculum time for music

138. Between 2008 and 2011, inspectors noted that schools were taking increasingly diverse approaches to music curriculum timetabling and provision. In primary schools, provision was weakened when the funded instrumental and vocal programmes were not well integrated with other class music provision; or when cross-curricular projects involved music, but did not plan for or promote the quality of pupils’ musical responses. In secondary schools, music provision was weakened by whole-school decisions to reduce time for the Key Stage 3 programme so that it was not possible to cover sufficient breadth or depth of music across the key stage.

139. The National Curriculum orders define musical progression as ‘progression in demand, progression in range, and progression in quality’. Planning for such progression was identified as a key area for improvement in nearly half of all the schools visited. Most schools were able to show the different activities or topics that would be covered in each year and key stage, but far fewer were
able to articulate a clear rationale for the overall organisation or order of those projects to show how pupils should progress musically.

140. This primary school scheme of work overview is typical of those seen during the three-year survey:

<table>
<thead>
<tr>
<th>Autumn 1</th>
<th>Spring 1</th>
<th>Summer 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Exploring Rhythm and Texture/Christmas</td>
<td>Exploring Texture</td>
</tr>
<tr>
<td>2</td>
<td>Exploring Tempo/Christmas</td>
<td>Exploring Texture</td>
</tr>
<tr>
<td>3</td>
<td>Graphic Notation/Christmas</td>
<td>Recorder Basics of Steve Notation</td>
</tr>
<tr>
<td>4</td>
<td>Wider Opportunities – Woodwind or Brass (Music Service to teach)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>African Project (cross-curricular)/Christmas</td>
<td>Song writing project (Literacy link)</td>
</tr>
<tr>
<td>6</td>
<td>WWII Project (cross-curricular)/Christmas</td>
<td>Pop Music project</td>
</tr>
</tbody>
</table>

141. This secondary school scheme of work overview is also typical of those seen:

<table>
<thead>
<tr>
<th>Autumn 1</th>
<th>Autumn 2</th>
<th>Spring 1</th>
<th>Spring 2</th>
<th>Summer 1</th>
<th>Summer 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>The Elements of Music</td>
<td>Instruments of the Orchestra</td>
<td>Programme Music</td>
<td>Themes &amp; Variations</td>
<td>Stomp!</td>
</tr>
<tr>
<td>8</td>
<td>African Music</td>
<td>Hoops and Kiffs</td>
<td>Folk Music</td>
<td>Reggae</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Musical Theatre (Singing unit)</td>
<td>Music and Media (music technology unit)</td>
<td>The Blues</td>
<td>Popular Songs (Singing/music technology)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Musical Futures' approach</td>
</tr>
</tbody>
</table>

142. These overviews give an indication of the knowledge about music, and the musical styles, traditions and genres to be covered over time, but do not indicate how musical quality and understanding should develop.

143. Few primary school music coordinators or headteachers had considered in sufficient detail how children's singing might develop and improve from Year 1 to Year 6, or how children’s control and understanding of melody and rhythm would deepen in Years 5 and 6 following the Wider Opportunities work in Year 4. Similarly, few secondary school music coordinators had considered how their curriculum plans promoted students’ musical progression from Years 7 to 9. Most could point to their increased knowledge of a greater range of musical styles, traditions and genres, and could identify that those receiving additional music lessons should be expected to have successfully taken higher grades in the Associated Board or Guildhall/Trinity examinations or gained membership of the area youth orchestra. Far fewer could explain in great detail how the quality and depth of vocal work should improve progressively from Years 7 to 9, or
how students' understanding of melodic and rhythmic textures, harmony, structure, and overall musicality should be developed progressively through aural training, composing work, playing instruments, and the use of music technology.

144. An alternative approach was shown by one primary school where, instead of a term-by-term curriculum project plan, the music coordinator presented a simple overview of the musical concepts that children were expected to understand as they progressed through the school. This was the plan that drove the music curriculum. Unlike the curriculum model shown in paragraph 140, this model did not consider the musical ‘elements’ separately, to be taught in isolated blocks in Key Stage 1. Rather, these aspects of pitch, duration, dynamics and so on were seen as musical ‘dimensions’ which were all developed simultaneously and progressively as broad ongoing skills throughout the key stages.

<table>
<thead>
<tr>
<th>Pitch</th>
<th>Key Stage 1 → → → → → → → → Lower Key Stage 2 → → → → → → Upper Key Stage 2 → → → →</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Major &amp; minor&lt;br&gt;Steps&lt;br&gt;Pentatonic Patterns&lt;br&gt;Melodic Cratches&lt;br&gt;Quaver&lt;br&gt;2, 3, 4&lt;br&gt;5, 6, 7 Dotted and signing rhythms</td>
</tr>
<tr>
<td>Duration</td>
<td>Long/short&lt;br&gt;Steady beat&lt;br&gt;Rhythmic patterns&lt;br&gt;Strong beats&lt;br&gt;Weak beats</td>
</tr>
<tr>
<td>Dynamics</td>
<td>Loud/quiet&lt;br&gt;Graduation&lt;br&gt;Strong contrasts&lt;br&gt;Accent &amp; articulation</td>
</tr>
<tr>
<td>Tempo</td>
<td>Fast/slow&lt;br&gt;Graduation&lt;br&gt;Comparing tempi&lt;br&gt;Tempo for mood effects</td>
</tr>
<tr>
<td>Timbre</td>
<td>Exploring&lt;br&gt;Wood, metal, strings&lt;br&gt;Orchestral family timbres&lt;br&gt;Electronic sounds</td>
</tr>
<tr>
<td>Texture</td>
<td>One sound&lt;br&gt;Several sounds&lt;br&gt;Melody Accompaniment&lt;br&gt;Weaving Parts&lt;br&gt;Choirs</td>
</tr>
<tr>
<td>Structure</td>
<td>Beginnings&lt;br&gt;Endings&lt;br&gt;Single repeated patterns&lt;br&gt;Question &amp; answer&lt;br&gt;Obinote&lt;br&gt;Rounds&lt;br&gt;Ternary Forms</td>
</tr>
</tbody>
</table>

145. A strength in this model of curriculum planning was that it was determined by progression in musical syntax and understanding, giving the music coordinator and other teachers of music a ‘big picture’ of musical progression through the curriculum. It was effective because the teaching approach that accompanied the curriculum planning was not predicated on teaching pupils the theoretical knowledge of these concepts – it was founded on practical, creative activities where pupils explored and created music using these ideas.

146. Another, simpler, model of effective planning for musical progression across phases started with the ‘big idea’ in each National Curriculum attainment level statement. This approach enabled teachers to understand very clearly how pupils’ musical understanding might develop over time.
Appendix 7: The *Inspire-Music* effective practice framework

**Inspire-music effective practice framework**

**SECTION 1: Description**

A. What are the goals of the work? *Including e.g.*
   a. How does it fit into the ethos of the school/setting?
   b. How does it fit into the learning strategy of the school/setting?
   c. How does it fit into the curriculum of the school/setting?
   d. What outcomes are being explicitly targeted?

B. What is the context of the work? *Including e.g.*
   a. Setting
   b. Age of students
   c. No of students
   d. Does the example fit into longer term plan or is it 'stand-alone'
   e. Who is leading the work
   f. Any other relevant information

C. What is the content of the work?
   *Please describe content with reference to musical, personal and social dimensions. See annex below for some prompts and guidance.*

D. What are the key features of the teaching and learning approach?
   *Please describe the methods used and if relevant please note any underpinning key assumptions, references or models.*

E. How is the work being reviewed?
   *Please describe how success is measured in the work – for both students and leaders, and what processes of evaluation and future development are being applied.*

**SECTION 2: Reflection**

A. What are the positive outcomes for children/young people – are they some or all of musical, social, personal, educational - how and when can they be identified? See annex below for guidance.

B. What are the key features of teacher/leader behaviour that are enabling those positive outcomes?

C. What are the key features of context, content and activities that are enabling those positive outcomes?

D. What other factors in this case are contributing to those positive outcomes?

E. How replicable or adaptable is it?

*Created by inspire-music Working Group 2016, with particular thanks to Margaret Griffiths and David Hargreaves*
ANNEX
In working to complete the questions, you may wish to refer to these prompts:

A. Context: Description e.g.
   • EV/NC KS1, 2, or 3
   • examination course 14-19
   • regular statutory classroom session
   • regular voluntary school time or post school session
   • community setting or venue
   • specifically prepared event or performance
   • single session or specific event
   • instrumental/vocal assessment preparation
   • voluntary, independent or private provider
   • location, length in minutes and structure of session

B. Content: Description e.g.
Musical/Artistic/Technical
   • creating new sounds – originality in improvisation and composition
   • performing existing repertoire – intonation, dynamics, phrasing, expression, fluency
   • listening – aural accuracy
   • literacy, notation, sight reading and memorization
   • musical knowledge – notation, musical style and genre
   • use of technology

Personal
   • expressiveness, aesthetic sensitivity and discrimination
   • self- and co-regulation: increasing self-reliance
   • originality and creativity
   • enjoyment, enthusiasm and interest
   • mood regulation and well-being
   • character: moral/spiritual development

Social
   • individual – group (solo, duo, small-group, ensemble) activity
   • communication with audience
   • interpersonal skills and relationships with others
   • teamwork and co-operation

Created by inspire-music Working Group 2015, with particular thanks to Margaret Griffiths and David Hargreaves
B: Content: reflection e.g.

Music leading:
- Secure provision for technical, musical, social, personal and critical aspects
- Materials and resources match stage/age/level of learners
- Inclusive of needs of individuals, groups and pupils with SEND
- Well prepared to meet requirements and aspirations of learners
- Rich and relevant musical challenge to create, recreate, listen and respond
- Fluency and energy give appropriate pace
- Positive and professional ethos, and response to individuals and groups
- Clarity over guidance for work between sessions

Music learning:
- Focus of sessions is understood and relates to previous learning
- Positive response to new materials and resources, and to consolidating familiar work
- Expectations of music leader are clear to all participants
- No barriers to participation
- Awareness of how to make individual progress, as well as music making with others
- Session generates enthusiasm, concentration and energy from participants
- Individuals know they can make a valued individual contribution or response
- Participants know there will be opportunities to be spontaneous and share ideas
- Individuals or groups know there are facilities for them to work individually or together between sessions

C. Teaching and Learning: description e.g.

- Learner-centred – learner-centred
- Open-ended, flexible – closed, formulaic
- Oral, verbal – written (words or notation)
- Pedagogic language: precise, formal – imprecise, conversational
- Leader’s questions: closed – open
- Task focus: narrow – broad, easy – difficult
- Knowledge base: codified, rule-bound – negotiable, relative

C: Teaching and Learning: Reflection e.g.

Music leading:
- Leads a fluent sequence of musical activities
- Maximises provision for musical learning
- Provides for secure understanding and skills
- Pace ensures motivation and involvement of learners
- Differentiation promotes interaction and maximum participation in learning
- Opportunities for appropriate grouping and re-grouping of participants

Created by Inspire Music Working Group 2016, with particular thanks to Margaret Griffiths and David Hargreaves
• Observable progress and attainment are made clear, shared and celebrated
• Gives and receives regular feedback, musical interaction and responses

Music learning:
• Learners expect to be engaged in rich musical activities
• Strong motivation to engage and readiness to learn
• Activities relate to and build on existing understanding and skills
• Positive response towards and confidence in participating
• Learners know how to work well individually, in small groups and as a whole cohort
• Learners reinforce their own and others’ progress and attainments
• Learners know how to continue to make progress between sessions

D. Review, assessment and development description and reflection e.g.

Music leading:
• Progress is recognised musically and orally in sessions
• Aims for sessions are set carefully, incrementally and communicated clearly, and are met
• Expectations about outcomes from series of sessions or lessons are made clear
• Informal feedback to participants is regular, through musical or verbal interactions
• Learners are given opportunities to be increasingly involved in decisions about progress and attainment, and these are recognised and logged
• Formal assessment requirements and procedures are secure, integrated and clearly communicated in the programmes and courses
• Programmes and courses are reviewed and developed with secure professional knowledge and skill

Music learning:
• Learners can demonstrate their progress musically and verbally
• Learners have a clear understanding of how aims are set and achieved
• Learners know how to describe progress over time and within single sessions
• All participants take opportunities to give and receive feedback, and contribute to the review and development of activities and programmes
• Learners know why and how their attainment is logged, and are well prepared for periodic assessments
• Learners know how to work towards formal assessment requirements, and understand the procedures for these

Created by inspire-music Working Group 2016, with particular thanks to Margaret Griffiths and David Harpreeves
Appendix 8: Excerpt of observation grid for video analyses
Appendix 9: Excerpt of observation grid and analysis codebook
Appendix 10: Transcript of percussion lesson

Researcher: Hallo Daniel!

Tutor: Hallo Daniel! How are you?

Daniel: Hi! Fine!

[setting up]

00:40  E: Daniel is such a good musician. Daniel is brilliant! [Daniel looking pleased]

00:42  T: I know! And what so far is... how constant Daniel’s timing... Daniel, your timing is really meticulous. Very reliable.

00.52  E: You know Daniel, I’m a violinist. I’m playing the violin. I would love to be able to play the drums or the piano so well as you do.

01.00  T: What I think is that Daniel can teach. Daniel is very... Have you ever taught people the drums or the piano?

01.09  D: Well, ehm... I’ve got a keyboard at my house. Ehm... I’m playing the drums as well. And this is the beat.

01.28  T: So, you are a multi-instrumentalist.

01.29  D: I am! [cheerful and confident]

01.30  T: I know you are.

[tutor tuning guitar]

01:47  T: I need to tune. [plays a reference note on the piano]

[tutor is tuning the electric guitar and humming the notes. Daniel waiting patiently at his drum kit]

02.33  T: Right. Do you remember we were playing ‘Let it Be’?

02.36  D: [very happy so that gasping for air] Ah! Brilliant! I love ‘Let it Be’! Brilliant.

[tutor playing softly the chords on his guitar. Daniel thinking]

02.45  D: Mmm... can’t remember... [mutters something to himself]

02.54  D: Can we... can I do the playing? Can I ask as well?

03.00  T: Yes, you do that.

03.01  D: [mumbling something to his imaginary band member] Okay, ready?

03.04  T: We are ready.

03.04  D: Okay! [counting in] One, two, three, and go!

03.07  [both playing the song ‘Let it Be’]
D: [Daniel giving the tutor the cue to start singing] One, two, three, go! [tutor starts to sing]
[playing the piece through. Daniel is not randomly hitting the drums but in a particular or coherent manner. Apparently, the piece has been played before]

T: [still while both playing] And if you remember, can you now do the drum fill?
[Daniel reacting to the tutor’s instructions and plays drum fill. Then playing softer when tutor starts to play softer]

T: [while playing] Okay, one more.
[both still playing]

T: [while playing] More bass.
[both still playing]

T: [while playing] Big chorus. Big chorus.
[both still keep playing. Daniel occasionally joining in singing, but very briefly and softly]]

T: [while playing]. Drum fill.
[both still playing]

D: [whilst playing] Yes, go.

D: [Daniel ending with a tremolo and intuitively plays the last beat together with the tutor at the same time. He is pleased with himself] Yipee!
[playing has stopped]

T: It was really beautiful!

H: [happy] Thank you!

T: What I looked for… when we did the first verse… and I left a little gap. That seemed .. Daniel was anticipating the chorus. The correct thing is, you anticipated the chorus but then you stayed on the verse. You can handle it when things change around you very well.

D: Yes, I can!

T: Yes, better than me.

D: Yeah! I can.

T: So you enjoyed the ...

D: Yeah! [cheerful]

T: So do you remember we did the drum fill and we made the dum-da-dum-dum-dum dum-da-rum-dum-dum [humming the rhythm]. We did that on the snare drum and moving across to the tom toms [Daniel nodding].

D: Oh brilliant!

T: See, you can do the... ehm... the pair ‘apple-ba-na-na, apple-ba-na-na’ [demonstrating the particular rhythm by using words with inherent rhythm in syllables] on the snare drum...
07.52  D: Yeah [strikes the sticks against each other]

07.52  T: And then the big three drums [indicates the drums and makes a hitting/playing gesture in the air] to make that fill, that sound to make it a bit more orchestral.

08.00  D: [with joy] Oh, brilliant! We’re doing that.

08.05  T: Is that clear?

08.07  D: Yeah, that’s clear.

08.07  T: So it goes [speaking rhythmically and pointing at the instruments; making a gesture as if he was playing it] snare-sna-sna-snare, snare-sna-sna-snare big-Tom-there [pointing at it]. One, two, three.

08.12  D: [Daniel excited, smile on his face]

08.15  T: Shall we try that?

08.16  D: Yeah.

08.18  T: [Tutor counting in] One, two, three...

08.20  D: [joining in tutor with counting in] Three and four.

[playing again, Daniel immediately applying tutor’s instructions and playing as told]

08.41  T: [interrupting] Wait, give me a moment. [strums and tries to remember the chords and sings.] Thank you. Again. One, two...okay, you count. You take it on. Same again.

08.56  D: May I?

08.58  T:You count it.

09.00  D: Again, yeah? Again? Oh, yeah yeah.

09.01  T: You see, it was me who was making a mistake!

09.06  D: [speaking to himself as if he were talking to a band member] Daniel, here we go again, okay? [mumbling a response]. Okay, one, two, three and four. Go!

[playing]

09.26  T: Okay.

09.28  D: Ah, yes. The chorus. Here we go again. One, two, three, four!

[playing]

09.48  D: [counting beats while playing, almost singing it] One, two, three four.

09.50  T [interrupting]. Okay. But this time you do the drum fill. Even if I’m making mistakes [gets up from his seat]. It’s maybe better if I’m doing it on the keyboard. Try the drum fill [singing] pam-pa-pam-pam.

09.59  D: Okay, here we go, Daniel? Here we go. Okay, one, two, three, four.

[both playing. Drums and piano. Tutor singing to it]

11.34  T: [instructing while playing] Drum fill!
11.35  D: [Daniel playing the drum fill] yes, very strong.

11.50  [both stopping. Daniel crosses his arms and looking at teacher.]

11.52  T: You’re making no mistakes and I’m making tons of mistakes. And what’s great is you’re not confused by my mistakes. And that’s really great ... Harry, ehm, what I would like to do is, ehm, could we focus on trying to put a double bass drum against the snare with this steady eight [hi] hats, when you’re doing the ‘one-and-two-and.’ [Daniel starting to play] Lovely. I’ll come nearer. [takes guitar and goes back to chair near to Daniel]

[Daniel practising]

12.40  T: When you count ‘one-and’, could you put the bass on the ‘one-and’?

12.45  D: [Demonstrating the technique] One-and!

12.47  T: [Smiling] Whilst you are doing the rest?


12.59  T: So let’s separate this. Take the bass drum away again. And then we go one-and-two-and-three-and-four-and?

13.07  D: [Daniel doing it] So, don’t want to do it again. [head down and bracing himself].

13.13  T: But you did it brilliant last week that piece [means a particular piece, which they are going to play next, instead of ‘Let It Be’ The transition is fluent]. [Daniel mumbling something] It was really fantastic. So it’s [strums]... Let’s try the pattern without the hi hat. So we’re doing [demonstrating] ‘one-and-two three-and-four.

13.37  D: Well it goes like this. One-and-two and three-and-four. One, two, three-and-four. Yeah! One, two [tutor joins in playing the guitar. Both play]. And again. One, two, three-and-four. Yeah!

[playing]

14.19  D: [while playing] Three-and-four and again!

14.22  T: [while playing] That’s lovely!

14.40  T: [while playing] Could you use the other hand to use the snare drum? [stopping to play the guitar] So, it’s instead of using your left hand for the snare drum, play the snare drum with this hand. We’ll do the same thing. [gets up and goes over to Daniel, shows how to play] So we’re gonna do this hand on the snare drum. Same thing one-and-two, three-and-four. The other one goes one, two, three, and four. And it’s really steady. And then I’ll bring you an extra hand in. [Daniel practising] See, if you... Do you want to count in?

15.12  D: Me? Yeah.

15.14  T: Let’s do it.

15.14  D: Okay. [then talking to his imaginary band member] Do you want to try, al right? [then answering] I am. One, two, three and four!

15.23  [both playing. Daniel pleased with himself.]

15.40  T: [while playing] And we keep that.

15.56  T: Right Daniel. What you’re playing there on the snare... bring your hand on the hi hat so you can do the other thing. And that’s going like [showing in the air; imitating
playing the snare drum. Daniel joins in playing it on the instrument ‘ts, ts, ts, ts. One, two, three-and-four. [Daniel practising] If you play all the bass drums, try to hit the ‘one’ harder, yeah? You try?

16.30 D: Can we go again?

16.31 T: Let’s do it again. Keep this [points at instrument] and this going. And try to get the [taps with his foot on the floor]

16.40 D: Me. [mumbling something] Can I?

16.43 T: Go for it.

16.45 D: [Talking to his imaginary band member again] Okay Daniel. One! Two! Three and four. Let’s go!

16.52 [both playing. Daniel counting silently]

17.26 [Tutor stopping them]

17.27 T: Now, let’s experiment, yeah? [Daniel: Yeah.] I think you keep the bass drum constant. So if you can keep that constant. Play twice the frequency here and do sixteenths?

17.41 D: Oh, I don’t want.

17.41 T: Just try once. See if you can go [hits the Hi-Hat in that manner to demonstrate. Daniel joins in and plays it]

17.49 [both play]

18.03 [Daniel stops]

18.04 T: Try again? Just try once more. It’s really interesting to see that you can do all that frequency. And I think you can do that really well. [Daniel happy]. Maybe, take it a little bit slower. So, we are going [demonstrates hitting the Hi-Hat with his finger and saying the rhythm] ‘coriander salamander, co-ri-an-der-sa-la-man-der’. That is the speed. Okay?

18.28 D: Yeah. [Daniel starting to play]

18.30 T: Good.

18.30 D: [counting in] One, two, three, four.

18.31 [playing]

18.40 D: [stopping] Nah.

18.41 T: Now you can do less of those. So we are going [demonstrates it]. Okay/

18.53 D: All right [playing around with drumsticks, then starts to play in a slower tempo]

19.06 [stopping]

19.07 You’re doing that really well. Let’s do that again. It’s so hot today. You’re doing it so well.

19.18 D: Can I go back afterwards? [mumbling something]
19.21 T: So how much have we left? Three minutes left? [Daniel mumbling] Two and a half minutes? Let’s go for one minute forty-five. That’s a good deal, yeayh?

19.30 D: Okay. Go! [playing]

19.32 [playing]

20.19 T: [interrupting] And if you want to, do you think you can continue this rhythm on the right cymbal. [Daniel starting to play unprompted] Same again.

[Playing, tutor has changed the melody slightly. The focus is on Daniel’s play. The tutor observes him very attentively]

20.41 D: Oh yeah! [Keeps on playing]

21.10 D: That’s all right. Yay! [He is happy. They do a fist bump.]

21.13 T: That’s really good! Because what normally happens [now also directed at researcher] when the drummer goes to the right cymbal is, Daniel didn’t, most drummers go ‘ts ts ts ts’ on the Hi-Hat. They stay very constant in tempo and when they move to the right cymbal it sort of softens and normally they slow down. And you didn’t.

21.33 d: Oh yeah! [very happy]

21.39 T: and do you think you, how late is it... one more minute Daniel? Just one more minute only. Could you try changing from the right cymbal to Hi-Hat but doing a drum fill

21.58 D: Oh, I don’t know really.


22.05 [Daniel takes it up and plays. He smiles and looks at teacher when playing]

22.25 T: Very good.

[playing]

22.43 T: But you can use the same hand you are playing the right cymbal with on the Hi-Hat. When you go [demonstrates it].

22.52 D: [mumbling]...to do that.

22.53 T: Try it once?

22.54 D: Nah. I don’t love to.

22.56 T: Ten seconds. Ten seconds and then we stop.

22.59 [Daniel starts to play]

[playing]

23.49 T: [while playing] Do the drum fill to end.

23.54 [stopping]

23.55 D: [applauding] Yeah!

23.58 T: Very great. You should be really proud of yourself. Because you keep the time so steady [Daniel excited and smiling]. Do you use to... are you still playing in the orchestra?

24.05 D: I am!
T: So how many times per week are you playing music with people?
D: I don’t know.
T: With me. With the orchestra. And do you play at home at your family?
D: Indeed, yeah.
T: Great!
D: Okay, see you next time!
T: Yeah, well done Daniel. And also we’ll look at the piano as well next time, yeah?
D: Okay!
T: Lovely, take care! Have a good week!
D: Okay, can I see you next time?
T: Of course you can.
R: Bye, bye Daniel!
D: Bye, see you next time, right?
All: Bye, bye.

[Daniel leaves, tutor smiling]

R: It’s great.
T: It’s ... at times he’ll ... actually, I had him play almost only reggae beats. I think as soon as he says ‘Oh I’ve been asked to do something’, then he creates a grey cloud in his head.
R: Yeah, when he is immersing... he is envisioning...
T: Yeah, he is a musician. He is innately. Do you know the other people here?
R: No.
T: There is a girl called Amy, who is not so good with language. You know, Daniel is someone who can articulate himself and more able to express himself. Daniel and Amy they are really innately. I’m, I’m envious on this. I liked to play like that. But basically, they are really on a high level, really high. Innate level. And it’s, ehm... He is really ‘switched on’ but there are times where he is cautious about where he wants to go. He is enveloped. He is playing well. Safe within his envelope. But sometimes, it’s like ‘wow’.
Appendix 11: Example of Sounds of Intent session form for Simon
Appendix 12: Exemplar consent form

Consent Form for the Research on Music and ADHD

I have read the information leaflet about the research. □ (please tick)

I will allow the researcher to observe my child (audio and video) □ (please tick)

I agree to be interviewed □ (please tick)

I agree to an informal interview between my child and the researcher at the end of the project. □ (please tick)

Hereby, I give my consent and understand that I am free to withdraw my child from the study at any time without reason and any impact. Furthermore, I understand that personal information and all data will be anonymised, treated strictly confidentially, kept securely, including password protection, and processed for the purpose of this study only.

Name                             Date                             Signature

Child's name                     Date                             Signature

Researchers name                 Date                             Signature

University College London, Gower Street, London WC1E 6BT
Tel: +44 (0)20 7679 2000
email@ucl.ac.uk
www.ucl.ac.uk
Consent Form for the Research on Music and ADHD

I have read the information leaflet about the research. I will allow the researcher to observe my child (audio and video) in the framework of the UPI and Infinity Orchestra sessions as well as in his music lessons at school. Moreover, I agree to an informal interview between my child and the researcher. In addition, I give permission for the researcher to have access to both my child’s school reports relating to ADHD behaviour and the medical statement regarding the diagnosis of ADHD.

Herein, I give my consent and understand that I am free to withdraw my child from the study at any time without reason and any impact. Furthermore, I understand that personal information and all data will be anonymised, treated strictly confidentially, kept secure, including password protection, and processed for the purpose of this study only.

<table>
<thead>
<tr>
<th>Name</th>
<th>Date</th>
<th>Signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child’s name</td>
<td>Date</td>
<td>Signature</td>
</tr>
<tr>
<td>Researcher’s name</td>
<td>Date</td>
<td>Signature</td>
</tr>
</tbody>
</table>
Appendix 13: Exemplar information sheet for participants’ parents/carers

Information about Research on Music and ADHD

Dear Parents / Carers,

I am a doctoral research student at the UCL Institute of Education in London and investigating musical development and music education in the context of children and young people with a diagnosis of Attention Deficit Hyperactivity Disorder (ADHD). Your child has been chosen to be part of academic research. Their contribution is very valuable and poses a means to understand, analyse and evaluate the research issue and its questions in real-world contexts. You should only participate if you want to; choosing not to take part will not disadvantage you, nor your child in any way. Before you decide whether you want to take part, please read the following information carefully. Feel free to ask the researcher if there is anything that is not clear, or if you would like more information.

There is a growing body of research to indicate the wider benefits of music in children’s intellectual, social and emotional development. The intention of this part of my research is, through systematic classroom music setting observation and interview, to explore the wider impacts of music on pupils diagnosed with ADHD who engage in sustained music education. Moreover, it will be aimed at observing these pupils’ behaviour and performance and to learn about the overall perception of ADHD in music lessons. Here, I will focus on the wider impacts of music and music education on the pupils. Thereby, in order to provide the best possible quality of gathered data, audio and video recording would be most ideal in order that observations can be validated subsequently. Moreover, having access to both your child’s school reports relating to ADHD behaviour and the medical statement regarding the diagnosis of ADHD would be greatly appreciated. All data will be held securely and confidentiality is assured; no individual pupil, teacher nor school will be able to be identified in the subsequent reporting.
This observation takes place in the framework of full-time doctoral research at the UCL Institute of Education, University College of London. The UCL Institute of Education (IOE) is ranked first in the world for education (QS World University Subject Ranking 2017) and first in the UK for research strength (Research Education Framework 2014). I am a professional musician and educationalist with many years of experience in giving music lessons to children and young people, and teaching musical instruments in different group settings to pupils, both with and without special needs.

Following a successful pilot study on the research topic that demonstrated a broad range of benefits of engaging in music on various aspects of ADHD, my aims are to investigate the possible applicability of these findings to other cases and gain a more in-depth knowledge by learning from professional colleagues’ experiences. In this regard, the pilot study’s observational data suggested that engaging in music triggers certain positive behaviours and gives an opportunity to express oneself and to be more integrated, despite the diagnosis of ADHD. Furthermore, ADHD had been observed to be less evident in music and more socially acceptable in music classes.

As a matter of course, you will be able to refer to me for research progress reports and up to date information on this matter at any time. My contact details are provided above.

Pupils, as participants, can withdraw at any time, with or without reason and without any impact on them. In addition, all research data will be anonymised, treated confidentially and used only for the purpose of the study. As a matter of course, data will be kept securely, including password protection.

In order to undertake this study, your approval of your child’s participation is needed. Therefore, please answer and sign the attached consent form. Please, return this to me directly or via email as soon as possible so the observation can start at the scheduled time.

Yours sincerely,