

CHAPTER NINE

INFORMAL LEARNING AND AURAL LEARNING IN THE INSTRUMENTAL MUSIC LESSON: A RESEARCH-AND-DEVELOPMENT PILOT PROJECT

LUCY GREEN¹

Introduction

Parvesh (clarinet) lesson 3

Parvesh comes in on the right note, stumbles, makes a few more attempts and eventually plays correctly along with the music. It's interesting that he, as with many kids, gets one note right followed by a wrong note; then next time it comes round he gets two notes right; then three. This seems to be a pattern.

Edward (piano) lesson 7

Kate (teacher): It's also actually, it's hearing, can you actually hear what's actually happening in the left hand, which is slightly more complex, but what's actually happening in terms of the layers of sound, can you just see—

Edward: I know there are chords, but I'm not sure—

Kate: Yes, just, listen to the left hand and just see what you can hear. (We all listen.)

Edward: It's like before each chord there's a lower note that it goes up to that it kind of starts from, but, because that note's played at the same time as the right hand, it's kind of hard to work out.

Katie (cello) lesson 8

“Eleanor Rigby” starts . . . Katie plays along . . . and she now has the final arpeggio. She plays well with a few places where she loses it but picks up again quite quickly, often right in the middle of a phrase.

Above are three extracts from observations and recordings of 104 instrumental lessons, in which pupils aged 10 to 17 attempted to learn aurally by playing along with a recording, in an approach based upon the informal learning practices of popular musicians. This chapter gives an overview of the project's background and rationale; research methods; pedagogic strategies and materials; the different approaches to learning adopted by the pupils; how pupils progressed; the pedagogy and the roles of the teachers; and finally the views of the participants. As the chapter goes along, I will mention some areas that differed from those in another related project that took place in general music classrooms, and will close by raising some topics that might be of interest for future development and research.

Background and Rationale

The rationale for the work was that many children and young people who fail and drop out of formal music education, are often far from being either uninterested or unmusical. Rather, many of them pursue alternative, informal methods of music learning in the popular music sphere (and other alternative spheres), where their approaches to acquiring musical skills and knowledge are associated with high levels of enjoyment, and can lead to the development of advanced musicianship emphasising aural, improvisatory and creative aspects. The development of such skills has tended to be relatively overlooked in both the instrumental training of classical musicians, and in traditional music curricula and pedagogy in schools.

Nowadays there is nothing surprising about finding popular music firmly embedded in the school curriculum of many countries. However, it is only recently that the informal learning practices of the musicians themselves have been recognised or adopted as teaching and learning strategies in classrooms. Between 2002 and 2006, I conducted a curriculum research-and-development project in the UK. The aims were to adapt aspects of the informal learning practices used by young pop and rock musicians, and bring them into the secondary school classroom. The project then investigated to what extent the adapted informal learning practices could increase pupils' performing, listening and composing skills; raise their levels of motivation, enjoyment and group cooperation; and extend their skills and appreciation in relation to a range of music going beyond the popular sphere, including classical music. The project became part of a national UK music education initiative called "Musical Futures", and since its initial research phase has been taken up by over

1,000 schools in the UK and other countries.² In other schools, universities, and countries similar work has been ongoing, and classroom strategies derived from popular musicians' informal learning practices, or those of other vernacular and/or aural musicians, are being used in a range of contexts.³

Drawing from my own and others' previous research,⁴ I divided informal popular music learning practices into five central characteristics, each one differing in various ways from formal music educational approaches, as follows (Green 2008, 10):

- With informal popular music learning practices, the music is self-selected by the learner.
- The main learning practice involves aural copying from a recording.
- The learning is self-directed and peer-directed, usually in the absence of adult supervision or guidance.
- The skills and knowledge tend to be acquired holistically, according to whatever music is being played, rather than according to a pre-designated order going from simple to complex.
- There is a high integration of listening, playing, composing and improvising throughout the learning.

These characteristics were then adapted for the secondary school music classroom. Pupils were asked to get into friendship groups, choose their own music, select instruments, and attempt to play the music by ear from a recording, whilst largely directing their own learning. The role of the teacher was different from the usual instructional mode; the teachers were asked to start out by observing, then diagnosing pupils' needs. At that point they started to offer guidance and respond to requests for help in a range of ways. These included demonstrating and acting as musical models, explanation, giving technical advice, helping pupils to listen to parts, assisting in making arrangements, and many more such activities. To cut a long story short, the findings of the project have been overwhelmingly positive, with high levels of motivation, group co-operation, inclusivity and skill-acquisition being reported.⁵

During the classroom project, many instrumental teachers asked us, and continue to ask us, whether popular musicians' informal learning strategies might or might not usefully be adapted for the very different, specialised context of the instrumental lesson. In response to this and a range of other factors, I started a project whose objectives were to adapt

informal music-learning practices in similar ways to the classroom project, but this time apply them to the instrumental lesson and evaluate what happened. Whereas many instrumental teachers have backgrounds in popular and other aurally-transmitted musics, and many already use a range of aural learning techniques and recordings in their lessons, I especially wanted to develop strategies that might be useful to classically-trained teachers who might not be inclined to adopt informally-based approaches. At the time of writing I have completed a substantial pilot study, which is the focus of the current chapter. The main study began in September 2011. At the time of writing, in December of that year, we have inducted over 100 teachers into the project and are on the point of starting to implement the strategies and collect data.⁶

One of the differences between the instrumental project and the classroom project is that the instrumental one involved mainly one-to-one teaching. From a research point of view, this meant that I could observe every lesson and focus on each individual child in more detail than was possible in the classroom, where up to 30 pupils were working in small groups simultaneously. Thus some detailed findings concerning how individual learners approached the task came to light. Further differences between the two projects concern the ways in which each was set up. The different teaching-and-learning contexts demand different pedagogical approaches; the instruments involved in the instrumental project, apart from the piano, were mostly not used at all, or used only by a small number of pupils at the very end of the classroom project; the pupils in the current project already had varying degrees of proficiency on their instruments, which was only the case for a small minority in the classroom project; and the current pupils had all been learning to play their instrument through notation and formal teaching, which was again barely the case in the classroom. In fact, in the classroom most of those pupils who did receive specialist instrumental lessons chose to work on instruments that were just as new to them as to the rest of the class (see e.g. Green 2008, 138, 161–162). Therefore, in the current project some pedagogical considerations had to be made, and some findings emerged which were not relevant to, or did not surface in the classroom project. As mentioned earlier, in general I will focus on those issues in the current chapter.

The Research Sample

The project involved 15 pupils, mostly aged 13 to 15, with one 10 year-old and one 17 year-old. One pupil took part in an informal pre-pilot

study; the other 14 took part in the pilot study proper. There were 6 boys and 9 girls. Ten of them were white, 4 Asian, and 1 mixed-race. Two had special educational needs. Between them they played the piano, clarinet, saxophone, trumpet, euphonium, trombone, violin and cello. They had been learning their instruments for varying periods of time from 8 months to 12 years. Most of them were around Grade 2 standard, the highest grade being Grade 6 (using a well-known grading system in the UK).⁷ All but one was attending a state comprehensive school in West London; the youngest pupil was attending the neighbouring primary school.

Four instrumental teachers were involved, all women. Between them they taught the piano, woodwind, brass and strings respectively. The piano teacher worked at home, and the other three worked as peripatetic teachers in the school. Three of them had received traditional, classical conservatoire training. Of these, the string and brass teachers particularly said they felt in “foreign territory” to use their term, in the realms of popular music, ear-playing and improvisation. The piano teacher had professional experience of playing by ear and improvising, particularly in theatre bands, and described herself as self-taught in these areas. The woodwind teacher’s training was in jazz and light music, and she had more experience of ear-playing and improvisation than the others. All but one of the pupils had 6 to 8 project lessons, each lasting 10–15 minutes, once a week.⁸ Altogether 104 project lessons took place. Most of the pupils followed three different project-stages, but in three cases only one stage was taken. All the lessons were individual, apart from one case where two pupils took their weekly lesson together.

Research Methods

The research methods were qualitative, and included participant-observation in all 104 lessons. As participant-observer I took the role of both researcher and teacher; meanwhile, the normal instrumental teacher acted as a critical observer and co-teacher. Each lesson was audio-recorded then transcribed and annotated. The transcriptions and annotations were combined with any field-notes that I had made straight after each lesson, as well as observations of gestures, facial expressions or other factors taken from memory. At the end of the project I conducted individual semi-structured interviews with the students and teachers; a questionnaire with the students; and recorded and transcribed an end-of-project teacher meeting in which I presented and discussed the initial findings with three of the four teachers; (the piano teacher had moved away but I discussed the findings with her informally). The data were

analysed by hand using an iterative coding method, and the findings were allowed to emerge in the manner of grounded theory.

There are obvious disadvantages as well as advantages of such research methods. There is likely to be a halo effect for both teachers and pupils, produced from knowing that one is participating in a research project, or from having a stranger in the room, a colleague with whom to share ideas, a new teacher from whom to get positive feedback, and so on. Researcher-bias is wont to creep in, as the researcher may be inclined to ignore data that threatens the success of the strategies or detracts from the coherence of the findings. Such issues are well-rehearsed in the literature, and naturally I attempted to reduce all of them as much as possible. The benefits of participant-observation and qualitative research are equally well-known. In this case, the research methods enabled me to try out the teaching strategies in the role of teacher myself, and thus get an insider's view of the teacher's role; to make detailed observations of the responses and behaviours of each pupil; to exchange views with the teachers as we went along; and to involve the teachers as co-observers. The observations, perspectives and opinions of the pupils as well as the teachers formed a vital part of the project, and are triangulated with my own observations and conclusions.

The Pedagogic Strategies and Materials

The primary aim of the pedagogy was to enable pupils to *learn a new approach to learning* through developing their listening skills in a way that is modelled upon the aural informal learning practices of popular musicians. This can be broken down into the following aims, which were to:

- introduce pupils to a way of playing by ear which they may not otherwise have come across;
- enhance aural skills and aural understanding, especially the ability to pick out and reproduce pitches by ear;
- help pupils to develop a skill which they could build on in their own time, thus developing learner-autonomy;
- give pupils the means to approach a range of music, arrange it for their own instrument, and play it creatively in a way that pleases them;
- introduce pupils to a way of learning which they find enjoyable, and thus increase motivation;
- give teachers opportunities to observe this kind of aural learning

taking place, and to encounter ways of teaching as well as learning which were likely to be new to them.

The project was not intended in any way to either replace existing traditional or notation-based methods, nor to challenge existing instrumental pedagogy in the popular or any other musical field. Rather, the intention was to add something to traditional notation-based approaches, particularly for those classically-trained teachers who lack confidence in aural or improvisatory realms. As mentioned, the strategies took up only 10 to 15 minutes per week, and normal work was resumed during the rest of the lesson.

The teaching-and-learning strategies were organised in three stages, as follows:

Stage 1: Funk Track, "Link Up"

The first stage involved a specially-prepared instrumental track in a pop/funk style (see Ex. 9-1). Firstly each pupil listened to the opening of the full piece, then to the opening of a track in which the bass riff is played on its own, and repeated over and over for two minutes. (I will refer to such tracks as being "looped", although they were not technologically looped but were played live to avoid a mechanical quality.) Pupils were then asked to attempt to find the pitches of the riff on their own instrument, transposed up or down an octave as they wished. The role of the teacher, which is described in detail later on in this chapter, was to stand back as much as their professional judgement allowed; however various types of help were offered if needed and these will be discussed later. Once the riff had been learnt, this was followed by learning two to five more riffs in the same way. After this the pupils played along to the recording, using any riff they knew, and playing the riffs in any order and combination that they liked. This therefore brought in a certain amount of improvisation. For pianists it meant playing with two hands and, in some cases, playing chords. As well as, or instead of playing along to a recording, the riffs could also be played in a duet with the teacher, or in groups of any number of instrumentalists playing any instruments, during lessons or extra-curricular activities.

Ex. 9-1. Link Up

Figure A: Link Up

L. Green

Moderate

Stage 2: Classical music, with isolated, repeated parts

Stage 2 began around the third lesson for most pupils. The task was to listen to the openings (at least) of six pieces of classical music, and choose one. The pieces were:

- Mozart, Eine Kleine Nachtmusik, 1st movt, arranged for string quartet
- Beethoven, Für Elise, for piano
- Clara Schumann, Piano Trio, 1st movt, for piano, violin and cello
- Handel, flute sonata, Minuet and Trio, for flute, harpsichord and cello
- Brahms, symphony no. 1, fourth movement theme, arranged for string quartet with synthesiser for brass/woodwind
- Bach, Minuet from Anna Magdalena book, played on harpsichord

As with the funk track, each piece was presented first in its complete instrumentation, then each melody or bass line was presented in just two parts, sometimes a little simplified, then the *first phrase* of each melody or bass line was repeated (or “looped”) over and over again for two minutes, then the next phrase, and so on.

Stage 3: Self-chosen music

Stage 3 began in most cases around the fifth or sixth lesson. The pupil was requested to listen to their own music at home, choose any piece,

which could be in any style and for any instrument/voice or combination of such, and teach themselves to play any part of it that they wished, by ear. They then brought a recording of it to the next lesson, and showed what they had done. In this case there was of course no pre-prepared “looped” material to help them.

In devising the strategies, I took into account some of the main characteristics of informal learning as used in the classroom project mentioned above. These characteristics were adapted for the instrumental lesson, but in ways that could be accommodated within this setting:

- The main learning practice was aural copying from a recording.
- The pupils did not choose their own music at first, but after around 5 or 6 lessons.
- A teacher (and a researcher) was present during the lesson, so the self-directed aspect of informal learning was not present. However the pupils moved gradually towards more self-directed learning as the project went on.
- To begin with the skills and knowledge were structured through set pieces and the isolated and repeated riffs or melodies, with some built-in progression. However, after 4 or 5 lessons, the learner chose their own “real” music to work on.
- As well as playing, the task involved a high level of listening and a certain amount of improvisation.

Therefore at first the emphasis was more on *aural* learning than *informal* learning, moving in the direction of informal learning after four or five lessons.⁹

In the CD tracks for Stages 1 and 2 of the project, the keys were not too demanding, the tempi not too fast, and the phrases not too long.¹⁰ In addition, the materials were slightly graded, starting with shorter riffs in the pop/funk piece and moving towards longer phrases in the classical pieces. However, overall the work was based on the principle of differentiation by outcome. In other words, we gave the same materials to each learner regardless of their level of ability, achievement, or the instrument they played. After the first few lessons, when pupils chose their own pieces to work on, any pedagogic systematisation or control over the demands of the piece chosen was of course relinquished.¹¹

A Brief Summary of the Pupils' Initial Approaches to the Task: the Emergence of Potential "Learning Styles"

None of the pupils had previously attempted to find pitches by ear from a recording during a lesson; and in interviewing them at the end of the project, I found that only 4 of the 15 pupils had been confident in the knowledge that music could be learnt entirely by ear before the project started. Another four had never attempted to play by ear before. Nine said they had tried some ear-playing at home, but not by playing along with a recording, and they reported a feeling that they had not had much success. Only one pupil, Tom, regularly played along to recordings at home: "when I'm bored, I pick up the clarinet to play, when I'm listening to some music, I just play along with it." He, however, said that the project strategies had given him "a more rounded kind of information type thing."

As I worked through the data, one area that unexpectedly began to emerge was that there seemed to be four distinct ways in which the pupils approached the task. I conceptualised these as four different "learning styles."¹² By "learning styles" I mean an approach to learning which seemed to come about spontaneously rather than as a result of practice or teaching. At the end-of-project teacher meeting I explained how I was viewing each learning style, presented the criteria on paper, and played one audio-excerpt of each to the teachers. The audio-excerpts were the recordings of the very first moments in which the pupil had attempted to aurally copy the very first notes within the project. I then played further excerpts of first attempts, one from each pupil, and asked the teachers to independently categorise each one according to the same criteria, acting in the manner of judges in an expert panel. I also asked them to note whether they felt the audio excerpts fitted none of the criteria, or would be more accurately described in a different way than the criteria allowed. There was a 100 per cent agreement with my own categorisation in all cases but one, where one teacher classed one pupil differently from how I and the other two teachers categorized her. The four categories are summarised below.

1. The "impulsive" style

After listening to only one rendition of the bass riff, Fred started to play his trumpet loudly and apparently with enormous confidence. He played the rhythm with exact precision, but mainly all on one note, (not one of the correct notes, and slightly out of tune); then he switched to another note and stuck on that. On his second attempt he started dead on

the first note, straight after the two-bar drum introduction, and again played with a great deal of rhythmic accuracy, but on a set of pitches that bore only some similarity to those on the track. By the end, with only encouragement and no specific advice from the teacher, he had settled on his own two-note version of the riff. I called his approach the “impulsive” learning style, because: he started to respond to the music so quickly that he had hardly any time to listen to it first; he played loudly and with seeming confidence; showed no concern for whether his pitches matched those on the recording; and kept going without stopping to make corrections, ask questions or assess progress. Fred was the only pupil we placed in this category; the reason being simply that his approach seemed quite distinct from that of any other pupils.

2. The “shot-in-the-dark” style

Seven of the 15 pupils were placed in this category. In contrast with Fred, these young people approached the task with great hesitation, seeming to harbour doubt and even fear of making a mistake. They would start by listening for several bars, sometimes up to a minute or longer, then when they tried out notes, they would play very quietly. Quite often they would wince or grimace as soon as they had played a note, regardless of whether it was a correct one or not. Even if they happened to play a correct note, they did not usually show any signs of recognising it as such. In most cases, and with a great deal of teacher-encouragement and some guidance (as outlined below), these pupils were able to play the whole of one riff by the end of the first 10 to 15-minute session, and in some cases part of another riff; but with some hesitation and quite a few mistakes. I called this the “shot-in-the-dark” approach.

3. The “practical” style

Five of the 15 pupils were placed in this category. Rather than holding back and stabbing at notes in the manner of the “shot-in-the-dark” pupils, they seemed quite pragmatic, and started off by *playing* their instrument. In that sense, their approach was similar to that of Fred, the “impulsive” pupil. However, in another sense, they took a more applied, strategic approach than Fred, in that they spontaneously broke down the task into components. These components may have been short phrases, but were not always identifiable as such; for example, they may have been just three notes from within the middle of a phrase, or an outstanding interval or a scalar passage. Another approach they had in common was to play their

instrument quietly, which was both unlike Fred, and unlike the quiet, hesitant way identified amongst the “shot-in-the-dark” pupils. Rather, playing quietly enabled them to listen carefully to the CD without drowning its sound with their own playing. Another strategy was to play up a scale until a note in the riff was hit, at which point the player would usually immediately recognize it as one of the correct notes, use it as an anchor, and work out the other notes from there. Another approach was to do something I later called “dwell and catch up”, which was to dwell on a few notes and practice them a couple of times, even though the music on the CD track was still moving forwards through time, then to catch up with the CD music by leaving out the next few bars, and do the same thing the next time the same notes came around. In this way they would fill in the missing notes, not necessarily by following the order in which the notes come on the recording, but by starting perhaps in the middle of the riff and working backwards and forwards. In most cases, by the end of the very first attempt, these pupils had got the whole, or almost the whole riff correct with very little teacher-input, enabling them to move straight on to the next riff.

4. The “theoretical” style

Two pupils were placed in this category. They seemed more inclined to ask questions than to play notes. One of them was William, who had been playing the violin for 4 years. Immediately after I had explained the task and we had listened to the full instrumental track of “Link Up”, he said:

William (violin), lesson 1

William: Which part are we going to be playing, since there were several instruments?

LG: They were indeed. Yes. There were several.

William: So which one are we going to be playing? Or are we playing all of them?

No-one else asked this question, or indeed any question at this point. Other comments and questions he proffered over the course of the project include those below, which the reader might otherwise assume were made by myself or his teacher.

- It’s only playing three notes I think. Three different notes.
- Because the chords, the top chord, the middle chord, and bottom chord were the same rhythm, just different notes.
- It was third finger on the D string wasn’t it?

- The top notes are chords.
- So it just goes second finger, second finger and then first finger, right?
- So it's just the same three notes that just keep on, that they are going to repeat ... So it just keeps on going on. D-C-D, D-C-D.
- It just goes like third finger, second finger, third finger and then it repeats that once and it goes third finger, first finger on the E and then back.
- I think it starts somewhere around the E string, but I'm not sure.

Both William and Liz, the other pupil who was placed in this category, seemed to have an analytical, theoretically-orientated approach to the task. They listened with concentration, but instead of trying notes on their instruments, they would ask questions, and seemed to want to conceptualise how the music was structured, and/or to work out each note in theory before trying to play it. Unlike Fred's "impulsive" style of learning, and the "practical" style of five of the pupils, but rather like the "shot-in-the-dark" style of seven pupils, they seemed reluctant to play. However, as with the "shot-in-the-dark" pupils, by the end of the first lesson, with encouragement and guidance, all but one could play at least one riff either correctly, or with the correct rhythm and contour, if not total pitch accuracy. The exception was the youngest pupil, Joelly, who achieved this at the end of her second session.

An overall picture of the four learning styles

Table 9-1 gives an overall picture of which pupils were placed within each style-category, including their age, instrument, and number of years of taking lessons on that instrument.

Table 9-1. Categorisation of the pupil's learning styles

Impulsive	Shot-in-the-dark	Practical	Theoretical
Fred (14) trpt 4 yrs	Oliver (13) trom 2 yrs Shilpa (15) sax 4 yrs Evie (13) vln 5 yrs Molly (14) euph 8 mnth Raksha (14) cello 3 yrs Joelly (10) pf 2 yrs Parvesh (13) clar 3 yrs	Tom (13) clar 4 yrs Edward (17) pf 12 yrs Ruby (14) pf 5 yrs Jessica (15) pf 7 yrs Katie (15) cello 8 yrs	William (12) vln 4 yrs Liz (13) pf 2 yrs

Clearly there will be much to be discovered with a larger sample. One issue would be the extent to which these four learning styles are replicated, confirmed or contravened with greater numbers of pupils and a bigger expert panel. Others would be the extent to which historical variables such as the type of instrument played, or previous experience of learning might affect the outcomes. Then there are pre-existing psychological differences between pupils, such as personality traits; musical ability differences such as the prior possession or not of “perfect pitch”; social group factors such as age or gender; and a range of other issues which may or may not influence the validity and reliability of the claims about learning styles made here. These are areas that we will aim to investigate to some extent in the main study, although it will not be possible to test for all of them. I will pick them up again briefly at the end of this chapter.

“Learning Style”, “Learning Strategy” and Pupils’ Progress beyond the Initial Stages

Above I have suggested that the pupils’ initial, spontaneous approaches to the task can helpfully be regarded as a type of “learning style.” The concept of “learning style” can be distinguished from that of “learning strategy” (of which claim there is more detailed discussion in Green 2010, and see Note 10). How “style” and “strategy” differ is, basically and briefly, as follows: “style” arises spontaneously, prior to or free from any influences derived from being taught, observing others carrying out the task, or practicing the task; “strategy” develops gradually and appears to be the result of teaching, observation or practice. Here I will give a very brief overview of some of the ways in which pupils progressed, and some of the learning strategies (as distinct from learning styles) that they adopted for themselves as the project went on. Many of the issues are rich, and could probably form the focus of an article on their own. However owing to space I am only able to indicate the overarching areas.

In all cases improvement was noted by myself, the teacher, and the pupil, in the sense that without exception pupils became increasingly able to accurately identify and play pitches by ear as the project went by, as well as gaining in confidence. Those who had been identified as in the “practical” category outlined above maintained basically the same approaches as the task went by, only becoming faster, more accurate and more confident. However, in some cases other pupils seemed to progress *through* different learning styles. For example, Evie’s initial approach was classed as “shot-in-the-dark” but she moved towards a “practical” approach as the lessons went by; and Oliver, initially a “shot-in-the-dark”

pupil, moved towards a more “theoretical” approach. It may be that there is a natural progression between the learning styles, with the “practical approach” being the most effective. In other words, what for some pupils starts out as a spontaneous learning style, becomes for others a learnt strategy.

For example, one strategy that has already been mentioned in connection with the “practical” pupils was what I called “dwell-and-catch-up.” This approach was adopted immediately and spontaneously by all five pupils in the “practical” category, but began to be observable towards the end of the project in the case of at least two others.

Working through the recordings and transcripts, it became possible to identify a number of other strategies that were gradually developed by all or many of the pupils, and which cut across the learning styles. What might be called “deep listening” was a primary one, as pupils began to identify parts within the texture. This is evidenced by statements such as:

Katie (cello): I was trying to pick out bits of the cello parts but it’s really hard to ... so, I just, kind of focused on the main tune.... There was one little bit of cello part that I picked out as well...

Shilpa (saxophone): I did the Little Mermaid song, but I really got like a really random part...

Pupils also began to listen more structurally, as evidenced by statements including “Which part of the melody do you think would be good to learn?” and “Does it just, is it just the same notes twice? ... Is it the same notes three times?” In the post-intervention interviews, 14 pupils were asked the question: “Have you noticed any changes in the way you listen to music in general since you’ve been doing the task? If so, can you explain how?” Five pupils said “no”; four said “some” and five “yes.” There is no space here to quote their exact words, which were in fact very similar to how pupils in the classroom project discussed this issue (see Green 2008, Chapter 4).

Another strategy is related to a tendency amongst many pupils to do what I later called “edge forward.” That is, after having practiced a short part, say four or five notes long, they would then have a stab at the next note or couple of notes almost impulsively. At least 11 instances of this were recorded as independent events that occurred amongst seven of the pupils, and a further pupil talked about having had this experience in her interview. One example was cited at the beginning of this chapter:

Parvesh (clarinet) lesson 3

Parvesh comes in on the right note, stumbles, makes a few more attempts and eventually plays correctly along with the music. Note that he, as with many kids, gets one note right followed by a wrong note; then next time it comes round he gets two notes right; then three. This seems to be a pattern.

Singing the notes that were being sought was another strategy which three pupils in particular spontaneously adopted, one a brass player, one a pianist and one a cellist. This also connects with a teaching strategy, which I will mention later.

There were many instances where pupils were able to play more-or-less the correct pitch *contour* but without getting the exact pitches. This would normally precede finding the exact pitches. Pupils also often spontaneously harmonised, sometimes playing fourths or fifths and sometimes thirds. This led into what can be seen as spontaneous improvisation, which for all the pupils except Tom was a novel experience. As an example:

Edward (piano) lesson 6

At the end something very interesting happens—he reaches for a big chord to finish with, misses it, tries again and misses, then tries again, and says:

Edward: Oh! (Tries again) That's how I wanted to end it, but I haven't practiced that before, it just came to me that I should end it on a high note. (Plays the chord he was aiming for again.)

Along similar lines, some pupils developed the ability to fluently turn a mistake into something that could be considered an improvisatory variation.¹³

Connected with the concept of improvisation, I also observed many instances where pupils appeared to be “in flow”, and this was confirmed by the interviews and discussions with participants. The concept of “flow” as it was first put forward in Csikszentmihalyi's well-known study (1990) refers to a combination of certain types of activity, of which music is one, with an individual's attitudinal state. “Flow” arises when the activity is thoroughly engaging and continuously rewarding, and the individual is wholly and undistractedly wrapped up in carrying out the activity. Here, however, I am not only referring to the concept as a psychological experience of the individual, but also as a quality of the *musical product* itself; in other words, the performance was heard to “flow” or to be more

fluent than is normally expected in a novice player learning a new piece. This finding was also confirmed in the interviews, as a view shared by both pupils and teachers. Again, the presence of “flow” was comparable with its presence in the classroom project (Green 2008).¹⁴

There were some interesting differences between pupils within the present project, in the ways they approached the task when it involved music that they were unfamiliar with, and also music that they were familiar with. It goes without saying that the task of aurally copying an unfamiliar piece of music is more challenging than copying a familiar piece. It is also—as pupils in both the classroom and the current project told us—far more enjoyable when the piece is familiar as well as well-liked. Most pupils expressed quite strong opinions about which music they wanted to choose, both when they were asked to choose between the six classical pieces in Stage 2, and when they were given free choice in Stage 3. Their choices represented a more diverse range of styles than the choices that had been made by pupils in the classroom project.¹⁵ Some selected what they regarded as “suitable” choices which were played either on the instrument they were learning, or that were otherwise suited to it (for example the trumpeter Fred chose the opening of the first movement of Mozart’s *Eine Kleine Nachtmusik*, played by a string quartet but eminently suitable for trumpet too in relation to its arpeggiated “hunting call” nature). By contrast, some went for pieces which they said they thought would be a challenge for their instrument. Some were concerned to pick music that they liked regardless of what instrument it was for; some were concerned to pick music that was easy enough for them to play (this was a consideration which came later to the pupils in the classroom project); and some displayed a mix of these approaches. Two pupils independently of each other picked a piece which happened to be in a very difficult key for them; but which without guidance, and working at home, they both spontaneously learnt to play in a key that they could manage. This was facilitated, of course, because they already knew and liked the tune.

The Pedagogy and the Roles of the Teachers

As explained earlier, at the outset of the project teachers were asked to stand back rather more than usual; this meant saying less, and giving pupils more time than they might normally do to tackle and achieve a task. During her induction session Kate, the piano teacher, responded to this notion with:

Marvellous! My only worry is as a piano teacher I shall become completely redundant!

The fear that highly skilled and dedicated music teachers could become redundant in a teaching situation where they allow learners more autonomy than usual is understandable and has been voiced by others; however, it is exceedingly far from the case.¹⁶ By the end of both the classroom and the instrumental project such fears were dispelled, as evidenced by Kate's view in her end-of-project interview below:

... I have really enjoyed it. I found it on occasions as I said, you know an exquisite torture ... because you know I am terribly difficult keeping my mouth shut at best of times, but it has been a fantastic learning experience for me and so an enriching thing for me that hopefully I can fit back into my work with my pupils.

In what follows I wish to briefly illustrate and discuss the kinds of roles and teaching strategies that the four teachers and myself took as the project went on.

One primary strategy was not dissimilar to strategies often used when teaching from notation. This was to encourage pupils to "keep going." However, the quality of "keeping on going" is different when one is playing along to a recording, especially one that is "looped" as in Stages 1 and 2 of this project, compared with when one is playing from notation. With a recording as a model, whatever the pupil plays or fails to play, the recording carries, moving and changing on through time, whereas the score is a spatial object which remains static and unchanged. Thus, particularly when the recording is "looped", the pupil is able to pick up after a mistake, or wait until the same part of the melody returns in the loop (termed "dwell and catch up", as above), without losing the sense of the musical flow of time. Encouraging pupils to keep going therefore frequently enabled them to learn how to recover from or "play through" any inaccuracies or mistakes (see Note 10). It was easily done, simply with using encouraging words such as "don't worry, just keep going" at appropriate moments; and by ensuring that pupils knew mistakes were allowable and that playing through them was both expected and appropriate. In addition, as discussed above in relation to the concept of "flow", and as the teachers indicated in the post-project interviews, playing along with a recording tended to help pupils play more fluently in a number of ways.

Connected with encouraging pupils to keep going was the strategy of encouraging them to "make their own version" of the piece being copied. Their "own version" may not have been a fully intentional product,

however, but could arise willy-nilly, due to a number of causes. These include the fact that the pupil may have not have been technically competent enough to play the original piece accurately according to its recorded form; or that whilst they may have been technically competent enough, their aural skills were not up to the job; or that they made mistakes in relation to their own intentions, (regardless of whether their intentions were accurate or not). Often, in most aurally-based musics, a “mistake” can be—intentionally or unintentionally—played through, then repeated, so that it comes to be “played in”; the player can at some point in that process make a decision to treat the mistake as an intentional alteration. As we saw earlier with an example from Edward, through such processes the pupils began to engage in intentional embellishment and improvisation. As mentioned earlier, and as touched on in Note 11, the issue of what is correct and what is a mistake, and where the boundaries between these two notions lie in relation to musical creativity and performance, is complex and fascinating.

The notion of “musical sketching” might be helpful here, where the role of the teacher can be understood as encouraging the pupils to make a “musical sketch” rather than a “correct” realisation. As teachers we had to use our judgement about when to offer guidance designed to “correct” what we perceived to be a “mistake”, or what we considered the pupil to have perceived to be a “mistake”, and when to accept an alternative realisation as a potentially valuable, or intentional, variation. Alternatively the opportunity can also be taken to demonstrate the “correct” notes.

Guiding the pupil’s listening was a major strategy. One approach was to ask questions about what was being heard, another was to ask the pupil to listen again and notice small details. Sometimes pupils could respond by playing what they heard, sometimes by describing it in words, or sometimes by simply confirming that they had heard it, even if they were as yet unable to either play it back, or use words to describe it.

Another much-used method was to sing the pitches to the pupil. This enabled us to slow the music down, stop in the middle to wait whilst the pupil found the note, and/or sing a note and allow the pupil to seek it whilst we held onto it. This usually took place either after the pupil was already able to play the broad contour of the melody, or where no progress had been made. Sometimes, if singing was not enough, we gave the name of one or two notes, from which point the pupils could work out the rest by themselves. The next stage was to show the pupils where a note was on the instrument, or how to play it. This was particularly necessary on instruments where notes are less immediately visible, such as the violin or trumpet; or where fingering has many possibilities such as the saxophone

or clarinet. Strangely the brass players seemed to need less help with this than I and the brass teacher expected. (An interesting issue emerged concerning how pupils approached embouchure or “lipping” on brass instruments, which I will mention below as it arose without teacher-intervention.)

Strategies that directly involve modelling by showing pupils how to play whole phrases or pieces were also used, but only after the pupil had already had time to work out pitches autonomously to as great an extent as possible. Demonstration allows the pupil to learn by watching as well as listening, linking sound to eye, and observing a range of physical aspects of playing such as posture, gesture and instrumental technique. Such modelling was also particularly helpful, and described as enjoyable by all parties, when the teacher played along with the pupil as a duet. Another helpful way to model was to occasionally seek pitches ourselves in front of the pupil. The teachers decided not to familiarise themselves in advance with the given CD tracks, and we did not know what music the pupils would bring to the final lessons. In this way, the teachers chose to put themselves in the same position as the pupils. We felt this was both eye-opening and ear-opening for pupils, and for two of the four teachers it was described as challenging and interesting.

Another strategy was to adopt the “theoretical” approach that two of the pupils had spontaneously adopted for themselves, as discussed earlier. Examples of this included asking pupils to listen, as illustrated above, and in this case, to name or describe aspects of the music that they could hear, such as note-names, how many beats were played, whether the harmony was the same or different, what scale or key was being used, how many notes were in the chord, whether the key is major or minor, and so on.

As a useful way of helping pupils to find notes, and to connect the teaching to theory, we also found it helpful to link the piece to scales that the pupils already knew, and clearly opportunities can also be taken to show pupils a new scale, or ask them to work out a new scale for themselves. In addition, the teacher could often find an opportunity to connect the learning to other pieces or other activities that had taken place or were about to take place in other parts of the lesson, with or without notation. Of course teachers also took the opportunity to teach many aspects of instrumental technique, musicianship and musical interpretation—fingering, breathing, intonation, phrasing, dynamics and so on. Such teaching tended to occur at later stages once the pupils had found pitches and gained confidence in playing fluently.

The Pupils' and Teachers' Views

In the post-intervention interview I asked the pupils: "When I first played you the very first CD and said you were going to learn it by ear, without notation, what did you think about that?" Ten of them said they expected it to be difficult or impossible, using words such as: "I thought I am not going to be able to do this"; "it might be a bit hard"; "I thought I wouldn't be able to do that at all, truthfully. I didn't know how to tackle it"; and "panic!" However, after the project all except Tom, the only one who had previously done aural learning by himself at home, reported that it turned out to be easier than expected. Surprisingly perhaps, given their initial reactions and expectations, all the pupils reported that they found it enjoyable, with three-quarters ticking the "very enjoyable" box. Words used to describe the experience, often by several pupils independently of each other, included "fun", "really good fun", "enjoyed it a lot", "really interesting", "brilliant", "something new and interesting to learn", and others. All the pupils said that given a choice between learning only by notation, only by ear, or both, they would choose both.

The teachers were often surprised by how well pupils tackled and progressed at the task, and found that pupils could make leaps which exceeded normal expectations. Examples of this fell into two categories which I will treat below, the first regarding technique, and the second regarding what I will refer to as musical expression.

Firstly, I asked teachers the question: "How much do you feel the pupils' technique—e.g. fingering, embouchure and so on—was affected or not affected by the approach, and if relevant, in what ways?" Examples picked out by teachers included: producing a note that the pupil had not known how to play previously; in the case of brass players, this included "lipping" which was something they did spontaneously and had not been shown how to do; for string players, it might be moving their hand into a new position that they had not previously come across; for all instruments apart from the piano it involved playing with better intonation, and/or making a better sound than normal; for pianists it could be playing a hands-together syncopation that would have been beyond them using notation. In general, it involved most pupils, at some point in time, playing phrases or pieces that the teacher would have thought were beyond them.

As illustrated by the string teacher below, the issue of technique was not without its frustrations, but these also had some compensations, some of which relate to the issue of musical expression:

Susanna: Well the whole thing of technique, I thought featured quite largely in my mind, because there were times when they were doing things

or trying to do it and I was very aware of the fact that they couldn't get the notes they wanted to, because they didn't really know about certain aspects of technique, and actually there was a certain frustration inside me at the time ... but yes, I think they would, they were learning bits of technique in a much more musical way than if it was just in a scale book; or as I say as you are reading notation, sometimes, it can come out so the notes are all there but it's not remotely phrased how it should be. So in that sense you are starting from the *musical* point of view, so that was good I think, yes; and they were copying things that they heard in their recording, perhaps a short bass stroke or, whereas if they were doing that from the notation you'd have to *tell* them.

As Sarah, the brass teacher said on more than one occasion: "You'd need a thousand words to get that out of them."

Secondly, then, regarding musical expression, I asked: "How much do you feel the pupils' musicianship—e.g. phrasing, dynamics, articulation, touch—was affected or not affected by the approach, and if relevant, in what ways?" In this area there was quite strong agreement that the approach elicited a number of valuable and unexpected outcomes, as the example below indicates:

Kate (piano): I would say that's some of the, I mean obviously there was a couple of slips, but that's some of the most sensitive playing I've ever heard [Edward] do! ... [He] I think played better when he wasn't having to read music, because he was able to listen to what he was doing ... I think he achieved a more musical, he was playing more musically at an earlier stage. Because you wouldn't have that extra level of hand-to-eye co-ordination, your brain to page, back to brain and then to fingers, you know all that kind of stuff, they are all little stumbling blocks to playing musically.

As with the classroom project, teachers were unanimous in the view that the foremost skill developed by the strategies was listening. For example:

Kate: ... they are beginning to actively listen to music as opposed to passively hear it, which is something that I am trying to incorporate in all my lessons...

For those instruments other than the piano, another area where improvement was noted, was that of intonation:

Susanna (strings): I think it [the pupils' intonation] is definitely better. Because the thing with the notation, they're playing the right, what they think is the right thing so they think it must be right, you know, because

they've actually forgetting to listen. They're just reading the note and thinking, you know, that's a high 2 and putting the finger there; and, it's actually out of tune. But they're just thinking, 'I've got my finger in the right position, so it's right'. Whereas when we took the music [score] out of the way and they're actually focusing on [listening to] the music, they knew instantly it wasn't right because they were copying and matching.

All four teachers, without prompt, said they felt the task increased pupils' confidence and also linked this to the ability to take ear-playing towards improvisation and in some cases, composition.

The above findings concerning the quality of pupils' performances and/or confidence correlate with findings by other research studies, which systematically investigated the results of aural versus notation-based learning. In a study by Watson (2010) a jazz improvisation task was given to 62 college students; half of them received instruction primarily through aural imitation, and the other half received instruction primarily through notated exercises. In a study by Woody and Lehmann (2010), an aural learning task was carried out by two groups of 12 musicians. The members of one group had backgrounds in formal training and classical music only; whilst those in the other group had backgrounds in both formal training and aural, informal, vernacular music-learning. Findings in both studies were deduced from systematic observation, expert judgement and/or the reported perceptions of the players themselves. Participants who had learnt by ear felt more confident, played more fluently, "musically" or expertly and/or had a more fluid relationship with their instrument. For example, in Woody and Lehmann's study, in unprompted responses to open questions, out of 12 formally-trained participants, 5 mentioned that they had found the aurally-learnt melody problematic or unpredictable; meanwhile, none of the vernacular musicians made such a comment, but on the contrary, 6 of them mentioned that they had found the melody predictable and typical. Whereas 9 of the formal musicians reported having been conscious of fingering or other actions on their instrument during the task, only one of the vernacular musicians did so.

Back to the current project, there was agreement amongst the teachers that, although many of us found it difficult to stand back at the outset of the project, this was indeed necessary; and also that as in all teaching, one has to carefully judge the moment when it is necessary to step in and offer help. It is perhaps worth citing two examples at some length:

Kate (piano): Sometimes I found it absolutely agonising to stand back and watch whilst their fingers hover over the right notes, and you want to say "Yes, that's it, go for it" but you know I see why it is better to let them find the notes themselves ... I think that it's got to be determined by each

particular teacher and how they work best, and how they relate to each different pupil. I think the role has got to be facilitative, if that word exists, rather than telling; because what you could find yourself doing and what I would be tempted to do, because I tend to be quite hands on, is say: "Yes there is your start note, there it is, look at it, that's how it is." I can see that's not always helpful, although I think you have to do it on a case-by-case, pupil-by-pupil basis. But I absolutely take [the project's] point and I've learnt from that, sometimes you just have to learn to sit back and let them sink or swim, but hopefully you are not going to let them drown ... and what I will take from it is giving them the tools to do it for themselves ... So there is no point in just showing them, but I think as a teacher you have to accept the point at which we reached a block, a stumbling block at which there is a danger that this is all going to fall apart. So I think you have to approach it on a pupil-by-pupil basis.

Sarah (brass): ... from my point of view I thought it was really good because you didn't know [inaudible] anyway. The less you would say to them kind of was the better, so if you just explained what you want and then left them to their own devices to try and work it out, and then from my point of view just giving a helping hand, explaining how they could use their instruments to help them do what they were doing, either different positions or using their valves or using their lip, just little technical things that helped them to get their notes. I think that worked best. And just really sort of leaving them to work it out themselves.

All the teachers indicated that they felt they had learnt from being involved in the project, and that the approaches would be likely to influence their future teaching, not necessarily through an exact replication of the materials and strategies, but in more general ways. To end with a quote from each teacher:

Kate (piano): ... I am finding this absolutely fascinating; and it's already having an effect on the rest of my teaching too, just in a general way; and it's reminding me that there is more than one way to learn, you know, what a middle C is ... I think it has reminded me that a holistic approach to teaching is very important. And I think I will incorporate the aural tradition, if you like, your teaching methods, on a daily basis...

Susanna (strings) [in an unsolicited email sent after the project]: I found taking part in the whole project really interesting and rewarding. It gave me new insights into how people learn and has given me new ideas which I will definitely incorporate into future lessons.

Sarah (brass): It's been a real eye-opening experience ... at the time I thought, "Oh, I am not sure how it's going to work or how it's going to fit in with our lessons and our timetables and things with the exams around",

but it's been really good for the kids and they've all enjoyed it. So I mean, I thought some of them might come to me the next week and say, "I really don't like it", or "I am really not getting on." But nobody said anything.

Lynne (woodwind): ... the [pupils] that did it thought it was fun, and if you can make learning fun, then that's just the best way to do it. So I think that really it should be incorporated into every lesson, to be perfectly frank, if you can ... I think it was a resounding success. That's my comment. It really was! All the teachers enjoyed it and all the pupils enjoyed it.

Issues for Further Research and Development

This project was a small-scale investigation in an area which seems to contain much potential for further work concerning a range of issues confronting music educators today. Such issues are by no means tied to the particular pedagogic strategies involved in the current project, but relate to a number of approaches currently being developed in which informal, aural learning practices, or learning practices that have generally been associated with the informal sphere, are being taken more seriously and adapted within formal music education (see Note 2). Here I will briefly indicate some of the areas which seem to me to bear potential fruit. I have restricted my comments to those which could arise directly from the project under consideration in this chapter, but of course they have a wider potential application in relation to other similar projects.

One thing is clear: we would need to study the learning processes involved in the project over a longer period of time, and with much larger numbers of pupils and teachers, before we could produce any thoroughly robust findings. In the main study, due to start in September 2011, that will be possible to some extent, and some of the questions and issues which I have identified above and below will be investigated. However it will by no means be possible to address them all. Issues for further development can be considered to fall under two broad categories. One concerns the practical development of the project's pedagogy, and the other concerns the theoretical and methodological development of the research.

One way in which to extend the pedagogic approach would be to introduce further stages. For example, a fourth stage could be added to the current three-stage model, focussing more directly on improvisation; a fifth stage could focus on composition, a sixth stage on group-learning or peer-directed learning, and another one on the development of musical leadership skills. After the project had ended, the teachers put together a performance for the school concert involving 35 pupils who had learnt the

music by ear in sectional rehearsals. Susanna, the string teacher, adapted the strategies for her adult string class, which involved a teacher-directed, group session, and went on for a whole academic year.

The pedagogy involved in facilitating group learning by ear is necessarily rather different from that involved in individual learning. This is particularly so because the individual can choose when to start and stop the recording, and can focus their ear on the recording itself without the distraction of others playing at the same time. But with more than one person learning at a time, the decision about when to stop the recording has to be taken either by the teacher, or an appointed member of the class acting as musical leader; and the other members of the class may be playing any notes—accurate, inaccurate, improvisatory, or whatever—as the music goes on. There are a number of implications concerning the pedagogic strategies, including for example how to manage the needs of everyone in the group; how to build in a higher level of visual learning as the group will watch the teacher modelling at the same time as they are attempting to copy; the use of peer-direction, and many more. Such extensions to the model would obviously also contain implications for extending the research.

Regarding other possible extensions to the research, as distinct from the pedagogy, there are many possibilities. For example I would hypothesise that—despite the fact that both the project pedagogy and notational pedagogy involve the replication of a pre-composed piece and largely require no necessary improvisation—learners would be in a better position to improvise after they had followed the first three stages of the project (or other similar approaches), than if they had learnt to play the same pieces by notation. Such a hypothesis, and many others, could be investigated by the use of a matched control group, with both quantitative and qualitative measures of ability and achievement taken before, during and after the intervention.

In the present research, the teaching and research team formed an “expert panel” which made judgements about outcomes. These included, for example, the proposition that pupils were displaying different learning styles as discussed earlier, and they included judgements about skill and knowledge-acquisition, quality of playing, and other issues. The use of a larger independent panel of experts to judge such matters could confirm, invalidate, and/or throw further light on them.

There are many questions to be explored regarding both individual and social-group differences between the pupils, which would again require larger numbers of participants in order to be investigated. As mentioned earlier, individual differences would concern areas such as ability and

motivation, whereas social differences would concern membership of different social groups. Regarding the former, clinical tests of pitch-sense, for example, could be administered before, during and after the intervention. It would also be interesting to observe whether pupils who display signs of “perfect pitch” before the project adapt different approaches to the task; for example, would it be the case that those with perfect pitch are more likely to adopt what I earlier called the “practical” approach? Age-differences are also likely to have an effect on both the approach to learning and the ability to undertake the task. An application and investigation of the project strategies, or other similar strategies, across different age-groups could throw new light on child-development in relation to musical ability and understanding.

As mentioned earlier, it is likely that different instruments will be connected with different approaches to aural learning, and different outcomes. More knowledge and understanding of the capacities or affordances of different instruments in these respects could be of vital interest to music educators, as they may carry implications for which instruments are most likely to be of help at different levels, ages, or for different individuals.

There are also potentially interesting questions about whether complete beginners would display the same approaches to learning as those who had been taking lessons for varying lengths of time. So far, there are indications that our normal grading systems may not apply to learning and teaching using aural-copying approaches: some learners who are graded as beginner in the traditional structure may be better at this particular task than those graded as more advanced, and vice versa; and some pupils who have been designated as having high ability may be less good at this task than those who have been designated as having low ability, and vice versa. There are also questions to be explored concerning aural learning in relation to assessment, inclusion, and special educational needs.

Many music teachers and researchers are today committed to the expansion of the styles of music that are included and valued within education, and a broadening of concepts concerning how to teach music and how to both facilitate and direct musical learning. The bibliography given at the end of this chapter represents only a small proportion of the work being done. The work is not, and should not be, restricted to any one style of music; nor should we risk losing the time-honoured, and often very differing traditions of music-teaching that have kept alive highly specialist educational practices, from the Western classical to the Indian classical styles and beyond. But there is much which remains to be done in attempting to return the enjoyment of music-making to what I believe

most music-educators agree is its rightful place—a participatory aspect of what it is to be human.

References

- Allsup, R. E. 2004. "Of Concert Bands and Garage Bands: Creating Democracy Through Popular Music." In *Bridging the Gap: Popular Music and Education*, ed. C. X. Rodriguez, 204–23. Reston, VA: MENC.
- . 2008. "Creating an Educational Framework for Popular Music in Public Schools: Anticipating the Second-Wave." *Visions of Research in Music Education*, 12.
- Boespflug, G. 2004. "The Pop Music Ensemble in Music Education." In *Bridging the Gap: Popular Music and Education*, ed. C. X. Rodriguez, 190–203. Reston, VA: MENC.
- Byrne, C. 2005. "Pedagogical Communication in the Music Classroom." In *Musical Communication*, eds. D. Miell, R. MacDonald, and D. Hargreaves, 301–19. Oxford: Oxford University Press.
- Byrne, C., and M. Sheridan. 2000. "The Long and Winding Road: the Story of Rock Music in Scottish Schools." *International Journal of Music Education* 36: 46–58.
- Coffield, F., D. Moseley, E. Hall and K. Eccleson. 2004. *Learning Styles and Pedagogy in Post-16 Learning: a Systematic and Critical Review*. London: The Learning and Skills Research Centre.
- Cope, P. 1999. "Community-Based Traditional Fiddling as a Basis for Increasing Participation in Instrumental Playing." *Music Education Research* 1 (1): 61–73.
- Clements, A. C. 2008. "Escaping the Classical Canon: Changing Methods Through a Change of Paradigm." *Visions of Research in Music Education*, 12.
- Cutieta, R.A. 2004. "When We Question Popular Music in Education, What is the Question?" In *Bridging the Gap: Popular Music and Education*, ed. C. X. Rodriguez. 242–47. Reston, VA: MENC.
- Downey, J. 2009. "Informal Learning in Music in the Irish Secondary School Context." *Action, Criticism and Theory in Music Education* 8 (2): 47-60.
- Dunbar-Hall, P. 1996. "Designing a Teaching Model for Popular Music." In *Teaching Music*, ed. G. Spruce. London and New York: Routledge in association with the Open University.

- Dunbar-Hall, P., and K. Wemyss. 2000. "The Effects of the Study of Popular Music on Music Education." *International Journal of Music Education* 36: 23–35.
- Emmons, S. E. 2004. "Preparing Teachers for Popular Music Processes and Practices." In *Bridging the Gap: Popular Music and Education*, ed. C. X. Rodriguez, 158–73. Reston, VA: MENC.
- Evelein, F. 2006. "Pop and World Music in Dutch Music Education: Two Cases of Authentic Learning in Music Teacher Education and Secondary Music Education." *International Journal of Music Education* 24 (2): 178–87.
- Feichas, H. 2010. "Informal Music Learning Practices as a Pedagogy of Integration in Brazilian Higher Education." *British Journal of Music Education* 27: 47–58.
- Finney, J., and C. Philpott. 2010. "Student Teachers Appropriating Informal Pedagogy." *British Journal of Music Education* 27: 7–19.
- Folkestad, G. 2006. "Formal and Informal Learning Situations or Practices vs Formal and Informal Ways Of Hearing." *British Journal of Music Education* 23 (2): 135–45.
- Gatien, G. 2009 "Categories and Music Transmission." *Action, Criticism and Theory in Music Education* 8 (2): 95–120.
- Georgii-Hemming, E., and M. Westvall. 2010. "Examining Current Discourses Of Music Education In Sweden." *British Journal of Music Education* 27: 21–33.
- Green, L. 2001. *How Popular Musicians Learn: A Way Ahead for Music Education*, Aldershot, Ashgate.
- . 2008 *Music, Informal Learning and the School: A New Classroom Pedagogy*, Aldershot, Ashgate.
- . 2010. "Musical 'Learning Styles' and 'Learning Strategies' in the Instrumental Lesson: Some Emergent Findings From a Pilot Study." *Psychology of Music* (currently available as on online article; paper version to appear in due course).
- Hallam, S., A. Creech, C. Sandford, T. Rinta, and K. Shave. 2008. *Survey of Musical Futures: a Report from Institute of Education University of London for the Paul Hamlyn Foundation*. Paul Hamlyn Foundation Project Report.
http://media.musicalfutures.org.uk/documents/resource/27229/IOE_Musical_Futures_report.pdf
- Heuser, F. 2008. "Encouraging Change: Incorporating Aural and Informal Learning Processes in an Introductory Music Education Course." *Visions of Research in Music Education* 12.

- Humphreys, J. T. 2004. "Popular Music in the American Schools: What History Tells us About the Present and the Future." In *Bridging the Gap: Popular Music and Music Education*, ed. C. X. Rodriguez, 91–106. Reston, VA: MENC
- Jaffurs, S. E. 2004. "The Impact of Informal Music Learning Practices in the Classroom, or How I Learned How To Teach From a Garage Band." *International Journal of Music Education* 22 (3): 189–200
- Jones, P. M. 2008. "Preparing Music Teachers for Change: Broadening Instrument Class Offerings to Foster Lifewide and Lifelong Musicing." *Visions of Research in Music Education* 12.
- Karlsen, S. 2010. "BoomTown Music Education and the Need for Authenticity: Informal Learning put into Practice in Swedish Post-Compulsory Music Education." *British Journal of Music Education* 27: 35–46.
- Lebler, D. 2007. "Student as Master? Reflections on a Learning Innovation in Popular Music Pedagogy." *International Journal of Music Education* 25: 205–221.
- . 2008. "Popular Music Pedagogy: Peer Learning in Practice." *Music Education Research* 10 (2): 193–213.
- Lines, D. 2009. "Exploring the Contexts of Informal Learning." *Action, Criticism and Theory in Music Education* 8 (2): 1–7.
- Mans, M. 2009. "Informal Learning and Values." *Action, Criticism and Theory in Music Education* 8 (2): 80–94.
- Marsh, K. 2008. *The Musical Playground: Global Tradition and change in Children's Songs and Games*. Oxford: Oxford University Press.
- O'Flynn, J. 2006. "Vernacular Music-making and Education." *International Journal of Music Education* 24 (2):140–47.
- Riding, R., and S. Raynor. 1998. *Cognitive Styles and Learning Strategies*. London, David Fulton Publishers.
- Rodriguez, C. X. 2004. The Broader Perspective, in *Bridging the Gap: Popular Music and Music Education*, ed. C. X. Rodriguez. Reston, VA: MENC.
- . 2009. "Informal Learning in Music: Emerging Roles of Teachers and Students." *Action, Criticism and Theory in Music Education* 8 (2): 36–47.
- Schmeck, R. R., ed. 1988. *Learning Strategies and Learning Styles*, New York and London: Plenum Press.
- Seddon, F., and M. Biasutti. 2009. "Participant Approaches to and Reflections on Learning to Play a 12-bar Blues in an Asynchronous e-Learning Environment." *International Journal of Music Education* 27 (3): 189–203.

- . 2010. "Strategies Students Adopted When Learning to Play an Improvised Blues in an E-Learning Environment." *Journal of Research in Music Education* 58 (2): 147–67.
- Siefried, S. 2006. "Exploring the Outcomes of Rock and Popular Music Instruction in High School Guitar Class: a Case Study." *International Journal of Music Education* 24 (2): 168–177.
- Sternberg, R. J., and L.-F. Zhang, eds. 2001. *Perspectives on Thinking, Learning, and Cognitive Styles*, Mahway, NJ, Lawrence Erlbaum Associates.
- Suzuki, S. 1986 *Nurtured by Love: The Classic Approach to Talent Education* (2nd ed.), Miami, Florida: Suzuki Method International
- Väkevä, L. 2006. "Teaching Popular Music in Finland: What's Up, What's Ahead?" *International Journal of Music Education* 24 (2), 126–31.
- . 2009. "The World Well Lost, Found: Reality and Authenticity in Green's 'New Classroom Pedagogy'." *Action, Criticism and Theory in Music Education* 8 (2): 8–35.
- . 2010. "Garageband or GarageBand? Remixing Musical Futures." *British Journal of Music Education* 27 (1): 59–70.
- Watson, K. E. 2010. "The Effects of Aural Versus Notated Instructional Materials on Achievement and Self-Efficacy in Jazz Improvisation." *Journal of Research in Music Education* 58 (3): 240–59.
- Wemyss, K. L. 2004. "Reciprocity and Exchange: Popular Music in Australian Secondary Schools." In *Bridging the Gap: Popular Music and Education*, ed. C. X. Rodriguez, 141–57. Reston, VA: MENC.
- Westerlund, H. 2006. "Garage Rock Bands: a Future Model for Developing Musical Expertise?" *International Journal of Music Education* 24 (2): 119–25.
- Woody, R. H., and A. C. Lehmann. 2010. "Student Musicians' Ear-Playing Ability as a Function of Vernacular Music Experiences." *Journal of Research in Music Education* 58 (2): 101-115.
- Wright, R., and P. Kanellopoulos 2010. "Informal Music Learning, Improvisation and Teacher Education." *British Journal of Music Education* 27 (1): 71–87.
- Zhang, L.-F., and R. J. Sternberg. 2006 *The Nature of Intellectual Styles*, Mahwah, NJ, London, Lawrence Erlbaum Associates.

Notes

¹ I am deeply grateful to the teachers, Sarah Dias, Kate Edgar, Lynne Hobart and Susanna Wilson, all of whom went beyond the call of duty in their participation, and beyond my expectations in their enthusiastic and perceptive professional input. The 15 pupils impressed me with their commitment, their musical abilities, and the thoughtful and insightful ways in which they talked to me about their experiences of the project. I am deeply grateful to them all, and it was a pleasure to work with them. I would also like to thank the Head of Department and the school where I worked, for their interest, warm welcome and support. The project was funded by the Esmée Fairbairn Foundation, to whom I remain extremely grateful. I would also like to acknowledge the initial support of the Paul Hamlyn Foundation “Musical Futures” project in undertaking the background to this research, and the Institute of Education, University of London.

² The Musical Futures project www.musicalfutures.org is funded by the Paul Hamlyn Foundation. A detailed discussion of the strategies and research findings is available in Green (2008), and the background to the project is in Green (2001). The project’s teaching strategies and materials themselves, along with a range of related materials which have since been developed by teachers, are available on the website at www.musicalfutures.org.uk/c/Informal. A range of Musical Futures informal learning initiatives are now taking place in Australia, the USA, Canada, Brazil and other countries. The first year and other aspects of the project were funded by the Esmée Fairbairn Foundation with the support of the London University Institute of Education.

³ For current projects and commentaries concerning the adaptation of informal music learning practices within the formal realm, see for example: Allsup (2004), Boespflug (2004), Byrne (2005), Byrne and Sheridan (2000), Cope (1999) Cutietta (2004), Downey (2009), Dunbar-Hall (1996), Dunbar-Hall and Wemyss (2000), Emmons (2004), Evelein (2006), Feichas (2010), Folkestad (2006), Finney and Philpott (2010), Gatién (2009), Georgii-Hemming and Westvall (2010), Green (2001, 2008), Heuser (2008), Humphreys (2004), Jaffurs (2004), Jones (2008), Karlsen (2010), Lebler (2007, 2008), Lines (2009), Mans (2009), Marsh (2008), O’Flynn (2006), Rodriguez (2004, 2009), Seddon and Biasutti (2009, 2010), Siefried (2006), Väkevå (2006, 2009, 2010), Watkins (2010), Wemyss (2004), Westerlund (2006), Woody and Lehmann (2010), Wright and Kanellopoulos (2010). This list is not exhaustive and there are many other excellent references on this topic to be explored.

⁴ For examinations of popular musicians’ informal learning practices see e.g. Bayton (1997), Bennett (1980), Berkaak (1999), Björnberg (1993), Campbell (1995), Clawson (1999a), Cohen (1991), Davis (2005), Finnegan (1989), Green (2001), Horn (1984), Kirshner (1989), Lilliestam (1996), Negus (2000).

⁵ This is explored in Green (2008), but for an independent evaluation report see Hallam et al (2008).

⁶ This study is funded by the Esmée Fairbairn Foundation with the support of the London University Institute of Education.

⁷ The grade system is run by a range of boards in the UK, and exported to many other countries. Two of the most well-known boards are the Associated Board of the Royal Schools of Music, and Trinity Guildhall. The grades run from 1 to 8. Usually (but not always) a minimum of a distinction in Grade 8 would be expected for a first-study entrant to a conservatoire, with a pass in Grade 8, or in some cases, Grade 6, being acceptable for an entrant to a music degree at a university.

⁸ One girl, Liz, had only two lessons because she had to go into hospital during the project; however she and her mother agreed that she should nonetheless participate in the interviews, and I have included data from her lessons and interview along with the others.

⁹ The relationship between aural and informal learning both inside and outside formal education contexts is of course fascinating, although there is no space to enter into it here. See e.g. Folkestad (2006), Green (2001, 3–7, 2008, 10), and various texts in Note 2 for discussions.

¹⁰ How exactly the word “too” was measured here, was based on long experience of music teaching, and on the practice-based findings of the classroom project. Basically the principles were to use: keys of no more than two accidentals, a high proportion of step-wise movement, intervals of no more than a fifth, phrases of usually no more than four bars, rhythms consisting of mainly quavers, crotchets and minims (although with some syncopation at times), and moderate tempi.

¹¹ There are a number of similarities between this approach and the Suzuki method (Suzuki 1986), particularly the system of giving pupils recordings to copy aurally. However there are also differences which are quite deep-rooted. These arise partly from the different ways in which the two approaches came about. Whilst the Suzuki method is based on observing how children learn their native tongue, the approach of this project is based on observing how novice popular musicians learn aurally and informally. Another difference is that, unlike in Suzuki, here, each piece is not specially designed for the pupil’s particular instrument, and not systematically graded according to an organised trajectory of pupil-progress. Rather, the attempt is to open the world of music to the pupils in a different way, by helping them to realise that they can adapt a wide range of musical styles, played by any instrument or combination of forces, and arrange it for their own instrument. After the first few lessons, the child is given free choice about what music to play. In Suzuki, differentiation is built into the strategy, since different tasks and materials are given to the learners at different ability levels or stages of development, and specially designed for different instruments; whereas here as mentioned above, differentiation is by outcome. Another difference is in the role of the teacher and parent: in the Suzuki method there is a high level not only of progressive structure, but also adult and expert guidance. Here, the teacher is asked in the first instance, to stand back and make observations about how the pupil goes about the learning, and only later on to offer guidance, suggestions and demonstration. Parents were not involved. Finally, as mentioned earlier, the aim of the project strategies was to enable pupils to adopt a particular, aural approach concerning *how* to learn, rather than primarily to enable them to achieve mastery over *what* is learnt.

¹² The notion of “learning styles” and all the findings discussed in the present subsection of this chapter are the focus of more detailed discussion in Green (2010). For overviews of work on the concept of “learning style” generally, not related to music, see e.g. Zhang and Sternberg (2006), or Coffield et al. (2004). Riding and Raynor (1998) provide a useful overview of work up to that date. Schmeck (1988) and Sternberg and Zhang (2001) offer anthologies with chapters by many of the core authors in the field. Within music education some interesting detailed studies on ways in which learners approach tasks and the identification of different strategies or approaches have also been carried out. See for example Seddon and Biasutti (2009, 2010), who identified five distinct learning activities amongst pupils engaged in improvisation.

¹³ The place where improvisation begins, and making a mistake ends, is not always clear-cut, nor should it be (as discussed in Green 2001, 41–45). For a range of discussions see Bailey (1992), Berliner (1994), Lines (2005), Martin (1996), or Monson (1996). I will pick up this thread again briefly below in the section on the role of the teachers.

¹⁴ In the instrumental setting pupils were less likely to play for extended periods of time, whereas in the classroom setting groups of up to 8 pupils (at the most) were seen to be “in flow” for periods of over five minutes at a time. However there was a case in the instrumental lesson where myself, the woodwind teacher and a clarinet pupil played through “Stand By Me” together, and this went on for several minutes, resulting in the teacher saying she had never heard the pupil play so fluently before. No doubt the differences were more to do with the presence or absence of other musicians to play with than anything intrinsic about the nature of the task.

¹⁵ When they first carried out the task, the classroom pupils chose almost entirely current charts pop songs. When they repeated the task later in the year, their choices broadened out to include “classic” songs, often taken from their parents’ collections. However this range was still less diverse than that represented by the choices of the instrumental pupils in the current project. Few classroom pupils and none of the 15 instrumental pupils selected music that reflected any ethnic minority. However this could change if they did the task over a longer period, and further research on this topic could be interesting.

¹⁶ See Allsup (2008) and Clements (2008), and also my response (Green 2008). There is further advice about the role of the teacher in the classroom project on www.musicalfutures.org