COMPOSING, PERFORMING AND AUDIENCE-LISTENING AS SYMMETRICAL INDICATORS OF MUSICAL UNDERSTANDING

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ABSTRACT

The thesis conceptually disentangles two dimensions of music making and development: understanding and practical skills. Musical understanding, the awareness of the meanings embodied in the elements of musical discourse, is taken as a single conceptual dimension which operates across the central modalities of music making – composing, performing and audience-listening. It is recommended in the literature that these activities should be integrated in the curriculum as they interact with each other. A rationale is offered on the nature of this interaction, suggesting that it takes place in the dimension of understanding, the manifestation of which depends on the refinement of the practical skills necessary to accomplish particular tasks. It is hypothesised that musical understanding will be manifested symmetrically across composing, performing and audience-listening activities once the tasks are appropriate and accessible.

The empirical study consisted of a small sample design with repeated measures both across and within the three modalities. Over five months of teaching within the integrated approach to the three activities, twenty students between 11 and 13,5 years old from a non-specialist music school in Brazil offered three 'products' in each modality. These were assessed by independent judges using for the first time the three-fold criteria derived from Swanwick and Tillman's Spiral Model (1986) as an instrument to assess musical understanding across various modalities of music making. Results show that there was no symmetry across all three modalities. They revealed, nonetheless, significant symmetry across composition and audience-listening. Performance was the modality in which students achieved lower scores, being the poorest indicator of the

extent of their musical understanding. This supports the assumption that the demonstration of understanding is constrained by the complexity of the tasks. The distinctive psychological nature of each modality and the extent to which this might have affected the results are also considered. Curriculum implications point to the relative role of each modality in facilitating the development and demonstration of musical understanding.

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INTRODUCTION

Composing, performing and audience-listening are the main processes of music. These constitute the main 'windows' from which music can be approached and therefore the central forms of engagement with it. For this reason, it is believed that music education should lead children to experience music through those three modalities. It is also believed that these activities should be integrated in the curriculum as they illuminate and interact with each other. Although such claims are frequent in the literature, little research has been done to support their legitimacy. This was the initial motivation behind this thesis.

A critical point of such an approach to music education is the feasibility of Pupils' developing a reasonable level of practical skills to engage in more challenging musical experiences. It is observed that achievement in music correlates to more specialized and focused forms of musical instruction. This helps to create an unfortunate dichotomy between so-called 'general' and 'specialist' forms of music education. It thus becomes imperative to deepen our knowledge of what counts when children make music, and how their making music affects their musical growth. A more comprehensive picture of children's music education is attempted by perceiving it as functioning in two dimensions: musical understanding and skills. Although these two strands are connected in the psychological experience of music, they need to be conceptually disentangled for investigation purposes. A central concern in this thesis is therefore to get musical understanding and musical skills into perspective, searching for a compromise between what would be desirable in theoretical terms and what would be feasible to achieve in practical terms.

Therefore, these are the two main ideas underlying the whole thesis: the relevance of composing, performing and audience-listening activities and the relationship between understanding and skills in music making and musical development.

Throughout the thesis these two ideas will be approached within an interdisciplinary theoretical framework and through examination of empirical data. The various strands of the literature thus approached merge into the subject of our research problem: the demonstration and the development of musical understanding through those three main 'channels' – composing, performing and audience-listening. It is hypothesized that a particular level of musical understanding - the qualitative mode of thinking - applies across the various modalities of music making, and is manifested under certain environmental conditions. Therefore, an approach to music education in which students have experience in the three modalities becomes an appropriate context within which such issues can be observed.

In Chapter One, musical understanding and skills are conceptually disentangled, in an attempt to clarify how they relate to each other in music making and in musical development. The interplay between understanding and skills is examined from a broader philosophical perspective - the discourse on liberal education - which might illuminate the corresponding issue in music education. The liberal ideal claims the intrinsic worth of understanding into the various symbolic forms, among which music has an especial place. The source of such understanding is thought to be direct participation in music, which, however, demands the articulation of practical skills. A rationale of the relationship between understanding and skills is thus offered, which has an impact on students' musical assessment and development.

In Chapter Two the comprehensive view of music education is contrasted to the specialist approach. The two views presuppose different principles and objectives, implying also an adequate conceptualization of composing, performing and audience-listening as activities. The comprehensive view of music education claims the value of all three modalities as essential elements of musical experience and powerful means for musical expression and growth. A clearer rationale is proposed on the nature of the interaction among the activities, which is hinted at but not explained in the literature.

Chapter Three proposes a framework for the development and demonstration of musical understanding. A psychological perspective is added to the assumption that children should have the opportunity to experience music through the three modalities. The issue of the interaction among the activities is also expanded. As we turn to discuss the path of musical development, issues such as environmental influence and factors underlying achievement are addressed. These will serve as background for approaching Swanwick and Tillman's Spiral Model of Musical Development[1]. The Spiral theory is the framework according to which students' achievement across the three activities will be eventually assessed. This is the first theory on musical development which comprehensively describes the nature of musical experience, contemplating what the various modalities share in common: the articulation of the elements of musical discourse, materials, expression, form and value.

[1]First appeared in Swanwick and Tillman (1986); extended in Swanwick 1988 and 1994.

Chapter Four sets up the research problem and methodological issues, describing the conditions of the fieldwork carried out in Brazil in a non-specialist music school. It also considers the validation of the assessment criteria derived from the Spiral Model, being used for the first time in this thesis to measure musical understanding across all three modalities. The findings are reported and discussed in Chapter Five. For illuminative purposes, Chapter Six offers a qualitative description of a number of students' compositions, performances and audience-listening reports. The last Chapter recalls how the findings relate to the theoretical framework, pointing relevant implications for educational practice, assessment, and further research into music education.

CHAPTER ONE

MUSICAL UNDERSTANDING AND MUSICAL SKILLS

MUSICAL UNDERSTANDING AND MUSICAL SKILLS

1. MUSIC AS A FORM OF KNOWLEDGE

We are inheritors of a culture that includes understandings, imaginings, meanings, beliefs, achievements and practices[1] - the various symbolic systems which form that cultural inheritance. Michael Oakeshott calls these cultural elements 'voices' which, together, generate a 'conversation', "an unrehearsed intellectual adventure"[2] with which we are invited to engage. These 'voices' are not only ways of understanding the world, but also fundamental expressions of human self-understanding[3]. Through symbolic forms people are able to interact with one another and to articulate experience in meaningful ways. Swanwick (1992, 1994) believes that "[s]ymbol-making and symbol-taking are the supreme human gifts"[4], and "[i]nitiation into symbolic modes is what education is about"[5]. Each symbolic form contributes to the 'conversation' in a particular and enriching way[6]. Therefore, it would be desirable that the various forms of knowledge should feature in the curriculum for all students as part of their liberal education.

The debate between advocates of liberal education and those of vocational

[1]Oakeshott, M. in Fuller, Timothy (1989) *The voice of liberal learning: Michael Oakeshott on Education*, New Haven and London: Yale University Press, p.93.
[2]Oakeshott, Michael (1962) *Rationalism in Politics and Other Essays*, London: Methuen, p.198.
[3]Oakeshott in Fuller, Timothy (1989) op.cit., p.38.
[4]Swanwick, Keith (1992) *Music Education and the National Curriculum*, London: Institute of Education, p.23.
[5]Swanwick, Keith (1994) *Musical Knowledge: Intuition, Analysis and Music Education*, London: Routledge, p.38.
[6]Hirst, Paul (1965) 'Liberal Education and the Nature of Knowledge', in Archambautt, R.D. (ed) *Philosophical Analysis and Education*, London: Routledge, p.52.

education dates back to Aristotle's time[7]. There has been a long history of conflicts of value systems and interpretations, as these two dimensions of education comprise contrasting sets of meanings, purposes and virtues. The Greek idea of liberal education emerged from philosophical doctrines which claimed that the pursuit of knowledge was a vocation of the mind because of its very nature[8]. Liberal education came to denote the pursuit of knowledge for the development and fulfilment of the mind and, consequently, for determining the achievement of 'good life'[9]. As Hirst (1965) notes, the term assumes different meanings in different contexts; but whatever meaning it takes, it is contrasted to the vocational or specialist education[10]. This latter tends to a more skill-based kind of training for a particular purpose[11]. It is "concerned with mastering the details of knowledge, how it is established, and the use of it in other enterprises, particularly those of a practical nature."[12] Conversely, liberal education emphasises cognitive breadth, favouring studies which enhance the capacity of critical understanding and reasoning[13]. Grugel (1995) maintains that "the tradition of liberal learning really conserves both an intellectual heritage and a way of understanding the world and ourselves." [14] Arcilla (1995) writes that liberal education is proposed to motivate the human search for a deeper self-knowledge and a 'sense of purpose' in life[15]. According to Dewey (1913), the consequences of liberal education are observable

[7]Silver, Harold and Brennan, John (1988) *A Liberal Vocationalism*, London and New York: Methuen, p.3.
[8]Hirst, Paul (1965) op.cit., p.30.
[9]Hirst, P. (1965) op.cit., p.31.
[10]Hirst, P. (1965) op.cit., p.30.
[11]Rowntree, Derek *A Dictionary of Education*, London: Harper & Row, p.157; Good, Carter (1973) *Dictionary of Education*, McGraw Hill Book Company, p.337.
[12]Hirst, P. (1965) op.cit., pp.47,48.
[13]Pring, Richard (1995) *Closing the Gap: Liberal education and vocational preparation*, London: Hodder & Stoughton, p.184.
[14]Grugel, Lee (1995) 'Liberal Education: our phrase of choice', *Liberal Education*, **81**, no.2, p.52.
[15]Arcilla, Rene Vincente (1995) *For the Love of Perfection: Richard Rorty and Liberal Education,* New York and London: Routledge, p.ix.

in people's quality of life - specially their future experience. It liberates their capacities and thereby contributes both to their own happiness and their social usefulness[16].

Liberal education has at times been paralleled with 'general' education. Due to characteristics they share in common, the two terms, at times, are used interchangeably. One criticism is that *general* education has taken the form of introductory surveys which impart little understanding and judging abilities[17]. Oakeshott complains that it implies a rather superficial glimpse of everything. Liberal education, Hirst (1965) writes, is to be composed of "at least paradigm examples of the various forms of knowledge"; then it would encourage the exercising of critical understanding and generalisation from those examples over the wide range of instances within the disciplines[18]. Such an exercise enables students to think critically about their experiences, as Freedman (1997) writes:

> A liberal education acquaints students with the cultural achievements of the past and prepares them for the exigencies of an unforeseeable future. It provides them with standards by which to measure human achievement.[19]

Eisner (1989) believes that "[i]f the essential features of a liberal education include the broad development of human rationalities and the multiple realities that these rationalities make possible, the arts would seem to have an inside track."[20] In arts, symbolization assumes a unique form, contributing to the development of mind and the search for human self-understanding, as various authors agree. Swanwick

[16]Dewey (1913) *Interest and Effort in Education*, Boston, MA: Houghton Mifflin, p.6.
[17]Packard, Sandra (1989) 'Four Questions', *Liberal Education*, **75**, 2, p.16.
[18]Hirst, P. (1965) op.cit., pp.47-8.
[19]Freedman, James (1997) 'Idealism & Liberal Education', *Liberal Education*, **83**, 2, p.36.
[20]Eisner, Elliott (1989) 'The Polite Place of the Arts in American Higher Education', *Liberal Education*, **75**,2, p.7.

(1994) writes that "[t]he arts function powerfully as symbolic forms"[21]. These are highly articulated symbolic systems in which meaning can be communicated, "expanding our understanding, contributing to knowledge of ourselves and of the world"[22]. Reimer (1970/1989) believes that "the arts provide insight into the nature of feeling" and thus "may be conceived as a means of self-understanding, a way by which our sense of our human nature can be explored and clarified and grasped."[23] Also Aspin (1981) asserts that the arts "are disciplined forms of enquiry and expression through which we organize our feelings and ideas about our experiences"; going beyond the requirements of the 'here and now', the arts "enable us to transcend the pragmatic pre-occupations of the struggle for existence"[24].

Langer (1942/1957) assumes that artistic symbolism is more visible in music since it has no direct reference to anything external to it: as sounds have no 'literal content', it is the medium which renders itself more appropriately to pure artistic use expressing what cannot be expressed otherwise[25]. Music "can *reveal* the nature of feelings with a detail and truth that language cannot approach."[26] For its evident affective appeal, it may help to restore the affective facet of human nature which has been long neglected. But as it reveals the rationale of feelings to our minds, it has also an intellectual value to the extent to which it increases our awareness and understanding[27]: it can lead to insights into 'unspeakable realities', developing what Reid (1986) called the 'cognitive feeling'. Swanwick (1994) writes on the power of

[21]Swanwick, Keith (1994) op.cit., p.38.
[22]Ibid.
[23]Reimer, Bennett (1970/1989) *A Philosophy of Music Education*, New Jersey: Prentice Hall, pp.50.53.
[24]Aspin, David (1981) 'Utility is Not Enough: The Arts in the School Curriculum', in White, John *et al.* (1981) *No, Minister: A Critique of the DES Paper The School Curriculum*, University of London Institute of Education, p.49.
[25]Langer, Susanne (1942/1957) *Philosophy in a New Key: A Study in the Symbolism of Reason, Rite, and Art*, London: Harvard University Press, p.209.
[26]Langer, Susanne (1942/1957) op.cit., p.235.

music as a symbolic system:

> Music is one important and universally evident way in which people symbolically articulate their response to experience and thus are able to share their observations and insights with others.[28]

Still,

> Shared meanings within musical conventions make possible communal participation and musical performances may become powerfully important sources of meaning at both an individual psychological level and particular traditions and cultures.[29]

Paynter and Aston (1970) believe that music teachers should regard their subject as embracing fundamental areas of human experience, reactions and needs, and that music education may contribute to promoting the refinement of individuals' perception and response to the world around them[30]. Music is a way of enhancing knowledge of ourselves and of others. But Paynter (1997) insists that music *is* a form of knowing because it is a form of thinking, of articulating ideas, of stating arguments[31]. He believes that the ultimate awareness of music is "the perception of music as thought, music as the researching of *Idea*."[32] Musical arguments are embodied in such gestures, shapes, or patterns, as Swanwick (1994) suggests.

> Music draws on the patterns, *schemata*, or traces the felt-experience by means of precise yet plastic gestures of relative weight, space, movement and tension. In this way and on this level it has "meaning" or significance and can thus be seen as a vehicle for the communication of "information".[33]

According to Wishart (1982), "gestural information may be carried by groupings of individual sound objects." [34]

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[27]Langer, Susanne (1942/1957) op.cit., pp.238-9.
[28]Swanwick, Keith (1994) op.cit., p.38.
[29]Swanwick, Keith (1994) op.cit., p.24.
[30]Paynter, John and Aston, Peter (1970) *Sound and Silence: Classroom Projects in Creative Music*, Cambridge: Cambridge University Press, pp.2-3.
[31]Paynter, John (1997) 'The form of finality', *British Journal of Music Education*, **14**, 5-21.
[32]Paynter, John (1997) op.cit., p.10.
[33]Swanwick, Keith (1979) *A Basis for Music Education*, London: Routledge, p.37.
[34]Wishart, Trevor (1982) 'Beyond Notation', *British Journal of Music Education*, **2**, 3, 314.

> Gesture is essentially an articulation of the continuum. ... Musical gesture is apparent in the internal morphology of sound events, and also in the overall shaping of groups, phrases and longer musical units. ... Gestural structure is the most immediate and yet notationally the most elusive aspect of musical communication.[35]

Whatever the content (the organisation of sounds) and level of complexity of music, it is articulated thought. It can thus be insightful by itself for the meanings revealed in sound ideas. Such musical meanings can be created, shared and taken through the main 'channels' of composing, performing and audience-listening to music. Through engaging with music people may articulate an organised, coherent and meaningful discourse. This makes music a powerful 'voice' among those that form Oakeshott's idea of 'conversation'.

Yet those 'voices' are not steady pieces of information; they are rather dynamic and subject to continuous intellectual exploration. Entering the 'conversation' implies not replicating the world as given, but rather approaching it critically, challenging it and adding a particular voice to those other voices. But developing one's own voice involves not only critical understanding but also practical abilities necessary to the accomplishment of tasks. Utterance within any language is only made possible if one has learnt its particular 'skills, practices and relationships'[36]. Oakeshott refers to 'skill' as a recognised ability to do or to make something; it may be composed purely of physical movements, or may involve mainly mental operations. But he insists that "[h]uman learning is not acquiring habits or being trained to perform tricks or functions; it is acquiring something that you can use because you understand it."[37] According to him, knowledge combines 'information' and

[35]Wishart, Trevor (1982) op.cit., pp.313, 314.
[36]Oakeshott in Fuller, T. (1989) op.cit., pp.25,26.
[37]Oakeshott in Fuller, T. (1989) op.cit.,p.22.

'judgement'[38]. It is the ability to judge, rather than the inert acquisition of information, which informs action:

> What is required in addition to information is knowledge which enables us to interpret it, to decide upon its relevance, to recognize what rule to apply and to discover what action permitted by the rule should, in the circumstances, be performed.[39]

He suggests that knowledge, understanding, judgement, information and skills, are notions that should be thought of as being an authentic unity. He believes that individuals need to be allowed to exercise judgement, to interpret information so that it can be recognized and recollected in changed circumstances[40]. In this way, Grugel (1995) argues, "[t]he learner is liberated from narrow thinking to recognize connections among many ideas."[41] Specialized skills required for a particular performance hardly enable individuals "to evaluate, question, challenge, or change their world in any significant degree"[42]. Silver and Brennan (1988) suggest that if education is excessively narrow it becomes rather 'illiberal'.[43] Whitehead (1932) called for the fusion of action and thought, pointing out that education should "impart both technique and intellectual vision"[44]. Drucker (1968) suggests that a broader knowledge base

> ...enables people to un-learn and to re-learn. It enables them, in other words, to become "technologists" who can put knowledge, skills, and tools to work, rather than "craftsman" who know how to do one specific task one specific way.[45]

Pring (1995) argues that the dualism between "the intrinsically worthwhile and the

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[38]Oakeshott in Fuller, T. (1989) op.cit., pp.50-56.
[39]Oakeshott in Fuller, T. (1989) op.cit.,pp.54-5.
[40]Oakeshott in Fuller, T. (1989) op.cit.,p.57.
[41]Grugel, Lee (1995) op.cit., p.52.
[42]Barrow and Milburn *A Critical Dictionary of Educational Concepts*, Harvester-Wheatsheaf, p.184.
[43]Silver, H, and Brennan, J. (1988) op.cit., p.4.
[44]Whitehead, Alfred (1932) *The Aims of Education and Other Essays*, London: Williams & Norgate, Ch.4.
[45]Drucker, Peter (1968) *The age of discontinuity*, New York: Harper and Row; p.268.

useful"[46] should be overcome. Education needs therefore to take into account the relevance of acquiring practical abilities, but also to expand the notions of skill and efficiency to embrace critical judgement. Understanding and skills are complementary facets of the engagement with the various forms of knowledge. Botstein (1991) suggests that students should be encouraged to 'ask broader questions' while pursuing their specialized study.

> Sustained study in a limited area gives the student access to the reality and illusion of expertise. In order to pierce the veil of reigning beliefs and general truths, students must learn how to ask new questions, put detailed observations into novel forms, and reinterpret what they encounter.[47]

There seems thus to be an essential notion in liberal education which we might refer to as *critical functioning:* the possibility of judgement which enables people to re-construct what they are doing, to question and shape their experience. It can be argued that the liberal ideal should be preserved in the various disciplines. Such critical functioning may bridge the gap between 'usefulness' and the 'pursuit of truth', as it helps people to engage with the 'conversation', adding their 'voices' to it.

This discourse suggests important implications for music education. First, that both skill and understanding should be perceived as essential pursuits if it is to be relevant and meaningful. Aspin (1981) writes:

> Students of the arts will be constantly seeking to exercise their imaginations, not only to understand and appreciate the world according to the criteria already subsisting in the aesthetic realm, but also to try to add to that realm, to re-structure it, by adding novel conjunctions of forms and ideas that enable us to re-interpret and expand the store of possible meanings and achievements in the world.[48]

[46]Pring, R. (1995) op.cit.,p.183.
[47]Botstein, Leon (1991) 'Structuring Specialization as a Form of General Education', *Liberal Education*, **77**, 2; p.17.
[48]Aspin, D. (1981) op.cit., p.47.

Thus, if students are to develop their own voices into music, it is necessary to deepen their musical understanding to enable creative and critical functioning. Like other symbolic systems, engagement with music requires the development of certain procedural techniques and skills that are indispensable for musical accomplishment. Through the dynamic interaction between understanding and skills music education might help students to engage with the 'conversation' conceived by Oakeshott. By developing a critical understanding and functioning in music they may be able to contribute with their own voices as well as understand or challenge others' voices.

The second implication is connected to the first. There has been an apparently irreconcilable dichotomy between specialist and 'general' views of music education. On the one hand, there is the view that the musical path should be broader, including various modalities of musical experience. A critical point of this approach is the feasibility of pupils developing practical skills to engage in more challenging experiences. On the other hand, there is the view that the path should be narrower, concentrating on the development of expertise in one modality. Criticism points out that this approach tends to concentrate on the development of technical skills, to the detriment of a functional understanding and expressive music making. It is therefore essential to get understanding and skills into perspective, in an attempt to discern what counts in children's music education. Throughout the next section understanding and skills are seen as two dimensions of musical knowledge. It is hoped that this will clarify how they relate to each other in music making and musical development.

2. THE TWO DIMENSIONS OF MUSICAL KNOWLEDGE

If music is to be considered a meaningful and articulated form of knowledge the nature of such knowledge needs to be clarified. The subjectiveness inherent in music makes musical qualities less difficult to recognise than to define. Swanwick (1994) acknowledges that part of musical experience is rather subjective, idiosyncratic, abstract and almost magical. But he believes that there is a counterpart which constitutes a distinguishable frame within which the musical discourse takes place: "[t]here are layers of musical meaning, some beyond the reach of other forms of discourse and some much more accessible to talk, instruction, analysis."[49] He (1994) assumes that musical discourse involves the layers of *sound materials, expressive characterisation, form* and *value.* Understanding the value of music as a significant symbolic form constitutes the 'deepest levels of musical experience', and involves the understanding of the other layers[50].

> The possibility of a profound sense of musical *value* exists only because of the development of sensitivity and skills with sound *materials* and the ability to identify *expression* and comprehend musical *form.*[51]

The management of materials is an *a priori* condition. The next dimensions, expressive characterisation and musical structure "together lift music out of being a simple sensory pleasure and into the realm of discourse"[52]. This leads to the concept of music as a symbolic form meaningful at both individual and collective levels. Swanwick's notion of musical knowledge involves both understanding of

[49]Swanwick, Keith (1994) op.cit., p.1.
[50]Swanwick, Keith (1994) op.cit., p.25.
[51]Swanwick, Keith (1994) op.cit., p.20.
[52]Swanwick, Keith (1994) op.cit., p.39.

(or 'sensitivity' to) such elements, and the 'skills' necessary to control and identify such elements: those layers "go beyond describing levels of skill, though these are included."[53] All music making involves a certain degree of practical skill and, hopefully, a degree of understanding. Music making and musical development can be perceived as functioning (at least) in these two dimensions. Although these two strands are connected in the psychological experience of music, they are going to be conceptually disentangled in this thesis in an attempt to deepen our knowledge of what counts when children make music, and how this affects their development.

2.1 - Musical Understanding

According to Swanwick's (1994) theory of musical knowledge, musical understanding is *the awareness of the meanings embodied in the elements of musical discourse – materials, expression, form and value.* It can be argued that the dimension of understanding pervades and guides all music making, and is therefore manifested in people's making and responding to music. The central modalities of musical experience, composing, performing and audience-listening, are thus appropriate behavioural indicators of that understanding.

Those layers of musical discourse, materials, expression, form and value, are the elements which composers, performers and listeners deal with when engaged with music. They develop sensitivity to the potential of sound materials,

[53]Swanwick, Keith (1994) op.cit., p.95.

arranging, controlling or perceiving them. They articulate expressive gestures which give pieces their peculiar character. These are arranged into structures that project the internal relationship among parts, phrases, patterns and motives. The composer takes the decisions when creating; the performer identifies those elements and takes performance decisions to highlight those features, helping the listener recognise those elements and the structure of the piece. Swanwick warns that understanding the functioning of music as a symbolic form requires looking beyond the surface of music. Those elements are cumulatively interwoven in the holistic experience of music, but they need to be identified and analysed separately for the deepening of understanding. Analysis nourishes and enhances intuition, opens new perspectives and perceptual possibilities; it generates new knowledge as "we come to see things differently as intuitive understanding is re-defined"[54]. Through analysis the internal relationships among sound patterns come under focus. He writes that "gaining understanding is a process of unwrapping layers of intuitively glimpsed meanings, exposing something (though never all) of the why and how of the objects of our attention."[55] Reimer (1970/1989) seems to agree with this point: "[w]hile the affective response to the elements of music is indeed ineffable, the elements which can arouse the response are not."[56]

Paynter (1997) offers a 'hierarchy' of awareness, perception, discrimination, or response to music[57], that bears some resemblance to Swanwick's rationale. The most basic level, he writes, is the "the primary attraction of musical sounds", the

[54]Swanwick, Keith (1994) op.cit., pp.39, 40, 45, 54, 43.
[55]Swanwick, Keith (1994) op.cit., p.2.
[56]Reimer, Bennett (1970/1989) op.cit., p.54.
[57]Paynter, John (1997) op.cit., pp.5-21.

sensorial response to musical materials and the character of 'melodies'. The next stage of awareness involves preferences, thus "the first stage of perceptual judgement". This leads to the next stage, of interest in the background information about the music and composers, their social, historical and cultural context. A stage further involves technical understanding, which he associates with the rather specialist context of instrumental performance with its approach to technique, analysis and interpretation. The ultimate stage of response to music is the perception of music as thought, as idea – the idea being the argument of the piece[58].

Some elements of Paynter's hierarchy are analogous to Swanwick's layers of musical criticism. The first stage in Paynter's, however, already includes materials and expression, which constitute two distinct layers in Swanwick's analysis. The last stage, the ultimate awareness of music for both writers, is the understanding of music as *idea* or *thought* (in Paynter's terms), or the understanding of symbolic value of music (in Swanwick's). The second stage in Paynter's, of "knowing what we like and what is popular among those with whom we associate" is to some extent related to Swanwick's layer of value. This (Paynter's) stage and the two next ones, the interest in background information, and understanding of technical details, do not appear as distinct stages in Swanwick's analysis, although they might be involved. Musical preference is an intrinsic and inevitable element of musical experience, and is only to some extent determined by the sounds. Paynter's categories of information and technical understanding about music are essential to informing and enabling musical

[58]Paynter, John (1997) op.cit., pp.8-12.

realisation and appreciation. However, the 'content' or object of such categories is not *in* sounds. Conversely, Swanwick's layers of awareness, musical materials, expression, form and value, constitute the cumulative layers of musical discourse themselves: their content resides *in* sounds. This is not to say that there are not other dimensions of musical experience; but he has left outside anything that is not inherent *in* sounds themselves. This gives his analysis validity and versatility, as it may apply to various modalities of musical experience.

The understanding of the meanings of music may best be achieved through participation in direct experiences. It is a product of insights into particular works, acquired through repeated exposure to music. Reid (1986) writes that we can interpret meaning in works of art only by imaginative, holistic, intuitive entry into their phenomenal life, for the meaning of a work of art is meaning-embodied: it cannot be told, it must be known directly in the experience of it[59]. Swanwick and Taylor (1982) write that understanding (at that time referring to structure and expressive character) is to be achieved through practical engagement with music:

> Bearing in mind that what we have called Musical Understanding is central to music education, it becomes obvious that this understanding can only result from direct contact with music as *composer, performer* and *listener*.[60]

Swanwick (1992) believes that musical understanding is not only fostered but also *demonstrated* through the activities of performing, composing, and listening (although it is less clear in the case of listening, as the response is either covert or dependent on a second-hand medium)[61]. Composing, performing and

[59]Reid, Louis A. (1986) *Ways of Understanding and Education*, Heinemann Educational Books, for the Institute of Education University of London.
[60]Swanwick, Keith and Taylor, Dorothy (1982) *Discovering Music: Developing the Music Curriculum in Secondary Schools*, London: Batsford Academic and Educational Ltd, p.11.
[61]Swanwick, Keith (1992) op.cit.; p.25.

audience-listening are thought to be the central 'windows' from which music can be known, and also the windows from which such musical understanding can be demonstrated. It is through music making that we can observe the development of people's musical understanding, their musical intelligence and independence[62]. Stubley (1992) also writes that the kind of procedural knowing involved in composing and performing can only be 'known and demonstrated' through composing and performing[63]. The performer's understanding of music might be demonstrated as s/he chooses the appropriate tempo to accentuate expressive gestures, the coherence among parts, and to give the piece a sense of direction. Leopold Mozart once argued that tempo "must be inferred from the music itself, and this is what infallibly shows the true quality of a musician."[64] As Zimmerman (1971) assumed,

> Both vocal and manipulative development are manifested through performance. These performance skills are essential for behavioural responses that reflect perceptual and conceptual understanding. Reciprocally, a child's perceptual and conceptual understanding will guide his developing skills.[65]

However, the view of musical understanding as intimately connected with active music making is not all-pervasive. As Swanwick (1992 and 1994) complains, the process of elaboration of the attainment targets for the English *National Curriculum for Music Education*, set up in 1992, revealed many misconceptions surrounding the nature of musical knowledge. The following version published in

[62]Reimer, Bennett (1970/1989) op.cit., p.204.
[63]Stubley, Eleanor (1992) 'Philosophical Foundations', in Colwell, Richard (ed) *Handbook of Research on Music Teaching and Learning: a project of the Music Educators National Conference*, New York: Schirmer Books.
[64]Quoted in Donington, Robert (1973) *A Performer's Guide to Baroque Music*, London: Faber and Faber, p.249.
[65]Zimmerman, Marilyn (1971) *Musical Characteristics of Children*, Reston: Menc, p.29.

January 1992 by the National Curriculum Council shows the view of musical knowing as disconnected from practice:

> *Attainment Target 1 - Performing and composing*
> The development of the ability to perform and compose music.
> *Attainment Target 2 - Knowledge and understanding*
> The development of knowledge and understanding of musical history and theory, including the ability to listen to and appraise music.[66]

In the suggested attainment targets, 'knowledge and understanding' were restricted to knowledge *about* music and disconnected from the practical activities of performing and composing, implying that these were rather "mindless activities in which understanding is neither acquired nor demonstrated"[67]. Following the efforts of scholars and teachers a revised version was thus offered:

> *Attainment Target 1 - Performing and Composing*
> The development of the ability to perform and compose music with understanding.
> *Attainment Target 2 - Listening and Appraising*
> The development of the ability to listen to and appraise music, including knowledge of musical history.[68]

The word 'understanding' was thus considered alongside performing and composing; also, the second attainment target was changed in such a way that active musical listening was emphasised rather than factual knowledge. But the idea of musical knowledge as separate from active music-making still reappears. Gane (1996) proposes an 'amplified' version of the National Curriculum attainment targets, namely: "Performing/Playing; Composing/Improvising; Listening/Aural; Appraising/Understanding; Personal Development"[69]. It is unfortunate that 'understanding' is once again separated from music making; it

[66]Swanwick, Keith (1994) op.cit., p.57.
[67]Swanwick, Keith (1994) op.cit., p.57.
[68]Swanwick, Keith (1994) op.cit., p.58.

represents rather retrogression in relation to the previous achievements. It is a challenge for music education to reconcile understanding and active music making.

2.2 – Unavoidable Skills

As has been argued, musical understanding is both achieved and demonstrated through direct engagement with practical activities, notably, composing, performing and audience-listening to music. Yet the accomplishment of any practical activity relies on skills which are modality-specific. Since skills turns out to be a central and recurrent concept in the thesis, it is important to attempt to delineate a working definition. The concept itself is quite broad and in practical musical terms it includes a multitude of instances. Musical accomplishment involves "the exercise of highly complex perceptual skills and physical accomplishments"[70]. It is also used interchangeably with 'technique'. Dictionary definitions suggest that *skill* is a broader concept than technique, and is also linked to reason and discrimination:

> [Skill is the] Capability of accomplishing something with precision and certainty; practical knowledge in combination with ability; cleverness, expertness.[71]

Technique is defined as

> Manner of artistic execution or performance in relation to formal or practical details (as distinct from general effect, expression, sentiment, etc.); the mechanical or formal part of an art, esp. of any of the fine arts; also, skill or ability in this department of one's art;

[69]Gane, Patricia (1996) 'Instrumental teaching and the National Curriculum: a possible partnership?' *British Journal of Music Education*, **13**, p.56.
[70]Aspin, David (1981) op.cit., p.49.
[71] *Oxford English Dictionary* (1970) Oxford, Clarendon Press; vol.IX, p.139.

> mechanical skill in artistic work. (Used commonly in reference to painting or musical performance.)[72]

Central to both ideas is their practical nature and purpose. It seems to imply a learned capability, "a practised ability, something that can be drawn on whenever chosen, in a variety of unforeseen contexts." [73] The above definition of technique indicates clearly the *mechanical* part of artistic activity, 'distinct from general effect, expression and sentiment'. Such distinction becomes central to the notion of skill in this thesis; the word 'skill' in this context refers to the various specific *functional competencies* necessary to accomplish particular musical tasks. For instance, a skill in composition is "the ability to *transform* motifs, figures, gestures and textures"[74]; in performance, the capability to move the fingers and arm in a particular way to produce a *crescendo*; or to identify a musical style in audience-listening. Reporting audience-listening experiences involves still other skills such as oral/linguistic, or drawing, notating, or moving/dancing to music.

Current research supports the assumption that high levels of expertise correlate with a considerable amount of practice[75]. The association between music making and high technical levels tends to alienate the majority of people from musical engagement. Skills are not only particular to each modality of musical behaviour but they can also be developed at different rates and to different levels. Thus another important idea related to the concept of skills in this thesis is that they are not exclusively associated to high levels of musical accomplishment. Paynter (1977) wrote that:

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[72] *Oxford English Dictionary* (1970) Oxford, Clarendon Press, vol.XI, p.136.
[73] Loane, Brian (1984b) 'Thinking about Children's Compositions', *British Journal of Music Education*, **1**, 3, 223.
[74] Paynter, John (1992) *Sound and Structure*, Cambridge: Cambridge University Press, p.149.
[75] Davidson *et al.* (1997); Sloboda and Davidson (1996).

> Indeed, the word 'technique' is itself something of a problem because we tend to associate it principally with *advanced* skills. 'Nothing is possible in music without technique', we are inclined to say, meaning usually a grasp of staff notation and some traditional performance skills. But technique can also be quite simply doing what you can with what you have, to the best of your ability.[76]

It is observed that a critical point of school music is the feasibility of pupils to develop a reasonable level of practical skills. So, in the context of children's school music, the acquisition of skills needs to be put into perspective. Even with the most basic level of technical skill children might be involved in musically rich experiences which may foster their musical development. The excitement of discovery in the early years is a first step in music education: "the details, disciplines and skills will follow"[77]. More complex skills might be developed upon a basic and broad musical understanding. Mankin (1978) suggested that

> ...educational goals should reflect less concern for the development of specific work skills in the early years ... and be more concerned with laying down a basic foundation upon which successive layers of specialisation can be built as needed.[78]

From such experiences they might start to develop an understanding of how to work with musical elements to make music in a meaningful and interesting way. Payne (in Self 1976/1986) wrote:

> By encouraging the assimilation of general principles from within easily accessible musical experiences rather than pursuing narrow paths in a detailed and detached manner, it is possible to relate music-making directly to the sound environment of today, employing initially those skills of voice and hand already possessed by each individual.[79]

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[76]Paynter, John (1977) 'The Role of Creativity in the School Music Curriculum', in Burnett, Michael (ed) *Music Education Review: A Handbook for Music Teachers*, Vol.1, London: Chappell & Co. Ltd, p.9.
[77]Paynter and Aston (1970) op.cit., p.3.
[78]Mankin, Don (1978) *Towards a Post-Industrial Psychology*, New York: John Wiley & Sons; p.41.
[79]Payne, Victor *Introduction*, in Self, George (1976/1986) *Make a New Sound*, London: Universal Edition, pp.v-vi.

Such understanding might be transferred into further experiences, gradually demanding the achievement of more advanced skills. The development of skills would become an outgrowth of the development of understanding.

> As awareness of rhythm, pitch, timbre, and amplitude grows through this experience, so will awareness of deficiencies in ability to control these elements encourage the desire to achieve the technical skill that is necessary to manipulate them in a more detailed fashion. [80]

Payne continues by addressing a particularly sensitive element of skill learning of all those which musicians are faced with: notation.

> Similarly, longer forms of expression will lead to a felt need for some kind of notation to aid an already improved quality of musical memory. ... it also constitutes the most valid reason of all for developing performance and notational techniques by creating a situation in which the pupil wants to develop them because he feels an immediate need to add to his ability in order to express himself.[81]

Although notation is an important and necessary tool in many regards, Priest (1996) observes that too much importance attributed to it may disguise the lack of substantive music making through performance, composition and 'aural' activities[82]. Classroom composition can be a particularly productive and musical way to develop the awareness of the technical approach needed to realise a musical idea. Harris and Hawksley (1989) write that

> The development of performing and listening skills is an integral part of this process. From the earliest stages the pupils must be encouraged to play their compositions in the musical manner that performance requires. By insisting upon the proper conditions for performance we create the atmosphere in which pupils can enjoy performing seriously and will listen respectfully and critically to what is being played. It is important to establish this routine early on so that composing, performing and listening skills are developed

[80] Ibid.
[81] Ibid.
[82] Priest, Philip (1996) 'Putting listening first: A case of priorities', in Spruce, Gary (ed) *Teaching Music*, London: The Open University, p.212.

> together as playing becomes more sustained and the pieces more complicated.[83]

Sometimes, the content of students' pieces is more sophisticated than their technical conditions for executing them. On the other hand, Loane (1984b) describes how effectively 11/12 year old students managed to produce meaningful compositions with an "extremely elementary level of technical sophistication" [84]. The ideas or conception they had in mind led them to explore and find out technical solutions to translate such ideas into sounds:

> Their creative act, however, is simultaneously an extension of skills, albeit still at an elementary level. It would appear to be their creative need to image strength in loudness that determined their exploration of how to hold the beaters.[85]

Pupils often reach solutions and come up with particular elements or effects not previously 'learned' but which are wisely incorporated into their compositions[86]. Such exploratory exercise over technique is guided by attentive listening and judgement in so far as it helps to activate and refine them: "it is the creative need to have their music sounding as they intend that informs this listening care over technique."[87] In this sense classroom composition becomes a powerful tool for building up skills, these being strengthened by the impulse towards communication. Swanwick and Taylor (1982) suggest how a multitude of possibilities are opened for students to explore when teachers ask "what would happen if?", encouraging a critical exploration of expressive and structural

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[83]Harris, Ruth & Hawksley, Elizabeth (1989) *Composing in the Classroom*, Cambridge University Press, p.3.
[84]Loane, Brian (1984b) op.cit., p.207.
[85] Ibid.
[86] Loane, Brian (1984b) op.cit., p.211.
[87] Loane, Brian (1984b) op.cit., p.217.

elements[88]. Also, Paynter (1992) advises that every new technical point "can become the basis of creative experiment and composition. Creativity and skill-acquisition should go hand in hand."[89] Furthermore, "skills may be learned better not worse in the context of their imaginative application. Certainly, many will take the view that that imaginative application is the whole point of learning skills anyway!"[90] In this way, the acquisition of skills is thought of as a tool for enabling the demonstration of musical thinking – engaging with the musical 'conversation'.

While developing the necessary technical counterpart, it is possible to involve children in musically rich experiences for which advanced skills (including staff notation) are not required. Singing, accompanying songs, playing in ensembles or percussion bands are just a few examples. Even the simplest level of technique can be exploited *musically*, exploring moods and expressive characterisation, arranged into a coherent structure, making music despite the child's basic level of technical mastery. The same applies to audience-listening, in which experience with less complex pieces may be as expressive and insightful. Exercises may also be exploited musically; elements such as harmony, intervals, transposition, and even notation may be arranged into compositions and improvisations, rhythmic variations, with exploration of moods and structures[91]. Gane (1996) suggests that questions like "Do you think your bowing captured the bright, sparky character of the piece?"[92] may invite a more musical approach to technique than just telling a pupil that s/he needs to practice a particular bow stroke. Knowing which musical result is desired - knowing how

[88]Swanwick, Keith and Taylor, Dorothy (1982) op.cit., p.12.
[89] Paynter, John (1992) op.cit., p.65.
[90] Loane, Brian (1984b) op.cit., p.223.
[91]Gane, Patricia (1996) op.cit., pp.61-2.

something should sound - may facilitate the technical approach to the instrument. Leonhard and House (1959/1972) stressed that the approach of performance skills should be guided by the expressive meaning one desires to achieve. They believed that the musical conception should give direction to technical practising, being 'the guiding force' for an individual to pursue his/her musical intentions:

> ... learning performance skills proceeds best when approached as conscious exploration of an intelligible problem of musical expression rather than as routine repetition of movement patterns isolated from musical expression and devoid of musical meaning.[93]

Barrett (1996) reminds us that a central element of the natural learning process of language acquisition is that skills are used in 'meaningful and purposeful ways' to allow the communication of musical thinking. The case of music should not be different:

> Children need to perceive that the skills and understandings that they are trying to master are valuable, relevant, functional and useful. They need to develop an understanding of music as a fundamental aspect of human culture that empowers the individual to articulate original statements, and to communicate meanings through another medium.[94]

Therefore the achievement of skills is regarded as an instrument for serving musical understanding: for finding meaning in sounds (in audience-listening) and for translating musical intention and conception into sounds (in the case of composing and performing). Sloboda (1985) implies this idea in relation to instrumental performance when he offered the notion of a 'mental plan' which is independent of the practical skills required to 'perform' the plan. He suggested that an expert performer combines "a mental *plan* which specifies features of the

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[92]Gane, Patricia (1996) op.cit., p.63.
[93]Leonhard and House (1959/1972) *Foundations and Principles of Music Education*, McGraw-Hill Book Company, p.137.

intended output" with a flexible and highly trained "*motor programming*"[95]. It requires a perfect interaction between the mind which knows what to do and the body which, through intensive practice, 'learns' how to achieve specific goals. The finer the musical experiences a person undergoes, the richer such a mental plan will be; and the more one practises, the better the motor system will respond when requested. He suggested that these two elements, the 'mental plan' and the 'motor programming' are mostly found separately, so that there are those who have sensitivity and musicality but inadequate motor programming, and those who show a fine motor ability but lacking of understanding. For instance, one may know exactly how a passage should sound, but be incapable of "getting the hands to do what he knows they should do."[96] In other words, this is the case of a person who "has a highly developed skill for representing musical structure, but his motor programming is inadequate to convert representations into sound."[97]

Indeed, the situation is not rare in which people have developed a refined musical conception but have not to the same extent developed technical skills to allow such understanding to be revealed. Reimer (1970/1989) believes that music education should involve students both in "understanding pieces in their total impact and in mastery of the technical-musical details that contribute to that impact."[98] It becomes clear that the two dimensions are interactive in musical development. Skills may be regarded as tools for expanding the capacity of thinking and functioning musically. Even the finest understanding needs

[94]Barrett, Margaret (1996) 'Music education and the natural learning model', in Spruce, Gary (ed) op.cit, p.68.
[95]Sloboda, John (1985) *The Musical Mind: The Cognitive Psychology of Music*, Oxford: Clarendon Press, p.89.
[96]Sloboda, John (1985) op.cit., p.89.
[97]Sloboda, John (1985) op.cit., p.90.

'channels' through which it can be made explicit. This poses important implications for music education, as follows.

2.3 – The Appropriate Level of Skills

It is being argued that music making is monitored by a broader conceptual dimension, that of understanding the functioning of the elements of musical discourse. But each modality of musical behaviour involves different skills, and these may be developed at different rates and to a different extent across the modalities (and even towards differing styles and idioms). This might be the case of an accomplished composer, for instance, who has not developed her/his performing skills to the same level of expertise, and may not be able to demonstrate the extent of her/his musical understanding by playing a highly technically demanding instrumental piece. This is also felt in classroom compositions. Most often the result in composition is dependent upon students' playing skills, as they will realise their compositions through practice. Many times the content of the piece is more sophisticated than their technical abilities for executing it. This is not to say that it is necessary that children develop equivalent levels of skills in different modalities of musical behaviour - as if it were possible to match skills across the different activities. What is being argued is that people are able to communicate their musical conception if the skills involved in the task have been mastered.

[98] Reimer, Bennett (1970/1989) op.cit., p.70.

A critical example of the discrepancy between conceptual understanding and the means of articulation can be seen in the area of ordinary language. A young child's speaking indicates her/his reasonable understanding of the functioning of a language, yet s/he has not even started learning written language skills which, in turn, would be a poor indicator of her/his understanding of the language. Also, the reverse may happen in the learning of a second language, when someone who has learned it mostly from books is able to communicate reasonably well through writing but not through speaking - a skill in which the person may not have had enough practice.

This is felt not only across activities that involve the same kind of conceptual understanding, but also within a particular activity in relation to various tasks. A pianist, who might be very musical but does not practise frequently, may be able to play some pieces at a certain technical level and demonstrate the best of his/her musical thinking. For instrumental players, sensitivity is frequently obliged to go underground in deference to the acquisition of skills at a rate that exceeds the growth of musical understanding[99]. The problem is that without technical control people are not free to make expressive decisions. They might know what should be done to bring their conception into sounds - make a crescendo, pressing the keys this way, but not be able to make their fingers move properly. They will have to decide what tempo is the most appropriate to emphasise the particular expressive and structural features of the piece; but if their fingers cannot realise it properly, they will have to play it slower than desired. The extent to which understanding will be successfully communicated depends on the extent

[99]Swanwick, Keith (1992) op.cit.; p.21.

of the refinement of the particular 'channel'. This includes style specific constraints. Playing jazz like jazz or Bach like Bach demands a technical manner particular to that style, involving decisions over tempo, dynamics, articulation, pedalling or bowing, tone colour, ornamentation and so on. Listening to jazz or to a fugue with understanding also demands recognising their distinctive expressive and structural features.

Some pieces of research have emphasised novice/expert differences in technical skills. Ericsson and Oliver (1994) produced evidence that shows that experts use cognitive processes or strategies qualitatively different from those of novices[100]. What differentiates experts' performance from novices' is a (developed) access to a (developed) finer representation, or schema, or concept, while the novice would have to spend a greater amount of conscious effort to accomplish the same task. In a study on expert-novice performance on a harmonisation task, Colley *et al.* (1992)[101] report that the expert "had a repertoire of procedures available" and could select the more appropriate solution, while novices had not automatized basic harmonic skills[102]. The researchers commented that "lack of technical competence may be less evident if, when given a free choice, composers select a style more closely matched to their ability level and knowledge base."[103] This interpretation is somehow misleading: the question is not that an easier task would 'disguise' their lack of technical competence. Actually, novices' performance was seriously constrained by the limitations of their technical skills

[100]Ericsson, A. and Oliver, W. (1994) 'Cognitive Skills', in Mackintosh, N. and Colman, A. (eds) *Learning and Skills*, London and New York: Longman, pp.45-6.
[101]Colley, Ann *et al.* (1992) 'An Expert-Novice Comparison in Musical Composition', *Psychology of Music*, **20**, pp.124-137.
[102]Colley, Ann *et al.* (1992) op.cit., pp.135-6.
[103]Colley, Ann *et al.* (1992) op.cit., p.137.

related to that particular task, but maybe they would do better should the task be more appropriate.

In the light of that, the question of how musical understanding and musical skills relate to each other becomes clearer. Two aspects of this interplay need to be clear: the effect that understanding has on the quality of music making, and the effect that music making has on the development of understanding. This thesis is proposing that, in the case of music education, understanding and practical skills relate to each other in three important ways.

First, that both the acquisition and the demonstration of musical understanding happen through active music making, notably composing, performing and listening, which requires the articulation of particular skills[104].

Secondly, that the demonstration of the sophistication of understanding depends on refinement of the skills particular to that 'channel'. This is of consequence for assessment in music education: the revealing of understanding is constrained when the skills required exceed the limit beyond which they allow creative decision making. How can people make expressive decisions if the task stretches their skills to an extent that they cannot control? We can only assess the extent of students' understanding provided that the tasks are accessible. In this way, the problem of skills is somehow neutralised so that people are given opportunities to reveal the extent of their understanding.

This points to the third issue, a crucial question for music education: it is necessary to disentangle *the level of technical skills involved in a task and the*

[104]The three activities and their role in the development of understanding will be addressed in the

level of understanding being fostered through that task. If students are not working at a level at which they can exercise judgement and take decisions, how can they be developing a more sophisticated quality of musical thinking? How can students develop a higher level of musical understanding if they are not given the opportunity to work or 'function' at that level? That seems to be a relevant issue for theory and practice of music education that deserves systematic investigation. The empirical part of the thesis is devised to illuminate the impact of such relationship over pupils' musical achievement and development.

It could be said that music education should be concerned with promoting the development of both a broad musical understanding, to enable creative and critical functioning, as well as modality-specific skills, to enable people to produce musical utterances that display the most of their understanding. The musically educated person in the 'liberal' sense would be the one who has learnt 'to make utterances that display genuine understanding of the language spoken'[105]: one who has achieved this musical understanding which can be demonstrated through particular manifestations such as performing, composing, listening to music. We turn next to discuss these activities, their nature and relevance in the music curriculum; eventually, we shall look at individual students' musical production, aiming at illuminating these issues.

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next chapter.
[105]Based on Oakeshott in Fuller, T. (1989) op.cit., p.38.

CHAPTER TWO

COMPOSING, PERFORMING, AUDIENCE-LISTENING AND THE MUSIC CURRICULUM

COMPOSING, PERFORMING, AUDIENCE-LISTENING AND THE MUSIC CURRICULUM

It has been suggested in the previous chapter that musical understanding is fostered through active music making, particularly through composing, performing and listening to music. The rationale for such an assumption is multi-layered, presenting philosophical and psychological issues. At the outset, it highlights a basic logical assumption: composing, performing and listening are fundamental processes of music as a phenomenon, those that convey its very nature, peculiarities and significance. They are thus the central modalities of musical experience, the most direct ways of approaching it. Swanwick (1992) states that

> Fundamentally, the music teaching profession [...] has largely accepted that there are but three psychological avenues down which any of us can approach music; these are in the role of composer, performer, or audience listener. These are not inventions of educational theorists but wait to be discovered whenever we carefully reflect on the nature of musical experience.[1]

Stubley (1992) writes that composing, performing and listening are the central modes of musical knowing which lead to insights and self-understanding[2]. Plummeridge (1991) believes that the idea that these are the essential aspects of musical experience is a current "orthodoxy" of theory and practice of music education[3]. He reiterates that if children are to be musically educated, they should be introduced to the fundamental methods, procedures, skills and techniques of the discipline. Consequently, as curriculum choices in music education need to be made, priority should be given to those central modes of engagement with music.

[1]Swanwick, Keith (1992) op.cit., p.7.
[2]Stubley, Eleanor (1992) op.cit.

Nevertheless, such "orthodoxy" needs to be properly contextualized, since this conception of music education contrasts - and even conflicts - with the specialist approach to instrumental learning. It has been observed that high levels of musical accomplishment correlate to highly specialised forms of musical instruction[4]. Some issues in both approaches will be addressed throughout this chapter, in the search for a compromise between what is *desirable* according to the philosophical discourse and what it is *feasible* to achieve in realistic terms.

[3]Plummeridge, Charles, (1991) *Music Education in Theory & Practice*, London: The Falmer Press; p.47.
[4]Davidson *et al.* (1997); Sloboda *et al.* (1996).

1. SPECIALIST MUSIC EDUCATION

It could be said that specialist music teaching has two main characteristics: that it lays great emphasis on the development of technical skills and that it tends to focus on one specific direction. In this sense, it tends to a sort of *exclusiveness* in two important ways: it is exclusive of public (who should participate in music) and exclusive of practice (what should be made and how). Instrumental performance seems to be at the foreground of specialised musical activities. Reimer (1970/1989) complains that the view that instrumental performance is "the royal road to involvement with music", "the only really musical thing to do", is ingrained in some cultures' value systems[5]. Sloboda and Davidson (1996) also write that the assumed paradigm of the "real" musician is the "statistically rare, but culturally desired, top end of the population distribution, the virtuoso performer"[6], the accomplished instrumentalist who perfected his/her performance through extended practice. This seems to be the objective underlying specialist music education, as the following quotation by Hargreaves (1996a) also illustrates:

> In many cultures there is a long tradition of *specialist* education, within which talented pupils are given tuition, largely on traditional orchestral instruments, and reach high levels of achievement within the 'classical' tradition. This tuition is frequently provided by professional musicians who work with pupils from a relatively wide geographical region, and who deal with only a relatively small proportion of high-ability pupils, many of whom may go on to become professional musicians.[7]

Cope and Smith (1997) point to analogous characteristics of specialist instrumental

[5]Reimer, Bennett (1970/1989) op.cit., p.208.
[6]Sloboda, John and Davidson, Jane (1996) 'The young performing musician', in Deliege, Irene and Sloboda, John (eds) *Musical Beginnings: Origins and Development of Musical Competence*, New York: Oxford University Press, p.171.
[7]Hargreaves, David (1996a) 'The development of artistic and musical competence', in Deliege, I. and Sloboda, J. (eds) op.cit., p.148.

teaching. It has "tended to emphasise scholastic and high culture aspects of music", concentrating on select gifted individuals, focusing on classical instruments and classical repertoire with an emphasis on written tradition and music theory[8]. The authors question the cultural validity of classical repertoire and exercises praised in this approach, as they may lack relevance, alienating many children from musical engagement[9]. Also, the idea of "concert player as implicit or explicit goal", maintains an implicit "sense of exclusiveness" supported by the system of competitions[10].

The central criticism of performance-oriented approaches is that these tend to emphasise the development of specific performance skills to the detriment of the formation of a knowledge base in music. High technical accomplishment does not necessarily guarantee high artistic quality. This quotation by the Roman philosopher Boethius (c. 480-524-5) becomes curiously modern. It points out precisely the dangerous implications of a narrow approach to instrumental performance, directed towards the acquisition of technical skills.

> Thus there are three kinds of people who are considered in relation to the musical art. The first type performs on instruments, the second composes songs, and the third type judges the instrumental performances and composed songs.
>
> But the type which buries itself in instruments is separated from the understanding of musical knowledge. Representatives of this type, for example kithara players and organists and other instrumentalists, devote their total effort to exhibiting their skill on instruments. Thus, they act as slaves, as has been said; for they use no reason, but are totally lacking in thought.[11]

The focusing of efforts to improve specific technical skills may quite often become

[8]Cope, Peter and Smith, Hugh (1997) 'Cultural context in musical instrument learning', *British Journal of Music Education*, **14**, 3, p.285.
[9]Ibid.
[10]Ibid., pp.285,288.
[11]Boethius, in Godwin, Joscelyn (1986) *Music, Mysticism and Magic: A Sourcebook*, London:

a mindless and mechanical activity isolated from musical context, "separated from knowledge" or "lacking in thought". Mursell (1964) writes that

> [I]n a great deal of musical instruction so much emphasis is placed upon the gymnastics needed to actuate the instrument that the pupil may almost be said to study piano or violin and so forth, rather than music. Such a separation between musical values and manipulative skills is obviously unfortunate on general grounds.[12]

Reimer (1970/1989) complains that some performance programmes may result in narrow training, leaving no room for creative problem solving, decision making, expressive musical exploration, stylistic diversity, or musical application of technique[13]. "The focus on technical proficiency ... throws the delicate balance between technique and understanding out of kilter"[14]. There is no excuse "for focusing so heavily on the technical-critical level of experience that students are not able to go beyond it to the aesthetic experience of music."[15] Kirchhoff (1988) reports that some programs in America over-emphasise instrumental skills, often becoming a competition-oriented enterprise[16]. These fail to develop a comprehensive musicianship among students and to leave a favourable attitude towards music after students leave the programs[17]. He writes that students remain on the technical surface of works, gaining no real understanding into the aesthetic essence of these with no chance for creative decision making and self-expression. Neither the mere acquisition of information nor the development of skills alone can promote broad understanding which is essential to the cultivation of a musical mind. The promotion of creative, flexible and broad-minded musicians capable of preserving and

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Routledge & Kegan Paul; pp.48-9.
[12]Mursell, James (1937/1964) *The Psychology of Music*, Westport, Connecticut: Greenwood Press, p.245.
[13]Reimer, Bennett (1970/1989) op.cit., p.192.
[14]Reimer, Bennett (1970/1989) op.cit., p.183.
[15]Reimer, Bennett (1970/1989) op.cit., p.125.
[16]Kirchhoff, Craig (1988) 'The School and College Band: Wind Band Pedagogy in the United States', in Gates, J. Terry (ed) *Music Education in the United States: Contemporary Issues*, Tuscaloosa and London: The University of Alabama Press, p.260.

enhancing our musical inheritance demands more than very specific performance training generally offers.

Some recent developments in higher education reveal an attempt to overcome such limitations of specialist programmes. Davidson and Smith (1997) carried out a case-study on the implementation of one such programme at the *Guildhall School of Music and Drama*[18]. The programme aims at a more holistic approach to instrumental practice in the Conservatoire intending to form more flexible and versatile musicians. Activities include a range of 'body-mind centring exercises' and physical exercises with plastic and expressive gestures, with a direct analogy to musical performance. Improvisation and composition are meant to allow instrumentalists to work from musical ideas and exercise judgement, so to facilitate the expressive and technical approach to the instrument. They are encouraged to expand their competencies towards a more "adventurous, exploratory, and creative"[19] quality of music making. An atmosphere of confidence is encouraged so that the instrumentalists feel free to express their own feelings and interpretations.

> If music is a communication of personal expression and interpretation, then bringing personal matters to the fore can assist with the development and production of musical materials and strategies for presenting them.[20]

This is an instance of changing perspectives within the specialist context, with a wider concept of instrumental performance, endowing instrumentalists with 'ingredients' other than technical proficiency. As Swanwick (1994) writes,

> Skills allow us to find our way into music but they can also divert us from further musical understanding if they become ends in

[17]Kirchhoff, Craig (1988) op.cit., p.261.
[18]Davidson, Jane and Smith, Jonathan (1997) 'Music Education at Conservatoire Level', *British Journal of Music Education*, **14**, 3, pp.251-269.
[19]Davidson, Jane and Smith, Jonathan (1997) op.cit., p.263.
[20]Davidson, Jane and Smith, Jonathan (1997) op.cit., p.262.

> themselves. We soon tire of empty 'virtuoso' performances. There are other important ingredients for musical nourishment.[21]

Johnson (1997) writes that a good performance is 'vivid, exciting or moving'; it is "more elusive, a transcendence both of the notes of the score and of the technical accomplishments required to perform them."[22] He continues:

> A musical performance is achieved by performing both competently and musically, which can hardly be achieved without good technique. But to prioritise good technique would turn the performance examination into a glorified exercise, an extension of playing scales. ... Good technique should not, I believe, transcend poor musicianship in any program.[23]

Musical expertise is considered a synthesis of technique and expressiveness[24]. Sloboda and Davidson (1996) write that technical skills are "those required to ensure accuracy, fluency, speed, and good control over such characteristics as intonation, evenness of sound, and timbre."[25] This dimension is essential, but not sufficient for performance to be 'musical': it must be also expressive. Davidson *et al.* (1997) argue that expressiveness is not simply instinctive but is rule-governed[26]. Sloboda (1994) writes that it is not 'random or arbitrary', but that the "structures in the music constrain the expression"[27]. Sloboda and Davidson (1996) add that

> The exercise of expressive skills within musical performance is what gives value to individual performances. This value resides, among other things, in the capacity of expressive performances to highlight to a listener important features of the music, for example, cadence points and phrases peaks [...], and is manifest in microvariations in the timing, dynamics, and pitch.[28]

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[21]Swanwick, Keith (1994) op.cit., p.17.
[22]Johnson, Peter (1997) 'Performance as Experience: the problem of assessment criteria', *British Journal of Music Education*, **14**, 3, pp.272, 275.
[23]Johnson, Peter (1997) op.cit., p.279.
[24]Sloboda, John and Davidson, Jane (1996), Davidson, Jane *et al.* (1997).
[25]Sloboda, John and Davidson, Jane (1996) op.cit., p.173.
[26]Davidson *et al.* (1997) op.cit., p.195.
[27]Sloboda, John (1994) 'Music Performance: Expression and the Development of Excellence', in Aiello, Rita and Sloboda, John (eds) *Musical Perceptions*, New York: Oxford University Press, p.154.

Sloboda and Davidson's (1996) investigation into the conditions that led young performing musicians to achieve excellence in performance indicates that there is a significant correlation between high achievements in instrumental performance and what they refer to as a moderate level of 'informal practice'[29]. This includes "playing favourite tunes from a score; improvising; and non-specific 'fun' playing."[30] The higher instrumental achievers were used to allowing themselves such informal practice more frequently than those children who ceased playing altogether. The authors suggest that it is vital to achieve a balance between "freedom and discipline":

> While it is certainly true that excellence will elude young people who cannot harness their love of music to hard, even gruelling, technical practice, we suspect that those individuals for whom music is 'all work and no play' will never achieve the highest levels of expressive performance.[31]

They conclude that "*the balance should be weighed heavily in favour of enjoyment until at least the age of 10.*"[32] Similarly, Harrison and Pound (1996) point out that the early learning experiences of successful musicians were characterised by immersion in an active musical environment where they had opportunity to engage in informal instrumental practice. A key factor in such learning was that "the initial emphasis in their music-making was on enjoyment rather than on acquiring technical skill."[33] This indicates that there seems to be a current tendency to put the achievement of practical skills in perspective, bring them into balance with the development of other aspects of musicianship.

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[28]Sloboda, John and Davidson, Jane (1996) op.cit., p.173.
[29]Sloboda *et al.* (1996) report a 'weak relationship between informal practice and achievement', op.cit., p.306.
[30]Sloboda, John and Davidson, Jane (1996) op.cit. p.183.
[31]Sloboda, John and Davidson, Jane (1996) op.cit., p.187.
[32]Ibid., our emphasis.
[33]Harrison, Chris and Pound, Linda (1996) 'Talking music: empowering children as musical

This is not to argue against the legitimacy, the rightness and the necessity of a number of individuals to develop musical expertise. That is vital to keep our musical inheritance alive by specialising in performance (as well as to increase it by specialising in composition). But, as Plummeridge (1991) assumes, "[p]rogrammes which focus solely on one particular musical genre or some type of specialized training necessarily restrict and limit experience."[34] Reimer (1970/1989) agrees that opportunities provided by performance programmes are more focused, intensive and selective[35] and this narrows students' musical experiences. Gane (1996) comments that the classical traditional of instrumental teaching "has not included improvising, composing and appraisal as central musical experiences for pupils in lessons"[36]. She suggests thus that 'traditional priorities' of 'playing/performing and practising' 'technical skills, repertoire, scales and exercises' have to be extended to encompass 'potential priorities of musical understanding, response, skills and knowledge', including composing, improvising, arranging, appraising, listening[37].

Paynter and Aston (1970) argue that "[p]erformance is an essential musical activity; but it is not the whole of music."[38] Reimer (1970/1989) believes that a curriculum centred in performance is unlikely to be adequate for all children. Different pupils will tend to have different levels of interest, willingness, dedication and talent to pursue instrumental performance as specialist activity[39]. Reimer (1996) claims that

> There is simply far more to music, and musical understanding, musical learning, musical experience, musical value, musical satisfaction and growth and delight and meaning, than performance

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communicators', *British Journal of Music Education*, **13**, 3, 235.
[34]Plummeridge, Charles (1991) op.cit.,p.10.
[35]Reimer, Bennett (1970/1989) op.cit.,p.186.
[36]Gane, Patricia (1996) op.cit., p.50.
[37]Gane, Patricia, (1996) op.cit., p.54.
[38]Paynter and Aston (1970) op.cit., p.5.
[39]Reimer, Bennett (1989) op.cit., p.151.

can encompass.[40]

In a controversial book, David Elliott (1995) insists that music is a 'performing art', laying most emphasis upon instrumental performance. Reimer (1996) complains that his view of music education is unable to sustain the whole of musical enterprise, especially facing the contemporary achievements in musical technology[41] that might challenge the traditional role of the performer. The criticism over Elliott's philosophy is not that he claims the importance of involving students in active music making, but that he disregards the relevance of other modalities such as composing and audience-listening for musical development. His extreme emphasis on performance to the detriment of the other modalities makes it seem that only those who can (or desire to) achieve performance expertise are capable of musical enjoyment and understanding. Elliott's narrow view of music education echoes Fletcher's (1987). This author reiterates that "the only way to come to understand music properly is by learning to play a musical instrument"[42]. He argues:

> Art experience in music can best be achieved through participation in high-level, skilled performance. It can also be achieved through attendance at live performances. I do not believe it can be achieved, initially at least, through group or individual composition.[43]

Fletcher insists that "there can be no satisfactory reconciliation of the conflict between the pursuit of high instrumental standards and the desire to encourage instrumental activity for all in the classroom."[44] He adds that the acquisition of skills is responsible for leading one to `genuine musical experience'[45]. His view is opposite

[40]Reimer, Bennett (1996) op.cit., p.75.
[41]Reimer, Bennett (1996) op.cit., p.73.
[42]Quote by Atarah Ben-Tovim in Fletcher, Peter (1987) *Education and Music*, Oxford & New York: Oxford University Press, p.124.
[43]Fletcher, Peter (1987) op.cit., p.44.
[44]Fletcher, Peter (1987) op.cit., p.122.
[45]Fletcher, Peter (1987) op.cit.p.123.

to Swanwick's (1979), who believes in a model of teaching in which skills assume a rather subordinate role. Swanwick considers that genuine musical experience is possible not only through performance but also through the other central modalities, composing and audience-listening, skills being the means to enable participation in those experiences. The disagreement between the two authors is mainly at the philosophical level: it lies in the purposes and principles underlying different views of music education. While Fletcher argues that performing skills are "the very stuff of which musicians of any sort are made"[46], Swanwick believes that skills are necessary but not sufficient to make music sound expressive and meaningful. Skills are not the ends but the means in music making.

[46]Fletcher, Peter (1987) op.cit., p.39.

2. A COMPREHENSIVE VIEW OF MUSIC EDUCATION

It is convenient to start outlining the idea of a comprehensive music education by quoting Hargreaves' (1996a) definition of *generalist* music education; central to it is

> the premise that music can be performed, appreciated, and enjoyed by all pupils at all levels. A high degree of conventional instrumental skills is not seen as a prerequisite for successful participation in music; and its absence does not in any way diminish the seriousness of purpose of the activity.[47]

The literature recurrently refers to 'general music education'[48], i.e. music education as part of students' general education, as contrasted to the specialist type of musical teaching. However, the term 'general' will be avoided here, as, at times, it has been associated with negative meanings[49]. It is at times used interchangeably with 'liberal education' (the two concepts tend to overlap). Such confusion happened, for example, in Paynter and Aston's (1970) introduction to *Sound and Silence.* Under the heading "Music in a liberal education", they made claims for the important role of music in the *general* education of the young. Further confusion was caused as they also introduced a third notion, that of 'holistic education', suggesting that teachers' duty is "the education of the whole person"[50].

For these reasons, the term *comprehensive music education*, instead of *general*, is adopted in this study. In this context, it takes the meaning of *being inclusive* of the various forms of engagement with music. It is therefore conceptually opposite to the rather narrow specialist approach which, as has been said before, is exclusive of

[47]Hargreaves, David (1996a) op.cit., p.148.
[48]Also in Plummerdige (1991), Runfola and Rutkowsky (1992), Reimer (1989), Paynter and Aston (1970) among others.
[49]See the discussion in Chapter One.
[50]Paynter, John and Aston, Peter (1970) op.cit., p.2.

public and exclusive of practice. In regard to 'public', comprehensive music education is concerned with the musical growth of all children through active participation in rich and varied musical experiences, rather than with the development of specialist expertise of the favoured gifted ones. It is supposed to take into account their individual needs and preferences, offering opportunities for individual development up to individual limits in a stimulating as well as tolerant environment. In regard to practice, in the comprehensive approach the central modes of involvement with music are "represented, but not dominating"[51], as Reimer (1996) suggests. He writes that the music programme should be

> broad enough and inclusive enough to be truly comprehensive. That does not mean indiscriminate. Choices will have to be made as to what can be included and what left out, but what gets included will have to represent the subject in its intrinsic structure, its significant details, and all the important ways people interact with it.[52]

A comprehensive approach to music education would include the elements that represent the fundamental ways of interacting with music, "including performance but increasingly rebalanced toward composition and listening"[53]. The nature as well as the relevance of these activities in the development of understanding is discussed next.

2.1 – Composition in Comprehensive Music Education

Composition is an essential process of music because of its very nature: regardless of the technical level or style, purpose or context, it is the process whereby any

[51]Reimer, Bennett (1996) 'David Elliott's 'New Philosophy of Music Education: Music for Performers only', *Bulletin of the Council for Research in Music Education*, Spring 1996, No.128, p.69.

musical work is devised. That being so, it is thought to be an intrinsically worthwhile and relevant activity in music education. However, due to certain conceptual misconceptions, some writers disagree on this point. This is the view of Peter Fletcher (1987), who argues that

> Very few adolescents follow through a desire to compose, once they have found out just how difficult a task this is. Indeed, composing is one of the most difficult things it is possible to undertake: there have been less than thirty composers over the past two hundred and fifty years in Europe who are generally remembered with any deep sense of gratitude now. Genuine creativity is given to very few: and that, too, goes for all cultures of the world.[54]

This seems to be a rather distorted view of composition and its role in education. First, whose is the responsibility of fostering the desire, as well as of giving appropriate techniques for composing if not of music education? And whose music would performers play if no one were encouraged to compose? Secondly, he is regarding composition only as a specialist activity, and suggesting that people would be engaged with it for the purpose of being remembered! Thirdly, composition at higher levels of expertise may be really difficult (or otherwise), but it can be experienced at different levels as can any other subject in education. Fourth - and this point deserves further discussion - Fletcher's understanding of creativity is rather limited, as he mistakes it as being synonymous with originality. Paynter (1977) reasons that originality is one possible facet of creativity:

> At one end of the scale it covers that rare quality, original genius. But a high degree of originality is only one aspect of creativity. Also included is the ordinary everyday inventiveness which grows from a combination of necessity, awareness and imagination. In this sense creativity is something we all possess and employ, to some extent, every day of our lives. At root it involves looking at evidence and weighing things up; making small leaps of imagination; taking

[52]Reimer, Bennett (1970/1989) op.cit., p.151.
[53]Reimer, Bennett (1970/1989) op.cit., p.156.
[54]Fletcher, Peter (1987) op.cit., p.41.

decisions and acting upon them.[55]

Analogous to Paynter's is Storr's (1972) distinction between *originality* and *creativity*: creativity refers to the accomplishment of something (a product, an idea) which is new to the person who realised that product, whether this product is original or not. Originality, being more exclusive, refers to the process of forming something which 'has not been done or produced before'[56]. Most often, music education would lead pupils to act creatively, transforming, reconstructing and reintegrating ideas into new shapes; some of those creations *may* even sound original. An original style in composition tends to come after much practice and imitation, and this is not different with professional composers, as Paynter (1982) argues:

> Strikingly original music is rare at any level of attainment and, even among professionals, conventions quickly establish themselves so that improvisation and composition inevitably become, to some extent, a kind of 'imitation with modifications'.[57]

Elliott (1995) takes a similar position to Fletcher's, also disregarding the relevance of children being involved in composing activities. He adopts a narrow and exclusive conception of musical composition, qualifying it as essentially the work of the masters[58]. Both Fletcher and Elliott rather mystify composition, alienating students from this basic involvement with music, implying that they should not 'dare' to approach it. It is thus important to contextualize composition - both as *process* and as *product* of such process - according to the comprehensive view of music education argued in this thesis.

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[55]Paynter, John (1977) op.cit., pp.7-8.
[56]Storr, Anthony (1972/1991) *The Dynamics of Creation*, London: Penguin Books, p.11.
[57]Paynter, John (1982) *Music in the Secondary School Curriculum*. Cambridge: Cambridge University Press, p.120.
[58]Elliott, David (1995) *Music Matters: a new philosophy of music education*, New York; Oxford: Oxford

2.1.1 - Composition as *process*

Mills (1991) writes that composition "takes place whenever a person (or group of people) devises a piece of music"[59]. It extends from the instantaneous improvisation by a child on a xylophone with total freedom and spontaneity, to the elaboration of a piece under certain rules and restrictive principles. Although Mills does not draw such a distinction, the definition above corresponds rather to the *process* undergone for making a piece. Many authors have argued on behalf of composition as a relevant activity in children's education. Paynter (1997) insists that it is not "an optional extra; in effect it underpins the whole curriculum, and it is the surest way for pupils to develop musical judgement and to come to understand the notion of 'thinking' in music".[60] Rather than a means to create specialist composers, it is regarded as a powerful tool for developing understanding of the functioning of music. Swanwick (1979, 1992, and 1994) writes that "the prime value of composition in music education is not that we may produce more composers, but in the insight that may be gained by relating to music in this particular and very direct manner"[61]. It offers the opportunity to work from raw materials stretching the exercise of decision making.

> When composing, we are likely to be making musical judgements over a wider range; for example, we can decide on the actual ordering of the music in time and musical space as well as about the manner of producing sounds and shaping phrases.[62]
>
> It is no rarefied activity but a way of engaging with the elements of musical discourse in a constructive and critical manner, making judgements and decisions; in the richest sense of the term, *appraising*

University Press.
[59]Mills, Janet (1991) *Music in the Primary School*, Cambridge: Cambridge University Press, p.23.
[60] Paynter, John (1997) op.cit., p. 18.
[61]Swanwick, Keith (1979) op.cit., p.43.
[62]Swanwick, Keith (1994) op.cit., p.85.

music.[63]

Plummeridge (1997) agrees that "compositional activity can be one of the best ways for children to engage in musicking in order to come to understand the workings of the language."[64] Harris and Hawkesley (1989) also write about the far-reaching insights children may gain through the process of composition.

> In doing this they are actively involved in discovering and exploring the elements of music which they then can use to create their own composition. This requires them to unify sets of ideas and bring them to a satisfactory conclusion in their music. It is a process which calls upon their powers of reasoning and understanding, and which generates insight into their own ideas as well as those of others.[65]

Various professional composers share music educators' views. Schoenberg believed that composing increased sensitivity to musical ideas and permitted the students "to obtain pleasure which is inherent in the art"[66]. Murray Schafer (1975) used to say that education might become a 'newness' and a 'prophecy'; i.e. it should not be limited to performing works composed in the past[67]. Paul Hindemith (1952) wrote that

> Composing was not a special branch of knowledge that had to be taught to those gifted or interested enough. It simply was the logical outgrowth of a healthy and stable system of education, the ideal of which was not an instrumental, vocal, or tone arranging specialist, but a musician with a universal musical knowledge...[68].

Experiences in composition may encourage pupils to develop their own voices in musical discourse, articulating both their intellectual and affective lives. Throughout the process musical ideas can be transformed and assume new expressive levels

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[63]Swanwick, Keith (1992) op.cit., p.10.
[64]Plummeridge, Charles (1997) 'The rights and wrongs of school music: a brief comment on Malcolm Ross' paper', *British Journal of Music Education*, **14**, 25.
[65]Harris, R. & Hawksley, E. (1989) *Composing in the Classroom*, Cambridge: Cambridge University Press, p.2.
[66]Schoenberg, Arnold (1950/1974) *Style and Idea*, London: Stein, pp.151-2. Quoted in Lawrence, Ian (1978) *Composers and the Nature of Music Education*, London: Scholar Press, p.138.
[67]Schafer, R.Murray (1975) *The Rhinoceros in the Classroom*, London: Universal.
[68]Hindemith, Paul (1952) *A Composer's World: Horizons and Limitations*, Cambridge, Mass, p.178.

and meanings, enabling the elaboration of feelings, revealing new insights. In parallel, the experience of engaged listening to others' creations may be enriching as affective and intellectual 'voices' of others might be recognised. Not only is the process of composition intrinsically rich, but it might also help to establish foundations for further pursuits in music. It may offer a precious contribution for children's musical development, since it involves judgement and attentive listening. As pupils are often expected to play their own compositions, it also fosters the progressive mastering of performing skills with a direct musical purpose. The literature indicates that the purpose is that children *play* with this modality of music making, not that they master complex techniques in the early stages, which would result in narrowing the educational perspective by placing a heavier emphasis on technical skills. Mills (1991) comments that young children are often fascinated by sounds, and those who are given the opportunity to play with them are introduced to composition by themselves[69]. In this sense, music education might strengthen the instinct of curiosity, exploration and fantasy most children come to class with, so that they can produce their own music. Paynter (1982) believes that "[s]o long as we are able to make sounds and control them, our imagination and inventiveness can engage with the medium in improvisation and composition."[70]

Improvisation is thought to be an instantaneous form of composition with the added element of immediacy. As much as composition, it may embrace varying levels of freedom and complexity (as in technically demanding jazz improvisation). Based on an analogy between language and musical learning, Harrison and Pound (1996) propose that improvisation is the musical equivalent of talking. They recommend

[69]Mills, Janet (1991) op.cit., p.26.

that teaching should build on children's natural impulse towards improvisation, encouraging their 'talking music' in a fluent, oral (preceding literacy) and imaginative way[71]. Swanwick and Jarvis (1990) report that in the *Tower Hamlets String Teaching Project* "[i]mprovisation occurred frequently and regularly enough for children to regard it as a natural extension of instrumental playing."[72] Improvising assists in the achievement of more rapidity and precision in musical response, setting a straight link between the spirit that creates and the mind that commands[73].

Paynter (1992) agrees that improvisation helps in the exploration of the potential of musical ideas, developing imaginative and fluent musical thinking. However, composition allows a greater degree of re-elaboration and refinement than improvisation, because of the immediate nature of the latter. But it is composition which allows "the refinement of forms", "to make musical ideas grow into musical structures"[74]. In music classes, many opportunities for composing may emerge from this experimentation with sound material. Musical ideas may be explored and expanded, which requires careful listening and judging expressive and structural matters. Such a process may help children to expand their repertoire of creative ideas as well as the technique necessary to accomplish (control) them. Mills (1991) believes that composing can help in mastering performance skills for it "strengthens the association between action and sound"[75].

Music technology may offer many possibilities in this regard, making participation

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[70]Paynter, John (1982) op.cit.; p.103.
[71]Harrison, Chris and Pound, Linda (1996) op.cit., pp. 233-242.
[72]Swanwick, Keith and Jarvis, Christine (1990) *The Tower Hamlets String Teaching Project: A Research Report*, London: Music Department, Institute of Education University of London, p.20.
[73]Gainza, Violeta H. (1983) *La Improvisation Musical*, Buenos Aires: Ricordi, p.15.
[74]Paynter, John (1992) op.cit., pp.48, 85.

more readily accessible for many more children. As Reese (1996) notes, "these technologies remove some of the barriers that can be posed by the need for performance skills and staff notation."[76] When such skill barriers are removed students may be able to communicate their musical thinking more consistently. Scripp *et al.* (1989) agree that computers eliminate "constraints of an imprecise notation or an inconsistent performance"[77]. Rogers (1997) indicates that music technology resources help to improve the standard of secondary students' compositions[78]. They allow for a greater emphasis on individual work, enabling students to pursue their own musical ideas and communicate their musical thought.

2.1.2 - Composition as *product*

There seems then to be reasonable agreement in regard to the status of composition as *process* in children's musical development. Yet when the process of composing is finished there remains the *product* of the activity – the piece or composition. Following the definition above of composition as process, composition - now as *product* - in the context of children's comprehensive music education may be broadly defined as

> the briefest spontaneous utterances as well as more sustained and rehearsed invention and takes place when there is some freedom to choose the temporal ordering of music, with or without notational and other forms of performance instruction.[79]

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[75]Mills, Janet (1991) op.cit.; p.31.
[76]Reese, Sam (1996) 'MIDI-assisted composing in your classroom', in Spruce, Gary (ed) *Teaching Music*, London: The Open University, pp.198-205.
[77]Scripp, Larry, Joan Meyaard, and Lyle Davidson (1989) 'Discerning Musical Development: Using Computers to Discover What We Know', in Gardner, Howard and Perkins, D. (eds) *Art, Mind, and Education: Research from Project Zero*, Urbana and Chicago: University of Illinois Press.
[78]Rogers, Kevin (1997) 'Resourcing music technology in secondary schools', *British Journal of Music Education*, **14**, 2, pp.129-136.

Some writers refer to the status of children's 'products' as musical compositions. When addressing this issue, Harris and Hawkesley (1989) sway between product and process:

> The idea of using the word 'composition' in relation to a piece of perhaps less than a minute in length, or 'performance' when initially all we may be listening to are a few notes played on a percussion instrument, appears at first too contrived to be taken seriously by some musicians. But as teachers of music we are concentrating on the processes involved, and early offerings are bound to be desperately simple compared with what we know to be possible at the height of musical attainment. ... When they select and organize sounds into a piece of music, however simple and unskilled their attempts may be, they are still composing.[80]

Loane (1984b) went deeper, arguing whether students' compositions should be taken 'seriously as music', or be considered as 'art works'. His caring analysis of students' pieces indicates that the expressiveness and meaning in their music may be deeper and more complex than may appear on the surface.

> ... the pupils have created some sort of symbol or metaphor of an imagined way of experiencing consciousness, and that in sharing that insight with their audience they have generated some sort of 'meaning', some sort of 'communication'.[81]

Classroom compositions vary in length and complexity according to the nature and purpose of the activity, ranging from brief improvisations to more elaborated projects which may take several lessons. Often they will be completed within the length of one lesson, the result being very short indeed. But as long as pupils purposively engage in articulating and communicating their thinking in sounds, organising patterns and generating new sound structures within a time frame, they can be said to be composing, and the resulting 'product' can be regarded as a composition. However simple, these should be taken with more regard than ordinary exercises:

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[79]Swanwick, Keith (1994) op.cit., p.85.

they are truly legitimate musical utterances through which children articulate their affective and intellectual life. Regarding their compositions as 'art works' would be, to some extent, to overestimate their early and unpretentious attempts. But *artistic qualities* may be identified in their pieces and might pursued at any level of children's development to the greatest *possible* extent. The broadness of the definition above does not imply that everything that is composed in the classroom turns out to be musically meaningful or educationally relevant. The educational potential of musical composition lies in the meaningfulness and expressiveness that the resulting products communicate.

2.2 – Listening to Music in Comprehensive Music Education

Music being an aural phenomenon, "the most fundamental approach to it is through listening."[82] By listening, any person may relate to music, either the less informed amateur or the master musician. For this reason, listening is thought to be "the central reason for the existence of music and the ultimate and constant goal in musical education."[83] Listening is expected to pervade any active musical experience, being a basic medium for musical growth. Reimer (1970/1989) believes that all experience of music depends on "discerning, creative listening"[84]. It enables a composer or performer to refine her/his musical products, checking whether "there is a correspondence between his intentions and the music he produces"[85]. Paynter

[80]Harris, Ruth & Hawksley, Elizabeth (1989) op.cit., pp.2-3.
[81]Loane, Brian (1984b) op.cit., p.207.
[82]Leonhard, Charles and House, Robert (1959/1972) op.cit., p.256.
[83]Swanwick, Keith (1979) op.cit., p.43.
[84]Reimer, Bennett (1970/1989) op.cit., p.130.
[85]Gabrielsson, Alf (1988) 'Timing in music performance and its relations to music experience', in

(1982) assumes, in short, that "the ear is really the only 'rule' that exists in music"[86].

It is therefore necessary to distinguish between listening as "means" and listening as an "end" in itself. Sensitive and discerning listening is determinant in musical making: "[p]erforming expertise requires listening expertise"[87]. In these circumstances, listening will be monitoring the musical output, and could be referred to as "composing-listening" and "performing-listening"[88], indicating that it is an implicit component of those activities. Yet independently of listening as a means for monitoring music production, various authors maintain the intrinsic value of the activity of listening to music in audience, which is often referred to as "audience-listening". Sloboda and Davidson (1996) believe that those who experience the expressive power of music in audience-listening "may be better equipped to mobilise this knowledge when devising an expressive performance."[89] It is a legitimate and worthwhile form of musical involvement, because through audience-listening people may expand their musical horizons and understanding. Reimer (1996) reminds us that audience-listening is the most easily accessible modality of music making and the one the majority of lay people will be involved with throughout their lives[90]. Most musical inheritance will be experienced only through audience-listening experiences - even in the case of musicians. However vast the repertoire one can perform satisfactorily, it is still a very small portion of what has been composed through time and place, and for different instrumental media. "It would be tragedy if the aesthetic insight and responsiveness of people were limited to their own command of

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Sloboda (1988)(ed) *Generative Processes in Music*, Oxford: Clarendon Press, p.46.
[86]Paynter, John (1982) op.cit.; p.126.
[87]Sloboda, John (1985) op.cit.; p.88.
[88]Based on Swanwick, Keith (1992) op.cit.; p.8; such terms appear also in Loane's (1984a) more vehement arguing that all music making *is* a form of listening.
[89]Sloboda, John and Davidson, Jane (1996) op.cit., p.185.

instrumental or vocal technique."[91]

> To limit the musical experience of students - at every grade level - to that which they themselves can perform "competently, proficiently, and expertly", is to deprive all students of satisfying musical experiences readily available in their culture.[92]

The status of audience-listening as "activity" may be questioned, as it does not necessarily imply overt behaviour[93], being often regarded as a rather *passive* activity. The appearance of a receptive attitude tends to disguise the active perceptual process which takes place as the listener's mind and spirit are being put into motion. Paynter (1982) argues, music cannot "be apprehended by passive contemplation: it calls for commitment; for choice, preference, and decision."[94] Serafine (1988) implies this active process of listening, defining it terms of "an active organising and constructing of the temporal events heard in a composition."[95] Research on auditory organisation has indicated that experiencing music is indeed a creative experience in which

> the will and focus of the listener play an extraordinarily important role in determining the final perceptual results. Musical listening (as well as viewing visual arts or reading a poem) is and must be considered seriously by an artist as a creative act on the part of the participant.[96]

Audience-listening activities may encourage students to focus on materials, effects, expressive gestures, and structure, and to understand how these 'ingredients' are 'woven' together in their and in others' creations. Knowledge about music may be

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[90]Reimer, Bennett (1996) op.cit., p.75.
[91]Foster McMurray, quoted in Reimer (1996) op.cit., p.78.
[92]Reimer, Bennett (1996) op.cit., p.78.
[93]Regelski, Thomas (1975) *Principles and Problems of Music Education.* New Jersey: Prentice Hall; p.209.
[94]Paynter, John (1982) op.cit.; p.95.
[95]Serafine, Mary Louise (1988) *Music as Cognition: The Development of Thought in Sound*, New York: Columbia University Press, p.71.
[96]McAdams, Stephen (1984) 'The auditory image: a metaphor for musical and psychological research on auditory organization', in Crozier, W.R and Chapman, A.J. (eds) *Cognitive Processes in the Perception of Art*, Amsterdam: Elsevier, p.319.

used as an instrument for enhancing musical responsiveness rather than as a substitute for the experience of listening to music itself[97]. Analysis may be used as a tool for illuminating the infra-structure of the work, directed towards the identification of musical gestures and details which are significant to its expressive effect. The understanding of how composers manage to obtain such effects is a valuable outcome that may be relevant in further experiences. Reimer believes that 'listening to a great variety of music' works as "fodder for creative decisions"[98]. It nourishes students' repertoire of options upon which to act creatively, transforming, reconstructing and reintegrating ideas into new shapes and meanings.

2.3 – Performance in Comprehensive Music Education

Regelski (1975) once offered a rationale for the question of why to teach performance. First, it serves "to identify, encourage, and improve those musically talented individuals who might consider music as a *vocation*". Secondly, it serves those interested in music as "a source of keen *avocational* pleasure and involvement". Finally, performance might help in the development of "understanding, taste, discrimination, and appreciation for music."[99] His categorisation helps to clarify the role of musical performance in the context of a comprehensive music education. The first argument concerns the specialist type of performance, and the second, the non-specialist type. But the last argument is the very reason for offering children the opportunity of performing, for what can be gained in terms of musical understanding

[97]Swanwick, Keith (1994); Reimer (1970/1989); Elliott, David (1995), Leonhard and House (1959/1972), among others.
[98]Reimer, Bennett (1970/1989) op.cit., p.212.
[99]See Regelski, Thomas (1975) *Principles and Problems of Music Education*, New Jersey: Prentice-

through this activity. In the comprehensive setting, the objectives and processes of performance are quite different from those of the specialist: to foster 'creative music making' rather than 'competitive musical dexterity'[100].

> The means to optimum student learning and musical and personal development are essentially different from the means to high-quality professional performance. In the former, the performance of music is a means to student development; in the latter, the performers are a means to the performance of music. The difference is obvious.[101]

Thus, in this context, the concept of performance needs to be broadened beyond the paradigm of the skilled instrumentalist. Musical performance embraces not only the traditional manner of playing by notation a piece by a professional composer, but also the simplest musical utterance - including improvisation[102]. It is an analogous issue to the value of composition as process and product, discussed earlier. As much as in composition, the broadness of the definition should not be taken as a compromise for quality in performance. Teachers may try to help pupils to reach the best *possible* standard of realisation so that their performances become meaningful, expressive and relevant.

Classroom musical performance may take place through a wide range of media, including singing, a highly expressive and easily accessible medium, percussion instruments, keyboards and the classical range of instruments. The *Tower Hamlets String Teaching Project* during the 1980's, through which primary school children were initiated into string playing, represents an instance of successful instrumental teaching. According to the research report by Swanwick and Jarvis (1990), the approach embraced manifold aims, such as development understanding,

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Hall, pp.46-9.
[100]Reimer, Bennett (1970/1989) op.cit., p.72.
[101]Leonhard and House (1959/1972) op.cit.; p.278.

performance skills, notation, aural discrimination, besides personal and social skills'[103].

Salaman (1997) sees the use of electronic keyboards with suspicion; because of their limitations, results can be rather unmusical[104]. They may represent drawbacks both in pupils' development and assessment. Ordinary keyboards do not allow the exercising of decision-making over expressive details such as delicate changes of timing and loudness. Therefore, how can pupils develop a sensitive conception of music if they are not attending to such expressive properties of musical discourse? And when it comes to the issue of pupils' assessment, "[b]ecause they cannot exercise control over expression, tone or intonation, they cannot be judged on these matters – matters which are vital ingredients of sensitive musicianship."[105] The opportunity for children to engage in decision-making is an important element of performance that leads to the growth of musical understanding. Through performing, students may develop the tools necessary to control sounds in order to reconstruct a piece and communicate its expressiveness. Stubley (1992) writes that

> Through musical performances, performers learn about their own capacity to control and project musical sounds that will be heard and responded to by others as authoritative assertions articulating a particular conception of how things are musically.[106]

It has been seen that composing, performing and audience-listening are the fundamental forms of engagement with music. Each activity has its own nature, procedures and outcomes, being thus thought to be essential facets of a

[102]Swanwick, Keith (1994) op.cit.
[103]Swanwick, Keith and Jarvis, Chirstine (1990) op.cit.
[104]Salaman, William (1997) 'Keyboard in schools', *British Journal of Music Education*, **14**, 2, pp.143-149.
[105]Salaman, W. (1997) op.cit., p.148.
[106]Stubley, Eleanor (1992) op.cit., p.11.

comprehensive music education. Through active participation in composing, performing and audience-listening to music children may develop understanding and communicate their musical thinking. In a comprehensive approach, their experience can be enriched and illuminated by the various modes of engagement with music. Although the literature strongly supports such comprehensive approach to music education, little has been done to investigate the relative role of each activity in musical development. It has an impact over the selection of curriculum activities and pupils' musical growth. This is an important issue awaiting empirical study, to which this work aims to offer a contribution. The relationship between the activities is the subject of the following section.

3. THE INTEGRATION OF COMPOSING, PERFORMING AND AUDIENCE-LISTENING ACTIVITIES

It can be argued that composing, performing and listening activities relate to each other in two important ways. Some musical experiences involve more than one of these processes. Listening, for instance, is expected to be implicit in performing and composing activities. Improvisation accumulates all three major activities, as composing, performing and listening to music take place interactively. Nevertheless, the interrelation among the activities seems to be more than just a phenomenon of simultaneity: it is widely thought that the experience in one modality of music making can actually improve, reinforce and illuminate further experiences in another modality[107]. It is thus thought desirable that children experience these *methods* of the discipline in an integrated approach, so that music can be felt as an experiential unity. Plummeridge (1997) comments that

> 'Immersion', or 'initiation' into music (the 'language game') through the related activities of performing, composing and listening in order to develop in pupils an understanding of the expressive qualities, conventions and procedures of the discipline has been, and continues to be, the declared aim of numerous writers and music teachers.[108]

Swanwick (1994) reports that such approach to music education can already be observed "as an organising principle in much effective teaching"[109]. Leonhard and House (1959/1972) already used to take it for granted, regarding the benefits of such approach as 'obvious':

> It seems obvious that all phases of the music education program would profit from real creative work in which composing,

[107]See Leonhard and House (1959/1972), Swanwick (1979 and 1994), Regelski (1983), Plummeridge (1991), Mills (1991), Glover and Ward (1993), among others.
[108]Plummeridge, Charles (1997) op.cit., p. 25.
[109]Swanwick, Keith (1994) op.cit.; p.138.

> performing, and listening are combined into an integrated experience.[110]

In *A Basis for Music Education*, Swanwick (1979) proposed a comprehensive rationale for the integration of the activities. He provided a theoretical framework for music teaching represented by a model which "draws together in a simple structure what previously may have been disconnected and fragmented"[111]. In the model, he emphasised the centrality of active experience in music through *composing - C -, performing - P -* and *listening/audition - A -*, alongside 'supporting' activities which are grouped under the headings of *skill acquisition - (S) -* and *literature studies - (L).* The five parameters, drawn together under the mnemonic 'C(L)A(S)P', should be interrelated in musical teaching, offering a wide range of possible curriculum activities. Swanwick argued that experience in any aspect of 'C(L)A(S)P' may illuminate and reinforce other aspects. Hence, teaching should "activate experiences for the pupils that cross and recross these five parameters, or at least, some of them."[112] Swanwick (1979) suggests that some experience of composing with (as well as listening to) a given sound material or technique leads the pupils to a 'platform' from which they can reach more coherent and consistent performances[113]. Swanwick (1992) suggests that "appraisal also takes place when people are composing and performing and might often be best developed through these activities."[114] When, for instance, a teacher asks "What would the effect be if we played a cymbal here instead of a triangle?"; or "What makes that passage sound so brilliant?", he stimulates pupils

[110]Leonhard and House (1959/1972) op.cit.; p.313.
[111]Swanwick, Keith (1979) op.cit.; p.50.
[112]Swanwick, Keith (1979) op.cit., p.46.
[113]Swanwick, Keith (1979) op.cit.; p.49.
[114]Swanwick, Keith (1992) op.cit.; p.8.

to experiment further and exercise their critical judgement[115]. "Music-making can lift the quality of music-taking"[116], and vice-versa.

More than just an inventory of pedagogical practices, Swanwick's model conveys a philosophical view of music education, stressing what is central and what is peripheral (however still necessary) in children's musical education. Implied in his model there is a hierarchy of values or objectives for music education, where aesthetic appraisals (composition, performance and audition) come first, followed by the "subordinate" or "peripheral" areas of "skill acquisition" and "literature studies". He stresses that such subordinate processes should be regarded just as means to informing the three main activities[117]. This view is shared by Reimer (1970/1989), who maintains that these central activities may be supported by information about music: "All this music-focused study will be experiential, the immediate 'experience of' being the point and 'knowing about' being a way to help get to the point."[118] Some fifteen years after the initial model, Swanwick (1994) reaffirms the centrality of the three main activities, through which musical understanding is to be gained, alongside the subordinate place of factual knowledge:

> Propositional knowledge, knowledge *about* music, finds its place discretely and helpfully alongside these direct understandings; otherwise it can so easily become a substitute both for intuitive experience and insightful analysis.[119]

Consistently with the support of scholars and teachers (but not without a great deal of negotiations) the English *National Curriculum for Music Education*, set up

[115]Swanwick, Keith (1992) op.cit., pp.13-14.
[116]Swanwick, Keith (1994) op.cit.; p.52.
[117]Swanwick, Keith (1979) op.cit., p.66.
[118]Reimer, Bennett (1970/1989) op.cit., p.156.

in 1992, reflects this conception in the proposed 'attainments targets'. It was recommended that these, namely "Performing and Composing" and "Listening and Appraising", be interrelated in the music class, as expressed in the statement:

> Pupils' understanding and enjoyment of music should be developed through activities that bring together requirements from both **Performing and Composing** and **Listening and Appraising** whenever possible.[120]

Gamble (1984) believes that the best way to foster the development of musical imagination and understanding is "to make creative activities (i.e. composition and improvisation) the central focus of the music curriculum, with listening activities carefully related to children's work."[121] (Improvisation being an instantaneous form of composition, as mentioned earlier). These offer the opportunity of exercising "the responsibility of the bar-by-bar decisions that must shape all performance"[122]. They may help to increase sensitivity and responsiveness to the expressive potential of musical materials, essential in compositional process. Gardner (1983) comments that those who became professional composers felt great pleasure in their childhood by introducing changes in the pieces they performed; they "found themselves, by the age of ten or eleven, experimenting with pieces that they were performing, rewriting them, changing them, turning them into something other than they were - in a word, *de*composing them."[123] The activities of composition and performance were

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[119]Swanwick, Keith (1994) op.cit., p.163.
[120]See *Programme of Study - The National Curriculum for Music*, p.6.
[121]Gamble, Tom (1984) 'Imagination and Understanding in the Music Curriculum', *British Journal of Music Education*, **1**, 1, p.11.
[122]Fuller, David (1989) 'The Performer as Composer' in Brown, R.M. and Sadie, S. *The New Grove Handbook in Music; Performance Practice: Music After 1600*, Macmillan Press. p.139.
[123]Gardner, Howard (1983/1993) *Frames of Mind: The Theory of Multiple Intelligences*. London: Fontana Press; p.114.

naturally related to each other before the 19th century[124], as it is in some cultures and in particular musical styles. The spontaneous Baroque attitude towards the written text is closer to the music of Boulez or Cage today[125], or to jazz[126], for the decisions the performer is required to take.

Stravinsky suggested that the composer needs "first-hand contact" with sound materials before engaging in composing: "fingers are great inspirers"[127]. Paynter (1992) points out that "[m]usical instruments themselves inspire musical ideas"[128], and their quality of sound and mechanical form 'invite' interesting explorations with sounds. He suggests that pieces of music can be composed just by moving hands and fingers across the instruments: the guitar suggests broken chords, the violin suggests sliding along the strings, and the piano invites 'hand-shape' pieces. Indeed, classroom composition offers the possibility of maximising the integration among the three activities fostering pupils' development. They are often required to perform their own compositions to the class, and attentive listening will be required from the composers as well as from the class when listening to them in audience.

Michael Stavrides (1995) found that children who had participated in related audience-listening activities achieved higher standards in their compositions[129]. Preston (1994) reports that children increased their responsiveness to listening

[124] *The New Harvard Dictionary of Music*, edited by Randel, Don M. (1986), Harvard University Press, p.183.
[125] Donington, Robert (1973) *A Performer's Guide to Baroque Music*, London: Faber and Faber ,p.15.
[126] Fuller, David (1989) op.cit., p.117.
[127] In Paynter, John and Aston, Peter (1970) op.cit., p.8.
[128] Paynter, John (1992) *Sound and Structure*, Cambridge: Cambridge University Press, p.54.
[129] Stavrides, Michael (1995) 'The interaction of audience-listening and composing: a study in Cyprus Schools', Unpublished Ph.D Thesis, University of London Institute of Education.

through participating in composing activities; these helped to foster criticism and a more analytical attitude towards music, leading to an awareness of more detail[130]. Mills (1991) also observed that children's response to music increased due to compositional work. Her findings lead her (1991) to assume that the activities are interdependent:

> This is some limited, but encouraging, evidence of the interdependence of composing and listening. It suggests that the listening that takes place during the composing can be at least as deep as that when the focus is listening alone.[131]
>
> In an integrated and coherent music education in which children compose, perform and listen, the boundaries between musical processes disappear. When children compose, for instance, they cannot help but learn as performers and listeners, as well as composers. That is what the interdependence is about.[132]

Her view is shared by Gane (1996):

> Composition, appraisal and performance essentially share many skills. Indeed one could argue that composition depends on the ability to appraise the possibilities of musical language and select and reject ideas as a result. Successful appraisal depends on the **insights** gained from the manipulation of materials in composition and performance. Successful performance depends on sound judgements made about music as a result of understanding it ever more deeply, not through imitation of others or by following orders.[133]

Musical understanding, according to Swanwick (1994, 1996) is "the actual *quality* of what is learned"[134], "the residue left with us, some change of insight or level of responsiveness, that which we take away with us when an activity has ceased"[135]. Since people carry their repertoire of past experiences into following ones, it

[130]Preston, Hamish (1994) 'Listening, appraising and composing', *British Journal of Music Education*, **11**, 1, p.16.
[131]Mills, Janet (1991) op.cit.; p.87.
[132]Mills, Janet (1991) op.cit.; p.88.
[133]Gane, Patricia (1996) op.cit., p.52.
[134]Swanwick, Keith (1996) *The National Curriculum: Assessing Musical Progression*, Institute of Education University of London, p.3.
[135]Swanwick, Keith (1994) op.cit., p.56.

seems reasonable to suppose that experiences in one modality of music making may enrich and nourish experiences in the others. Nonetheless, little research has been done to support the reliability of such assumption. Swanwick (1994) believes that "[o]ne reason for the lack of evidence is the difficulty of assessing music-making in order to observe the effect of one activity on another."[136] Meanwhile, assumptions are based upon observation of educators' practice rather than on consistent support of scientific data.

Moreover, the analysis of the literature indicates that the nature of the interaction among the activities is not clear. Neither is there the need to exaggerate the point that the activities are 'dependent' on one another as Mills argues, nor is it so evident that the activities 'share many skills', as Gane believes. Having conceptually disentangled musical understanding and skills may help to clarify the nature of this interaction. It can be argued that the interaction happens in the level of understanding, because however refined a musical conception or understanding, the accomplishment of each activity is mediated through distinct modality-specific processes and practical skills. To compose a fugue, to listen to a fugue, or to play a fugue involve skills which are unique to each modality. The interaction may seem straightforward when the complexity of a task is at a level that the person can control. For instance, a child listens to an *ostinato* and understands that it can be used as both an expressive and a structural device; then s/he may be able to use simple *ostinati* in her/his compositions without much effort. As s/he perceives the expressiveness of a large *crescendo* s/he may want to incorporate it in her/his performance. This transfer will only be successful

[136]Swanwick, Keith (1994) op.cit.; p.138.

however if s/he has mastered the technique necessary to play a graduated *crescendo*. Hence, the interaction among the activities is maximised when these involve the necessary technical conditions for the accomplishment of tasks. What is transferred among activities is the awareness of the functioning of elements of musical discourse, with its particular articulation of materials, expressive gestures, and idiomatic features. The skills, procedures, techniques and experiences which link a composer, a performer and a listener in relation to the same piece of music are completely different; what they share in common is the attention to the layers of musical discourse.

The relationship between musical understanding and skills is thus a problematic issue into which there has been little research. The empirical project of this thesis is aimed at addressing some points of such relationship. We have seen how the activities contribute to the development of understanding and how they interact with each other from a logical point of view. In the next chapter we shall see that the psychology literature provides important clues for the development and demonstration of musical understanding. These include possible explanations of the interaction among the activities and their psychological nature. We shall then discuss the path of musical development according to the Spiral Model - the framework through which students' achievement will be eventually assessed.

CHAPTER THREE

A FRAMEWORK FOR THE DEVELOPMENT AND DEMONSTRATION OF MUSICAL UNDERSTANDING

A FRAMEWORK FOR THE DEVELOPMENT AND DEMONSTRATION OF MUSICAL UNDERSTANDING

1. SCHEMATA AND MENTAL REPRESENTATION OF MUSIC

The cognitive approach has become a major theoretical influence in current psychology[1], also inspiring the study of artistic development. Hargreaves (1986) writes that "[t]he emphasis of cognitive psychology is upon the internalised rules, operations, and strategies that people employ in intelligent behaviour just as much as on the external behavioural manifestations of these processes."[2] In other words, it studies "how individuals build mental models of their surrounding worlds (including musical worlds) that will enable them to move, plan, and expand their knowledge and understanding."[3] The cognitive psychology of music, as Sloboda (1985) explains, investigates how music is internally represented, how musical knowledge is organised and stored, and how people behave musically as a result of that representation[4]. He writes that "[t]hese representations, and the processes which create them, are not directly observable. We have to infer their existence and nature from observations of the way in which people listen to, memorise, perform, create, and react to music."[5] Thus, the central modalities of musical behaviour constitute major 'windows' through which such mental constructs are manifested and can therefore be investigated.

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[1]Hargreaves, David and Zimmerman, Marilyn (1992) 'Developmental Theories of Music Learning' in Colwell, Richard (ed) *Handbook of Research on Music Teaching and Learning: a project of the Music Educators National Conference*, New York: Schirmer Books, p.378.
[2]Hargreaves, David (1986) *The Developmental Psychology of Music*, Cambridge: Cambridge University Press, p.5.
[3]Hargreaves and Zimmerman (1992) op.cit., p.385.
[4]Sloboda, John (1985) op.cit.,p.5.

Cognitive-*developmental* psychology is concerned with how the transformations of internal constructs determine age-related changes in behaviour. Piaget's cognitive-developmental theory has been widely influential, and also widely criticised and re-evaluated. One important area of criticism of his work has been based upon evidence of inaccuracies regarding his notion of development through well defined stages. However, some central concepts in the cognitive perspective (and important in this present study), have suffered relatively little criticism. The notion of 'schema', for instance, has been used in different subsequent models and theories and even in areas beyond cognitive development[6]. Besides the notion of 'musical schemata', the influence of Piaget's theory on the developmental psychology of music is shown in various issues[7]. An attempt to make a comprehensive overview of the topic would be unreasonable given the scope of this thesis. Instead, this selective reading will approach some points which are pertinent in this study, such as the notions of schemata, assimilation and accommodation; the elements of 'play', essential for the development of the symbolic function; and the notion of stages, leading to Neo-Piagetian views on development.

Piaget believed that cognitive development happened through the formation and development of *schema* (plural *schemata*). These are cognitive structures by means of which an individual organises the environment, the basic 'building blocks of cognition'[8] through which incoming stimuli are processed and identified. They are frames through which sensory information is taken in and meaning is conveyed.

[5]Sloboda, John (1985) op.cit., p.3.
[6]Haynes, Nicky (1994) *Foundations of Psychology: an Introduction*, London: Routledge, p.532, 658.
[7]Hargreaves, David and Zimerman, Marilyn (1992) op.cit., p.378.
[8]Hargreaves, David (1986) op.cit., p.33.

Schemata can vary in their amount of information and complexity[9]. These "organize events as they are perceived by the organism into groups according to common characteristics."[10] A less differentiated schema permits a young child to perceive similarities rather than differences between stimuli: "The more primitive a schema the more undifferentiated is its object, and hence we observe the primitive tendency of generalizing assimilations."[11] As they become more differentiated the child can generalise better across stimuli. For example, at the same time that a 'car' schema becomes more complex and differentiated, it also becomes more general, since more types of cars will match that schema.

It is worth noting that the terms 'schema' and 'concept' have been sometimes used interchangeably. Like concepts, they are mental constructions which we use to represent the world. A distinction currently adopted is that schemata are more complex cognitive frameworks used essentially as basis for action: they "act as a guide for planning and doing things"[12]. They are richer than concepts, as they include "the memories and the abstract associations that might be involved in a concept", expectations, "sensory associations, skills and plans as well as action and knowledge."[13] Concepts, on the other hand, are mainly to do with classifying objects and phenomena into groups or types. Concepts function at a 'higher cognitive level', while schemata may function at a more concrete level[14]. Nonetheless, some recent research on concept-formation suggests that concepts may also be organised

[9]Rumelhart and Norman (1983) quoted in Hayes, Nicky, p.142.
[10]Wadsworth, B. (1971/1984) op.cit., *Piaget's Theory of Cognitive and Affective Development*, New York: Longman.p.12.
[11]Furth, Hans (1969) *Piaget and Knowledge: Theoretical Foundations*, New Jersey: Prentice-Hall, p.228.
[12]Hayes, Nicky (1994) op.cit., p.143,653.
[13]Hayes, Nicky (1994) op.cit., p.142-3.
[14]Hargreaves and Zimmerman (1992) op.cit., p.385.

around interactions[15], challenging the distinction just outlined.

The child's "own internal activities and self-regulatory processes play an especially crucial role in [Piaget's] theory of intellectual development"[16]. The mechanism underlying cognitive development is called *equilibrium*, a natural tendency to explore and adjust to the environment. As the individual grows older, he/she receives an increasing amount of stimuli from the environment; this requires a constant effort of *adaptation,* which stimulates the changing of schemata either by growth or development. Thus, sensory information is taken according to the available schemata, but also these are modified according to the nature of the information. The adaptation to the environment is considered as having a dual nature, involving the twin processes of *assimilation* and *accommodation*. These two processes function simultaneously at all biological and intellectual levels, making both physical and cognitive development possible[17]. The notions of assimilation and accommodation have proved to be useful in many respects and in different theories[18]. These are fundamental concepts which are relevant in this chapter in two different contexts; first, in relation to the psychological nature of the three activities and, secondly, as fundamental concepts in Swanwick and Tillman's Model of Musical Development, to be addressed later.

Assimilation is the cognitive process whereby a person integrates new information

[15]Hayes, Nicky (1994) op.cit., p.152.
[16]Sincoff, Julie and Sternberg, Robert (1989) 'The development of cognitive skills: an examination of recent theories', in Colley, Ann and Beech, John (eds) *Acquisition and Performance of Cognitive Skills*, John Wiley & Sons: Chichester and New York, p.21.
[17]Pulaski, Mary Ann (1980) *Understanding Piaget: An Introduction to Children's Cognitive Development*, New York: Harper & Row, Publishers, p.10.
[18]Hayes, Nicky (1994) op.cit., p.658.

into existing schemata[19]. Piaget (1972/1974) writes that "[a]ny new acquisition consists of *assimilating* an object or a situation to a previous scheme by thus enlarging it".[20] By assimilating, the person imposes his available schemata upon external stimuli. "A scheme of assimilation, however, is constantly submitted to the pressure of the circumstance and can differentiate in accordance with the objects to which it is applied."[21] When a stimulus cannot be promptly assimilated, i.e. when it does not fit into an existing schema, either the individual creates a new schema or he modifies an old one in order to fit the new stimulus. This process of differentiation of schemata is called *accommodation*. It results in changing cognitive structures so that it enables the assimilation of the new stimulus. The modification (accommodation) makes it possible to assimilate further information, and the schema will be refined further. "Assimilation is always the end product"[22], whether accommodation is necessary or not.

While the process of assimilation causes a quantitative change in existing schemata, since data are incorporated into an already existing structure, accommodation changes them qualitatively, since one's structures must be adapted to that particular situation. While assimilative activity takes a stimulus so that it matches a generalised schema or concept, accommodative activity changes a schema to match more closely particular characteristics of the stimulus event. The first is mostly an intuitive process, while the second, as it requires adaptation of existing schemata, is more analytical[23]. Pulaski (1980) refers to assimilation as a

[19]Wadsworth, B. (1971/1984) op.cit., p.14.
[20]Piaget, Jean (1972/1974) *The Child and Reality: Problems of Genetic Psychology,* London: Frederick Muller Ltd, p.69.
[21]Piaget, Jean (1972/1974) op.cit., p.82.
[22]Wadsworth. B. (1971/1984) op.cit., p.16.
[23]Swanwick, Keith (1994) op.cit., p.86.

"taking-in process, whether of sensation, nourishment, or experience ... continuously balanced by *accommodation*, the out-going, adjusting process of reaching out to the environment."[24] Piaget believed that the disequilibrium which results from new situations activates the process of equilibrium between assimilation and accommodation[25]. "Together, assimilation and accommodation result in a more sophisticated level of thought that corrects the deficiencies of the old one, propelling the child to the next stage of development and restoring equilibrium."[26] Cognitive development thus happens by the progressive differentiation and reorganization of frameworks of schemata which are adapted and organized towards increasingly more refined ones, forming a "strongly interconnected cognitive system."[27]

We find that the development of the mental representation of music takes place analogously. Musical schemata correspond to the "abstract, internal representations of knowledge about musical structure"[28]. These become more complex, refined and generalized according to the stimulation of the *musical* environment. "The material for the conceptual structure of music and/or musical schema resides within the elements of music."[29] A new musical stimulus (either a pattern, a musical form or style) is perceived by the child through his/her available schemata. Every significant experience is stored in his/her mind and new data will be matched (or otherwise) with previous ones in a continuous process. Swanwick (1979) refers to the work of the psychologist Vernon Lee (1932), who argued that physical or mental activities leave a trace or *schema* in the nervous system. "This *schema* will combine with

[24]Pulaski, Mary Ann (1980) op.cit., p.9.
[25]Wadsworth, Barry (1971/1984) op.cit., p.19.
[26]Sincoff, Julie and Sternberg, Robert (1989) op.cit., p.21.
[27]Berk, Laura (1989/1994) *Child Development*, Allyn and Bacon, p.261.
[28]Hargreaves, David (1996b) 'The developmental psychology of music: Scope and aims', in Spruce, Garry (ed) *Teaching Music*, London: Routledge, p.53.

previous remembered experiences to form an ever-developing set of *schemata* which form the basis for recalling the past and planning future action."[30] Thus, experiences in listening to music, for example, may contribute to increasing existing schemata or changing them into new ones.

Krumhansl and Castellano (1983) have proposed a schema-based theory of musical perception describing the dynamic nature of musical processing[31]. According to them, people internalise structural regularities that they extract from musical events throughout their extended experience with music. The internal representation of such structural features of music constitutes a system of richly interconnected abstract knowledge about the regularities gathered in their musical experience. Such abstract knowledge will then be activated by particular musical events which will engage particular subsets of that knowledge. The musical schema is thus a cognitive structure that is a subset of the abstract musical knowledge that will be engaged in listening experiences, interacting dynamically with the sensory-perceptual information. This information, the stimulus event, interacts over time with the abstract knowledge the individual has about musical structure[32]. Schemata both generate expectations about what is to follow and also are modified by particular musical stimuli.

Dowling (1984) explores Krumhansl and Castellano's (1983) notion of schema in regard to production instead of perception of music. He emphasises how schemata control the 'output side', particularly song production. He writes that "[p]roduction

[29]Hargreaves and Zimmerman (1992) op.cit., p.385.
[30]Swanwick, Keith (1979) op.cit., p.27.
[31]Krumhansl, C. and Castellano, M. (1983) 'Dynamic processes in musical perception' *Memory and Cognition*, **11**, pp.325-34.

schemata are like 'plans' by which behaviour is generated"[33]. He suggests that "regularities in the structure of these songs provide evidence for mental schemata controlling song production."[34] He speculates that it seems plausible, thus, that the same or similar schemata underlie both musical perception and production[35]. Such production 'plans' reveal the person's stage of development of abstract knowledge of music. It is indeed reasonable to suppose that the 'production' schemata are connected to, if not at all determined by, the ever developing perceptual musical schemata.

These considerations take us back to the issue of the interaction among the activities discussed in the previous chapter. Now we may look at this from a psychological perspective. Hargreaves (1989) assumes that there is some evidence that there are general processes underlying both musical production and perception[36]. In a more recent paper, Hargreaves (1996a) acknowledges that

> [c]ognitive schemes are one way of describing the thinking processes that underlie different aspects of musical behaviour - perception, performance, literacy, and production - and they enable explanatory links to be made between these different aspects.[37]

Hargreaves and Zimmerman (1992) suggest that developmental patterns can be identified in all modalities of musical making, assuming that "*there are general cognitive structures that do indeed underlie processes in more than one of the modalities, if not in all*"[38]. These assumptions point to the possibility of identifying

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[32]Krumhansl, C. and Castellano, M. (1983) op.cit., p.325.
[33]Dowling, W. (1984) 'Development of musical schemata in children's spontaneous singing' in Crozier and Chapman (eds) *Cognitive processes in the perception of art*, Amsterdam: Elsevier, p.147.
[34]Dowling, W. (1984) op.cit., p.145.
[35]Dowling, W. (1984) op.cit., p.148.
[36]Hargreaves, David. (1989) op.cit., p.8.
[37]Hargreaves, David (1996a) op.cit., p.154.
[38]Hargreaves, David and Zimmerman, Marilyn (1992) op.cit., p.388, our emphasis.

parallel developmental patterns and common processes across the various modalities of music making.

We argue, however, that the cognitive structures which 'underlie more than one modality of music making' are the schemata corresponding to the awareness of the functioning of the elements of music - that is what the various modalities share in common. We can say that the reciprocal influence among them happens by the mobilization, changing and re-organization of these schemata. As has been theorised in Chapter Two, the interaction among the activities is not straightforward but takes place at the dimension of musical understanding, the demonstration of which is dependent upon the level of skills involved in the task. This issue has relevant implications not only for empirical research but also for curriculum practice. The empirical part of this thesis is devised to approach these assumptions, attempting to offer a contribution to both strands of the literature.

2. THE ELEMENTS OF PLAY AND MUSICAL ENGAGEMENT

This is another important area in cognitive development which illuminates the discussion in this thesis. According to Piaget, the symbolic or representative function (symbolic forms, language and mental images) appears at the end of the sensorimotor period (about the second year and half). Yet, recent research on early cognitive development indicates that some representational operations appear in preliminary forms much sooner than Piaget estimated[39]. Infants as young as nine months of age are capable of forms of mental representation such as deferred imitation and categorisation, which indicates that symbolic development occurs not at the end of the sensorimotor period, but in parallel to it[40]. Although it is not yet known exactly when they start to appear, it is evident that mental symbols become major instruments of thought by the end of the sensorimotor period[41], and representational capacity blossoms over the preoperational stage. The appearance of the representational thought implies the differentiation between 'signified' (an object or an action) and 'signifier' (which stands for it). This assures the transition between the sensory and the semiotic periods "by preparing its necessary symbolism"[42].

The activities of *play, dreams* and *imitation* are essential means for the development of the representative function. These enable both the practising of existing schemata and the creation of new ones[43]. Piaget saw play, the enjoyment of practising old schemata, as pure assimilation; through play, the child assimilates

[39]Berk, Laura (1994) op.cit., p.228-9.
[40]Berk, Laura (1994) op.cit., p.230.
[41]Berk, Laura (1994) op.cit., p.228.
[42]Piaget, Jean (1972/1974) op.cit., p.83.

reality according to his/her internal needs. He regarded dreams "as a continuation of play, play with symbolic representation instead of with real objects or people."[44] Conversely, imitation involves accommodating to the external world, as the child has to adjust himself to features or constraints of external circumstances. The observation of their playing and imitating may offer signs of their cognitive development.

According to Piaget's theory of symbolization, "[i]mitation plays a central role in the construction of signifiers"[45]. The first stage of imitation is that of sensorimotor, followed by 'deferred imitation' (in the absence of the model) which, thus, constitutes the beginning of representation, of symbol formation. Later imitation becomes internalised, with the formation of mental images. Deferred imitation, symbolic play and drawing indicate the transition from pre-representation in action to representation in thought[46]. Imitation here is not only deferred but also internalised. Children engage in different forms of play during the course of development. First, still in the sensory period, the child engages in 'mastery play', in which s/he starts gaining control over the environment by controlling her/his action[47]. The child rehearses sensory-motor schemata as it brings what Piaget called "a feeling of virtuosity or power"[48]. Later, in the pre-operational stage, the child engages in 'symbolic play' - the imaginative play with make-believe and pretend games. Here, the child subjects things and people to her/his individual satisfaction, assimilating

[43]Berk, Laura (1994) op.cit., p.223.
[44]Swanwick, Keith (1983) *The Arts in Education: Dreaming or Wide Awake?*, Special Professorial Lecture, University of London Institute of Education, p.11.
[45]Gruber, H. and Voneche, J. (1977) (eds) *The Essential Piaget*, London: Routledge and Kegan Paul, pp.485-6.
[46]Gruber, H. and Voneche, J. (eds) (1977) op.cit., p.492.
[47]Haynes, Nicky (1994) op.cit., p.:735-6.
[48]Swanwick, Keith (1983) op.cit., p.15.

the external world into her/his internal structures and according to her/his desire[49].

Piaget's view of make-believe play has been challenged as rather limited. It is not just the result of the child's independent efforts as Piaget assumed, but as Vygotsky argued, it develops through social interaction[50]. Play not only serves to practise acquired schemata but it helps to spur development further[51]. Vygotsky (1978) believed that

> In play a child always behaves beyond his average age, above his daily behaviour; in play it is as though he were a head taller than himself. As in the focus of a magnifying glass, play contains all developmental tendencies in a condensed form and is itself a major source of development. [...] Action in the imaginative sphere, in an imaginary situation, the creation of voluntary intentions, and the formation of real-life plans and volitional motives – all appear in play and make it the highest level of preschool development. The child moves forward essentially through play activity.[52]

Lillard (1993) supports this assumption, writing that "pretend play is an environment in which children are more competent at tasks requiring flexible or divergent thinking skills"[53]. Although her assumptions are based on research with very young children, it may be possible that this applies to 'pretend' activities in general, including the arts. Lillard suggests that 'the capacity to participate in as-if worlds' "may also be manifested in adults' general ability to share in the imaginations of others" through artistic engagement[54]. This may be true because of the assimilative nature of artistic activities, in which divergent thinking is encouraged in creation and participation in 'as-if' worlds.

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[49]Ibid.
[50]Berk, Laura (1994) op.cit., p.257.
[51]Berk, Laura (1994) op.cit., p.232.
[52]Vygotsky, Lev (1978) *Mind in Society: The Development of Higher Psychological Processes*, Cambridge, MA: Harvard University Press, pp.102-3.
[53]Lillard, Angeline (1993) 'Pretend Play Skills and the Child's Theory of Mind', *Child Development*, **64**, p.351.

It is said that after make-believe play, children turn to 'rule-bound' play, accommodating themselves to external rules[55]. However Vygotsky believed that all forms of play involve rules of behaviour (even if concealed), and that children's play evolves from "games with an overt imaginary situation and covert rules to games with overt rules and a covert imaginary situation"[56]. Throughout cognitive development symbolic play declines in favour of imitation of real-life activities: "the child is reaching a better balance between assimilation and accommodation, and is more interested in the real world than in his private fantasy."[57] Gradually, ludic symbols imitate reality more closely, leading from "symbolic games to spontaneous creative activity"; at about ten years old, children's symbolic play tends to be merged with intellectual and artistic creativity[58].

Swanwick (1983) draws an illuminating parallel between the elements of play and the artistic domain, arguing that arts present "play-like and dream-like qualities", although both arts and play go beyond dreaming as they involve more voluntary control than dreams[59]. He assumes that artistic activities involve essential psychological processes of imaginative *play, mastery* and *imitation,* which relate to the main forms of engagement with arts: creating, performing and being in audience (in the case of music, composing, performing and audience-listening), "for how can we have any real experience of art without some kind of mastery and some elements of imitation and imaginative play?"[60]

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[54]Lillard, Angeline (1993) op.cit., p.367.
[55]Hayes, Nicky (1994) op.cit., p.736.
[56]Vygotsky, Lev (1978) op.cit., p.96.
[57]Pulaski, Mary Ann (1980) op.cit., p.90.
[58]Pulaski, Mary Ann (1980) op.cit., pp.90-1.
[59]Swanwick, Keith (1983) op.cit., p.12,17.

Just as those elements of play enable the development of mental representation, the corresponding musical activities promote the formation of mental representation of music. Creative work in the arts, or *forming*, would have a bias towards imaginative play - towards assimilation. "A new world of relationships is created in an art work, structured according to the impulse of its maker."[61] "In imaginative play we *create* a world in which we ourselves *rule*." Thus, composition in music would have a feeling of assimilation; as in imaginative play, one organises sounds according to one's internal needs and for one's satisfaction. *Performing* would tend towards mastery play, when the 'delight of virtuosity or power' is supposed to be apparent. The mastering of performing skills starts with children working from sets of musical materials, learning how to control them. *Being in audience* (audience listening) would have to do with the element of imitation since, as he explains, one has to accommodate oneself to the characteristics of the external object (the music one listens and responds to). Imitation in arts relates to expressive character, to feeling, to sympathy and empathy"[62]. We imitate expressive gestures internally, or even externally when we dance or move to music[63].

Although each musical activity can be related more directly to one of the play elements, there is no need to delineate clear boundaries between them. Many times, music making is related to all three elements. For instance, Swanwick (1994) writes that "as soon as a child can repeat a musical phrase or the most simple rhythm accommodation is at work; ... it is made possible by an act of imitation"[64]. Although imitation is evident in the example above, the repetition of a musical

[60]Swanwick, Keith (1988) op.cit., p.25.
[61]Swanwick, Keith (1983) op.cit., p.24.
[62]Swanwick, Keith (1983) op.cit., p.23.
[63]Swanwick, Keith (1983) op.cit., p.21.

phrase itself is made possible for the child's mastering of performing skills, however simple. Other examples can be drawn. Composition, which emphasises imaginative play, involves mastery of compositional skills and techniques, until one develops one's own style and enjoys the 'virtuosity or power' of applying it naturally; also, it may involve imitation, when the composer wishes to refer to things outside. Performance requires accommodation to the constraints of the music being played; but the performer adds his/her own interpretation, which can be seen as an exercise of imaginative play. Audience-listening, which tends to accommodation, also requires the mastering of perceptual and discriminative skills, but in addition involves a component of imaginative play as one assimilates music according to one's internal possibilities and willingness.

But if we assume that among the various modalities of music making, composition is the one which involves a greater extent of imaginative play, it may be possible that this activity helps to foster the development of musical thinking. Compositions result from a novel combination of the repertoire of musical ideas, conventions and speculations. Vygotsky argued that "creating an imaginary situation can be regarded as a means of developing abstract thought."[65] When composing, a child has the opportunity to create an 'as-if' world, 'imaginary situations', 'voluntary intentions', 'real-life plans and volitional motives', in Vygotsky terms[66]. Gardner (1973) suggested that "[i]n his play the child can experiment with behaviours, actions, and perceptions without fear of reprisal or failure, thus becoming better prepared when his behaviour 'counts'"[67]. In this sense, the 'territory' of composition may be an

[64]Swanwick, Keith (1994) op.cit., p.96.
[65]Vygotsky, Lev (1978) op.cit., p.103.
[66]Vygotsky, Lev (1978) op.cit., pp.102-3.
[67]Gardner, Howard (1973/1994) *The Arts and Human Development: A Psychological Study of the*

appropriate medium for children to practise and expand their schemata and advance their musical thinking. It may be possible to hint at speculations in this area when we eventually examine the data in this study and point some directions for further research.

Swanwick's account enables us to look at the integration of the activities, advocated in Chapter Two, from a different angle. A psychological perspective is added to the rationale for the importance of the three major activities in music education. Just as cognitive development depends on the equilibrium between tendencies of assimilation and accommodation, education should try to bring imaginative play and imitation into balance in order to foster musical development. Through composition the child essentially assimilates the external world according to his/her internal needs; in listening to music he would have mainly to accommodate to external stimulus.

> To develop mind we need to convert the world to our own terms in imaginative ways and also, *at the same time*, to re-adjust ourselves to the reality of external events. ... As educators, then, concerned with the growth of mind, we have to resist the purely imaginative, and the exclusively imitative.[68] ... Yet nothing less than an interplay of forming, performing and being in audience will ultimately enhance the development of mind, precisely because there is a bias towards one element of play in each mode of experience.[69]

It can be assumed thus that the advocated integrated approach to composing performing and listening activities may advance cognitive development for presenting the psychological elements of imaginative play, mastery and imitation emphasised in one of the modes of forming, performing and being in audience. This is to be facilitated even further as, after all, each of the three modes of musical

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Artistic Process, New York: Basic Books, p.164.
[68]Swanwick, Keith (1983) op.cit., p.20.

experience may involve all elements of play to varying degrees. Music education may activate the balance between the 'imaginative' and the 'imitative', by integrating and balancing them through the interplay of composing, performing and audience-listening. Through these musical forms of *play*[70], children would rehearse and solidify already acquired musical schemata, create new ones and refine them all. Furthermore, due to the interactive nature of the activities, the interplay between them may spur musical development further. The richer the experiences they have in all three modes, the finer the mental representation of music which develops and the more strongly interconnected it becomes.

[69]Swanwick, Keith (1983) op.cit., p.22.
[70]Note that Swanwick uses the term 'imitation play', while Piaget distinguishes imitation from play.

3. TOWARDS A NEO-PIAGETIAN VIEW OF DEVELOPMENT

A 'stage' is an organising principle of cognitive development which implies qualitative shifts between time periods of development. Stages constitute qualitatively different modes of thought that succeed according to age in an invariant fashion, displacing the previous ones[71]. The Piagetian notion of stages assumes that "the mode of thought characteristic of any particular stage applies across many tasks and problems"[72], thus implying that children's accomplishment "within a given stage should exhibit certain common features regardless of the domain of that task"[73]. Such 'functional coherence' within stages was nevertheless challenged as recent empirical evidence suggests that performance within stages may vary more widely than Piaget believed[74]. "Although some unity in children's thinking does exist, such consistency does not always characterize children's cognitive growth."[75] Conservation, for instance, a typical Piagetian task, may be mastered at different times depending on the child's knowledge base in respect to "different properties such as number, volume or weight."[76] However, recent research suggests that preschoolers perform elementary logical operations while still at the Piagetian preoperational stage as long as the task given involves familiar knowledge and is relevant to them[77]. Also, it has been shown that development does not unfold as universally as Piaget believed. It seems that the achievement of some concrete operational tasks is delayed in non-Western societies[78]. This suggests that concrete

[71]Sincoff, J. and Sternberg, R. (1989) op.cit., p.29.
[72]Sincoff, J. and Sternberg, R. (1989) op.cit., p.26.
[73]Hargreaves, David (1996a) op.cit., p.152.
[74]Hargreaves, David and Zimmerman, Marilyn (1992) op.cit., p.378.
[75]Sincoff, J. and Sternberg, R. (1989) op.cit., p.26.
[76]Sincoff, J. and Sternberg, R. (1989) op.cit., p.26.
[77]Berk, Laura (1994) op.cit., p.242.
[78]Berk, Laura (1994) op.cit., p.246.

operational thinking is fostered by specific environmental conditions and training rather than emerging naturally and universally[79]. It has been shown that formal operational thinking also emerges gradually and, more importantly, that it is task-specific: abstract thinking is fostered in domains in which individuals have had more experience. It follows that it may be rather a contextually sensitive achievement than a natural sequence of cognitive development, as it may never appear in some societies[80].

Before evidence of exceptions to Piaget's 'monolithic' pattern of development, the debate on whether development is more or less stagewise gained momentum. There has been a progression from theories which saw cognitive development as monolithic and universal, to 'modular' theories, which see development as atomistic and contextually sensitive[81]. These believed that children's cognition develops in a domain-specific fashion, and performance in the various tasks depends rather on a knowledge-base regarding that particular task[82]. Such a view accounts for differences in performance - or horizontal decalage - across each domain of knowledge[83]. Nonetheless, other theorists insisted on the Piagetian notion of stage, as they believed that children's cognition presented some degree of coherence across differing tasks[84].

With evidence supporting both the general and the modular views, a new theoretical perspective emerged, in an attempt to balance the two positions. The neo-Piagetian

[79]Berk, Laura (1994) op.cit., p.247.
[80]Berk, Laura (1994) op.cit., p.252.
[81]Case, Robbie (1991a) (ed) *The Mind Staircase*, Hillsdale, NJ: Erlbaum, p.14.
[82]Berk, Laura (1994) op.cit., pp.273,287.
[83]Case, Robbie (1991a) op.cit., p.14.
[84]Berk, Laura (1994) op.cit., p.253.

movement reduced the tension between these two strands, recognising both the general and the contextually determined features of development. According to the neo-Piagetian theorists, "a related set of competencies develops over an extended time period, depending on both biological maturity and specific experiences"[85]. But despite the consensus that the mind has both general and specific capabilities, the balance can still lean toward locating generality within or across domains[86]. Isometry in development across different domains may result from variations of training and degree of experience in these domains. Neo-Piagetian theorists assume that it is expected that children fail logically equivalent tasks when these require control structures or skills of differing levels of complexity[87]. Marini (1991) refers to some performance factors which, once uncontrolled, may potentially lead to such decalages, as task familiarity and experience, which are difficult to measure and equate across different tasks. Another factor is "perceptual salience", as "certain perceptual features might facilitate the activation of a particular operative structure, while other features might inhibit this activation."[88] However, studies in which the level of task complexity was controlled showed a significant synchrony across different tasks from both different and same content domains[89].

Nonetheless, "maturation imposes distinct limits on what children of different age can attain in each domain."[90] The cognitive constructs they employ in different domains are constrained or potentiated by general or system-wide biological

[85]Berk, Laura (1994) op.cit., p.253.
[86]Case, Robbie (1991c) pp.343-4.
[87]Case, Robbie (1991b) 'Advantages and Limitations of the Neo-Piagetian Position', in Case, R. (ed) op.cit., pp.37-8.
[88]Marini, Zopito (1991) in Case, R. (ed) op.cit., p.56.
[89]Fiati, Thomas (1991) 'Cross-Cultural Variation in the Structure of Children's Thought', in Case, R. (ed) op.cit., p.319.
[90]Berk, Laura (1994) op.cit., pp.273-4.

components[91]. These set up an upper bound to their performance across the various tasks, determining the highest possible level of cognitive performance at any age. This gives rise to an "evenness of functioning" across different tasks under optimal environmental conditions[92]. Fischer and Pipp (1984) develop the notion of 'optimal level of skill performance', "the upper limit of a person's general information-processing capacity, the most complex type of skill that he or she can control."[93] Fischer uses the word 'skill' to refer to the cognitive structure, which corresponds to a Piagetian schema for a task or set of tasks[94]. The concept embraces both organismic and environmental factors, as the latter account for the skills which are developed: "[a] skill is a characteristic of a person-in-a-context."[95] Performance is constantly affected by the content and complexity of tasks, these being responsible for decalage in development[96]. But under certain conditions, people may perform at their optimal level and generalize across tasks of similar complexity and content, revealing a synchrony of development. Such conditions should include practice and environmental support, offering model or clues for high-level performance in tasks[97]. Factors which would affect the amount of synchrony include the length of time the person has been functioning at a new optimal level, intelligence and arousal and emotional state. He believes that children move to a new stage when a new optimal level of 'skills' is settled. Within a level, children acquire task-specific competencies which will be integrated with other ones, until these are reorganized hierarchically,

[91]Case, R. (1991c) op.cit., p.364.
[92]Case, R. (1991c) op.cit., pp.344-5.
[93]Fischer, Kurt and Pipp, Sandra (1984) 'Processes of Cognitive Development: Optimal Level and Skill Acquisition', in Sternberg, Robert (ed) *Mechanisms of Cognitive Development*, New York: W.H.Freeman and Company, p.47.
[94]Berk, Laura (1994) op.cit., p.272.
[95]Fischer, Kurt and Farrar, Michael (1987) 'Generalizations About Generalization: How a theory of skill development explains both generality and specificity', *International Journal of Psychology*, **22**, p.646.
[96]Fischer, Kurt and Farrar, Michael (1987) op.cit., pp.658-9.
[97]Fischer, Kurt and Farrar, Michael (1987) op.cit., p.668.

leading them to the next level of development. When children have the opportunity to function at their optimal level their performance reveals spurts, evidencing the change to a new stage - or otherwise:

> When individuals are functioning at their upper limit, development spurts in a relatively short period to a new level of skill. When they are not performing at their limit, change occurs gradually over a longer period.[98]

Case (1991) explains that due to the reorganisation and extension of the previous cognitive structures these upper limits shift causing a changing of stage[99]. Some of these reworkings are minor, others are major. These latter involve changes in the nature of children's concepts and represent a significant transition in their thought.

> *Qualitative shifts entailed by structural re-working.* When a major re-working in children's general cognitive structures takes place, children become capable, at least potentially, of analysing their experience in any domain in a qualitatively different fashion. As a consequence, external events that previously had little effect on them may suddenly begin to exert a major influence.[100]

With experience and maturation, children begin to form new connections which "lead to the integration of knowledge structures that were previously discrete"[101]. They can then bring into focus a new dimension of thought and with experience over time, with sustained exposure and interest, this new level of understanding will be consolidated. The child moves up to a more advanced stage, with the formation of new central conceptual structures. Case and Sandieson explain (1991) the notion of 'central conceptual structures':

> By a "structure" we mean an internal entity that consists of a number of nodes and the relations among them. By "conceptual" we mean that the nodes and relations are semantic: that is, they consist of "meanings", "representations", or "concepts" that the child assigns to external entities in the world, rather than syntactic devices for parsing

[98]Fischer, Kurt and Pipp, Sandra (1984) op.cit., p.58.
[99]Sincoff, J. and Sternberg, R. (1989) op.cit., p.20.
[100]Case, Robbie (1991c) op.cit., p.370.
[101]Case, Robbie (1991a) op.cit., p.14, quoting Chi 1988.

> such meanings. Finally, by "central" we mean structures that (a) form the core of a wide range of more specific concepts, and (b) play a pivotal role in enabling the child to make the transition to a new stage of thought, where these concepts are of central importance. A *central conceptual structure* is, thus, an internal network of concepts and conceptual relations that plays a central role in permitting children to think about a wide range of situations at a new epistemic level and to develop a new set of control structures for dealing with them.[102]

The 'central conceptual structure' was thought to represent

> a core set of semantic relations and to be module-wide in its domain of applicability. ... The semantic content of such structures, particularly at upper age levels, appears to be dependent on the culture, its symbolic systems, and the institutions within which these systems are acquired and/or utilized.[103]

The different experiences provided in each domain would make children assemble different conceptual structures as a consequence[104]. Such structures are subject to system-wide biological factors in their construction and application. They are subject to common general developmental constraints[105] which set up an upper bound to the capacity of these structures at any age, even under optimal environmental conditions. They "undergo major and minor restructurings of the same general nature, during the same general time periods", even across different domains[106]. Case believes thus that the notion of central conceptual structure has the potential for bridging the gap between system-wide and modular positions[107]: they "appear to constitute a kind of pivotal point, where the forces of biology and culture meet, and around which children's understanding of their world can coalesce."[108] It means that what Neo-Piagetian theorists see "as universal is the mind's *potential* for constructing central conceptual structures, once a particular developmental capacity

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[102]Case, Robbie and Sandieson, Robert (1991) 'Testing for the Presence of a Central Quantitative Structure: Use of the Transfer Paradigm', in Case,R. (ed) op.cit., p.130.
[103]Case, Robbie (1991c) op.cit., p.376.
[104]Case, Robbie (1991c) op.cit., p.320.
[105]Case, Robbie (1991c) op.cit., p.368.
[106]Case, Robbie (1991a) op.cit., p.267.
[107]Case, Robbie (1991a) op.cit., p.133.

has been attained."[109]

As the interest in more culturally specific influences over cognitive development increased, the writings of the Russian psychologist Lev Vygotsky came to broaden the focus of developmental enquiry. Piaget's and Vygotsky's theories have some points in common[110], as both considered the interaction of the child with the environment as the propeller of development. However, while Piaget emphasised the self-generated efforts of the child to make sense of the world, Vygotsky considered social interaction as the crucial factor which fostered cognitive development[111]. According to him, "through cooperative dialogues with mature members of society, children acquire unique, culturally adaptative competencies."[112] It follows that children will not develop in universally equivalent ways as Piaget believed. Development can vary greatly according to particular culturally determined ways of thinking and behaving: the environment not only reflects but also shapes the course of development[113]. Vygotsky's view of cognitive development thus accounts more satisfactorily for the variation in development across cultures. A special idea in Vygotsky's theory is that the interaction with more mature individuals fosters children's development; he called this range of potential skills *zone of proximal development,* a concept which has consequences for education:

> It is the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers.[114]

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[108]Case, Robbie (1991c) op.cit., p.376.
[109]Fiati, Thomas (1991) in Case, R. (ed) op.cit., p.319.
[110]Sincoff, J. and Sternberg, R. (1989) op.cit., p.21.
[111]Steiner, Vera and Souberman, Ellen (1978) 'Afterword', in Vygotsky, Lev (1978) op.cit., p.123.
[112]Berk, Laura (1994) op.cit., p.29.
[113]Hargreaves, David (1996a) op.cit., p.152.
[114]Vygotsky, Lev (1978) op.cit., p.86.

Piaget's view of development as mainly self-generated - as unfolding - has influenced the educational enterprise powerfully, leading to the advancing of child-centered approaches to teaching[115]. Vygotsky's emphasis on the role of social interaction and instruction over development comes to challenge that view: "a Vygotskian classroom goes beyond self-initiated discovery"[116]: teachers would rather promote an *assisted discovery,* guiding children's efforts within their zone of proximal development, pushing it further. The theories of Piaget and Vygotsky thus seem to form a natural counterpoint: "Piaget emphasized the natural line, Vygotsky the cultural line of development."[117] Vygotsky viewed development as proceeding from the social environment to the individual, the opposite direction as that proposed by Piaget. Cognitive development thus results from the interplay between the twin forces of maturation and enculturation. The mental operations children construct are shaped by internal and external elements due to the child's responsiveness to environmental input. The cultural system (including schooling) provides opportunity for the development of particular ways of thinking and mental operations, which become less universal and more culturally relevant as children grow older[118].

All these notions developed so far are pertinent to the Spiral Model of Musical Development, and it is hoped they may illuminate the discussion which follows.

[115]Hargreaves, David (1986) op.cit., p.49.
[116]Berk, Laura (1994) op.cit., p.258.
[117]Berk, Laura (1994) op.cit., pp.219, 262.
[118]Case, R. (1991c) op.cit., pp.367-8.

4. THE PATH OF MUSICAL DEVELOPMENT: THE SPIRAL MODEL

The literature and research on musical development tends to emphasise the dimension of skills, addressing rather fragmentary aspects of music making or concentrating on particular activities[119]. These include, for instance, areas such as musical concepts, rhythmic and melodic processing, memory, song acquisition and musical representation[120]. Scripp *et at.* (1989) and Davidson and Scripp (1989), for instance, focus on problem-solving skills in performance, musical representation and literacy skills[121]. Hargreaves (1986) writes about 'musical development' in terms of 'pitch discrimination', 'acquisition of tonality', 'development of harmonic skills', 'graphic representation of music' (spatial-temporal relationship). Towards the end of his book, Hargreaves mentions briefly that music education is more than training in skills; he writes that

> Most theorists seem to agree that music teaching should cover much more than just the learning of specific musical skills: amongst the broader objectives might be included an understanding and appreciation of the artistic qualities of music...[122]

Skills are essential but not the whole of musical development. A person may have developed pitch discrimination and harmonic skills and not be able to experience or make music in a expressive and meaningful way. It seems somehow incoherent that some researchers fragment musical experience into separate elements, to be measured by distinct tests, and then assume that it is possible to reconnect them into a valid and comprehensive framework. One such example is Bentley's (1966)

[119]Davidson *et al.* (1997); Sloboda *et al.* (1996); Ericson and Oliver (1994); Colley *et al.* (1992); Davidson and Scripp (1989); Scripp *et al* (1989); Hargreaves (1986); Shuter-Dyson and Gabriel (1981), Bentley (1966).
[120]Hargreaves and Zimmerman (1992) op.cit.
[121]Davidson, L. and Scripp, L. (1989); Scripp, L., Joan Meyaard, and Lyle Davidson (1989).
[122]Hargreaves, David (1986) op.cit., p.216.

measurement of *some* aspects of musical ability such as memory, pitch discrimination, chord analysis; his findings led him to pose such developmental assumption:

> Rhythmic memory is more highly developed at all ages of childhood than tonal memory; both appear to be more advanced than keen pitch discrimination; ability to analyse chords develops more slowly than the rest.[123]

Swanwick (1988) complains that fragmentary forms of investigation into musical experience "only begins to scratch the surface of how people construe and respond to music."[124] He believes that only with a 'convincing theory of musical mind' are we able to "connect the disparate elements into a framework of logical relationships"[125]. More recently, Hargreaves (1996a) draws developmental links among the various aspects of music making. He describes broad 'phases' of musical development (Sensorimotor, Figural, Schematic, Rule systems and Professional) in the areas of song acquisition, graphic representation, melodic perception, and composition[126]. Serafine (1988), in her theory of 'music as cognition', claims that there are cognitive processes which are common to composing, performing, and listening[127]. She writes that although the three activities "appear to have little in common as overt activities (in fact they call upon dissimilar motivations and abilities) they are rooted in a common set of basic musical-cognitive processes."[128] Nonetheless, the empirical tasks through which she investigated such processes are mostly in the manner of 'perception' and discrimination tasks, which consisted mostly of subjects listening

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[123]Bentley, Arnold (1966/1975) *Musical Ability in Children and its Measurement*, London: Harrap, p.120.
[124]Swanwick, Keith (1988) op.cit., p.23.
[125]Swanwick, Keith (1994) op.cit., p.76.
[126]Hargreaves, David (1996a) 'The development of artistic and musical competence', in Deliege, I. and Sloboda, J. *Musical Beginnings: Origins and Development of Musical Competence*, Oxford University Press, pp.154-9.
[127]Serafine, M.L. (1988) op.cit., p.6.
[128]Serafine, M.L. (1988) op.cit., p.71.

to motives and responding according to the instructions. Also, Serafine did not theorize a developmental unfolding of those processes; instead, she used basically the same tasks for different age groups, and assessment was based on 'passing' or 'not passing tasks'. Gardner (1973) viewed aesthetic development as resulting from the acquisition and use of symbols[129]. He suggested that at the age of six or seven children would be able to participate in their musical system. They would have developed what he called a 'working familiarity' with and understand of 'the basic metrical properties, scales, harmonies, cadences, and groupings'[130]. Yet he proposed just two broad periods of development, the 'presymbolic' (first year of life) and the 'symbolic' (2-7 years).

A more comprehensive and valid account of the path through which the musical mind grows is provided by the Swanwick and Tillman's (1986) Spiral Model of Musical Development[131]. Its assumptions are based not on artificial tests but rather on extensive qualitative analysis of children's music making in a naturalistic context. It is not a model of the development of instrumental skills, pitch discrimination, or notation. Instead, it comprehensively describes the elements of musical experience, contemplating what all musical activities share in common: the articulation of the elements of musical discourse - materials, expressive characterisation, form, and the possibility of valuing it as symbolic system. These elements, which correspond to the cumulative dimensions of musical criticism, unfold in people's music making according to a developmental sequence. The progressive awareness of such dimensions of music discourse is what corresponds to the *development of musical understanding*,

[129]Gardner, Howard (1973/1994) op.cit.
[130]Gardner, Howards (1973/1994) op.cit., p.197.
[131]Swanwick, K. and Tillman, J. (1986) 'The sequence of musical development: a study of children's composition', *British Journal of Music Education*, 3 (3), November, 305-39.

which is not unique to performance, or composing or audience-listening, but, given the appropriate conditions, operates across all three activities. Hentschke (1993) argues that the Spiral theory enables the comparison across different activities because it is based on the dimensions of musical criticism.

> The Spiral Theory of Musical Development is the first theory that offers the possibility of matching different musical products across single criteria, the possibility of stating that someone has reached 'X' level in composing, and 'Y' in listening. This is what makes the Spiral Theory unique.[132]

The theoretical starting point to the spiral theory was that the process of making sense of music tends to follow a broad sequence of development, revealing a correspondence to the essential psychological processes in the cognitive development - mastery, imitation, imaginative play (later replaced with 'constructional play') and meta-cognition[133]. Three earlier accounts have exerted some influence on the Spiral Theory: Moog's, Ross' and Bunting's. Moog (1976) offers a developmental account of how pre-school children's respond to music (from nursery rhymes to nonmusical noises). He observed that the initial sensory attention to sound and rhythm unfolds into the progressive capacity to reproduce and control sounds, to move to music, and to invent songs[134]. Ross (1984) proposes broad categories of aesthetic development. In music, these would evolve from the engagement with sound materials (0-2 years) towards a progressive mastery of sound structures with signs of expressive representation (3-7), then a concern with the conventions of music (8-13), and a sense of the significance of music as symbolic form (14+)[135]. Bunting (1977) observes different modes of musical

[132]Hentschke, Liane (1993) op.cit., pp.39-40.
[133]Swanwick, Keith (1994) op.cit., pp.83, 97.
[134]Moog, Helmut (1976) *The Musical Experience of the Pre-School Child*, translation by Claudia Clarke, London: Schott; first published in Germany, 1968.
[135]Ross, Malcolm (1984) *The Aesthetic Impulse*, Oxford: Pergamon Press, pp.129-30.

experience, labelled as 'neurological', 'acoustical', 'mechanical', 'illustrative', 'social', 'vernacular', 'speculative', and 'symbolic'[136]. Although Bunting did not propose a developmental hierarchy of these modes, his categorisation influenced Swanwick and Tillman's definition of the Spiral levels. Interestingly, Bunting has come so far as to acknowledge the cumulativety of the modes, i.e. that the more advanced modes embrace the previous ones[137].

The Spiral developmental map emerged from an investigation into children's musical making, which gives it significant validity. Composition was thought to be an appropriate medium to investigate the development of musical thinking because it requires making musical judgements to a significant degree[138]. Over four years, 745 compositions from 48 children from three to eleven years old were collected. It made "a cross-section of music made by children of different ages and in some cases a longitudinal spectrum of compositions from individual children over a fairly long period of time."[139] The "emergent map of musical development ... was not predicted but discovered"; the data were subject to extensive qualitative analysis, until analytical patterns started to emerge, enabling the compositions to be clustered into groups of data[140]. These clusters revealed a sequence of qualitative shifts into musical understanding, an orderly unfolding of cumulative stages through which musical understanding develops. They revealed a progressive awareness of the 'layers' of musical discourse, musical materials, expression, form and symbolic value. These layers were thought to bear a correspondence with the play elements

[136]Bunting, Robert (1977) *The Common Language of Music, Music in the Secondary School Curriculum* Working Paper Six, Schools Council, York University, pp.3-4.
[137]Bunting, R. (1977) op.cit., p.5.
[138]Swanwick, Keith (1994) op.cit., p.85.
[139]Swanwick, Keith (1994) op.cit., p.84.
[140]Swanwick, Keith (1994) op.cit., pp.84-6.

of mastery, imitation and imaginative play. Within each loop of the spiral they identified a dialectical tension between more idiosyncratic and more conventional ('towards social sharing') tendencies. The four layers, split into two levels according to assimilative and accommodative tendencies, revealed the eight developmental levels. Because of this dialectic relationship within each layer, the eight levels were arranged as a Spiral, not as a linear sequence. It also implies that the higher level do not replace but embrace the previous ones. That is to say, the awareness of musical form involves the articulation and awareness of musical materials which are organised into expressive gestures, to be arranged into particular structures. The levels of the spiral are cumulative: it is impossible to be in the higher levels without the lower levels. If one comes to value music as symbolic form, it is because one was able to shape, project and identify the arrangement of materials into expressive gestures and in turn into structural relationships. Hargreaves and Zimmerman (1992) argue that the spiral layers would correspond to a Piagetian stage[141]. It could be said to be like a Piagetian stage in the sense that each spiral level refers to a particular mode of thinking, which, as we are arguing, would apply across various modalities of music making.

The original Swanwick and Tillman (1986) 'logical model of musical knowledge' unfolded into Swanwick's (1994) '*psychological model*', "a detailed analysis that more adequately represents the dialectical nature of musical engagement."[142] In the refined analysis, Swanwick acknowledges that the analogy between the four layers and the elements of play deserves further clarification, and places more emphasis on the left-right dialectic between intuition and analysis. He believes that the growth

[141]Hargreaves, David and Zimmerman, Marilyn (1992) op.cit.

of understanding through these four 'layers' relies on the interplay between assimilative (intuitive) and accommodative (analytical) tendencies.

> The growth of all understanding depends on two complementary and interactive processes: of being able to relate experiential data to our internal systems of meaning (assimilating to our schemata), but also being able to modify these systems when they cease to be adequate to interpret experience and sustain coherence (accommodation).[143]

Thus, intuitive insights are 'nourished and channelled' as those schemata are 'refurbished'. This process enables the shift from sensory pleasure in sounds by themselves to the understanding of the semantic meanings they bring about. From this work it is possible to devise assessment criteria advancing more concrete grounds for judging people's musical products. The main features of the levels are described in the following criterion statements, with their labels, which were originally drawn in relation to musical composition:

Criteria for Assessment of Composition

[The stage of awareness of musical] **Materials**

Level 1 - *Sensory* - There is evidence of pleasure in sound itself, particularly timbre and extremes of loud and soft. There may be exploration and experimentation with instruments. Organisation is spontaneous, possibly erratic, pulse is unsteady and variations of tone colour appear to have no structural or expressive significance.

Level 2 – *Manipulative* - The handling of instruments shows some control and repetitions are possible. Regular pulse may appear along with technical devices suggested by the physical structure and layout of available instruments, such as *glissandi*, scalic and intervallic patterns, trills and *tremolo*. Compositions tend to be long and repetitive as the composer enjoys the feeling of managing the instrument.

[Awareness of] **Expression**

Level 3 - *Expressive* - Expressiveness is apparent in changes of speed and loudness levels. There are signs of elementary phrases - musical gestures - which are not always able to be exactly repeated. There is drama, mood or

[142]Swanwick, Keith (1994) op.cit., p.87.
[143]Swanwick, Keith (1994) op.cit., p.86.

atmosphere, perhaps with reference to an external 'programmatic' idea. There will be little structural control and the impression is of spontaneity without the development of ideas.

Level 4 – *Vernacular* - Patterns appear - melodic and rhythmic figures that are able to be repeated. Pieces may be quite short and will work within established general musical conventions. Melodic phrases may fall into standard 2, 4 or 8-bar units. Metrical organisation is common along with such devices as syncopation, melodic and rhythmic *ostinati* and sequences. Compositions will be fairly predictable and show influences of other musical experiences: singing, playing and listening.

[Awareness of] **Form**

Level 5 – *Speculative* - Compositions go beyond the deliberate repetition of patterns. Deviations and surprises occur, though perhaps not fully integrated into the piece. There is expressive characterisation which is subject to experimentation, exploring structural possibilities, seeking to contrast or vary established musical ideas. After establishing certain patterns a frequent device is to introduce a novel ending.

Level 6 - *Idiomatic*- Structural surprises are integrated into a recognisable style. Contrast and variation take place on the basis of emulated models and clear idiomatic practices, frequently, though not always, drawn from popular musical traditions. Harmonics and instrumental authenticity is important. Answering phrases, call and responses, variation by elaboration and contrasting sections are common. Technical, expressive and structural control is demonstrated in longer compositions.

[Awareness of] **Value**

Level 7 – *Symbolic* - Technical mastery totally serves musical communication. Attention is focused on formal relationships and expressive character which are fused together in an impressive, coherent and original musical statement. Particular groups of timbres, turns of phrase and harmonic progressions may be developed and given sustained concern. There is a strong sense of personal commitment.

Level 8 – *Systematic* - Beyond the qualities of the previous level, works may be based on sets of newly generated musical materials, such as scales and note rows, novel systems of harmonic generation, electronically created sounds or computer technology. The possibilities of musical discourse are systematically expanded.[144]

Swanwick explains in more detail the interplay between assimilation and accommodation through the eight developmental levels. "In every layer there is a

dialectic between assimilation and accommodation, a kind of alternating current between intuition and analysis, with intuition leading the way."[145] As children develop, they can encode and use more layers, which become part of their available musical schemata. Through analytical effort they move to another level of understanding, starting to notice features and layers not previously noticed, increasing awareness of music:

> Into the intuitive, impulsive, initial delight in playing with, exploring and responding to sounds grows the corresponding analytical dimension, an inclination to control sounds, to manipulate, to imitate, to accommodate. With sounds coming under control, musical expression becomes possible; at first more intuitively spontaneous but then more conventional, more analytical; accommodating the vernacular commonplaces of phrase and sequence, of metric organisation into common groupings. And these conventional ideas swept up, assimilated, into an imaginatively playful world of twists of expectation and surprises, into intuitive responses to musical form, which may in turn be integrated into the complex frameworks of expectation built up by specific styles and idioms. Beyond this lies the world of recognised symbolic value for the individual and possibly a systematic commitment.[146]

Swanwick (1988) suggests that the left and right sides of the spiral tend respectively to 'encounter' (the rather intuitive response and approach to music) and 'instruction' (formal education), conferring on it a 'fertile' tension[147]. Recall that Piaget emphasised the child's independent efforts to make sense of the world; he regarded development as a self-generated and universally consistent process. Vygotsky, conversely, saw the social environment as playing a decisive role in development, which accounts for the variation of emphasis on culturally relevant competencies among societies. Yet the research literature assumes that both will interact to determine development. It is not hard to see both mechanisms working interactively

[144]Swanwick, Keith (1994) op.cit., pp.88-9.
[145]Swanwick, Keith (1994) op.cit., p.98.
[146]Swanwick, Keith (1994) op.cit., p.88.
[147]Swanwick, Keith (1988) op.cit., p.135.

through the developmental spiral, polarised in the left/right dialectic, the right side being more context-sensitive. An essential point to recall is that the spiral model was not theoretically predicted; it resulted from extensive qualitative analysis until patterns of meaning started to appear. Therefore, the insights of those two major cognitive psychologists merge interactively into the 'discovered' model, lending it further theoretical and empirical interest. The impulse for musical development is partially self-generated, but is soon complemented and advanced by exchanges with the environment. The model makes this quite evident:

> On the left-hand side is the playful dimension of internal motivation; starting with the almost entirely intuitive exploration of the sensory qualities of sound, which are transformed into personal expressiveness, then into structural speculation, and ultimately a personal commitment to the symbolic significance of music.
>
> These intuitive insights are extended and nourished by the right-hand side, imitative in its bias and analytical: skills mastery, the conventions of the musical vernacular, idiomatic authenticity, the systematic extension of musical possibilities.[148]

It is clear that the natural and cultural lines of development merge in a single unfolding line. Children will tend both to explore sounds according to their internal motivation and satisfaction and to modify their music making 'towards social sharing'. Musical structure and traditions are culturally transmitted through interaction with ready-made music and through teaching. As soon as the child becomes capable of representing music mentally, he/she starts participating in culturally determined musical practices. Examining the qualitative shifts of the spiral helps to illuminate this interplay[149]: in the first level of the spiral, the initial self-generated impulse to explore the musical environment soon progresses towards mastering manipulative skills. The 'universal' tendency to explore and adapt to the

[148]Swanwick, Keith (1994) op.cit., p.87.

environment is shaped and moulded by the stimuli, events, objects and opportunities the child is exposed to. "The materials of music undergo substantial shifts from place to place and time to time."[150]. Children are given culturally specific instruments, and adaptative mechanisms will work accordingly. Once they master some manipulative skills, they might experiment with musical expression, first intuitively, but then increasingly towards the vernacular commonplaces. The environment, which had already determined the music materials they would deal with, now determines what is regarded as 'conventional'. From birth they are exposed to models, and now they tend to integrate these into their expressive repertoire. With these incorporated conventional patterns they turn again to their internal motivation to experiment, to speculate intuitively over musical structure, incorporating surprises but not yet in a consistent fashion. As they grow older, they start accommodating the impulse towards speculation into musical styles and idioms. These will again be supplied by the environment, and can vary greatly not only among but also within cultures. Then, the symbolic value of music is recognised, first, for its personal significance, and then for society. A complex set of relationships determines what music is to be valued, and significant differences may appear among different societies and groups.

Children's musical understanding and skills will develop within a social and cultural context, which will determine musical materials, expressiveness, structure and value, affecting what 'music' they make and how they make it. Hargreaves (1986) stresses the important role that schooling plays over musical development, especially concerning the exposure to culturally characteristic musical forms; also,

[149]Based on Swanwick, Keith (1994) op.cit., p.88.

he comments that there is much evidence that a stimulating home environment fosters musical development[151]. Particular conceptual systems lead musical language through differing paths. In a given environment, whether a culture, country, school or neighbour group, children may develop through similar ways "as a joint result of their physical and cognitive maturation, and of their common socialisation experiences."[152]

Although the Spiral Model does not set up a fixed standard timetable, it does imply a general but invariable sequence, and it has 'considerable predictive power'[153] within the framework of formal music education. Some pieces of research related to the spiral point to the crucial influence of the environment (education) in the timetable of musical development. The original study was replicated with a 'greater procedural rigour' in the product analysis with consistent results[154]. Stavrides' (1995)[155] study indicates that children reach higher levels in composition when provided with nourishment through audience-listening. His replication of the original study in composition confirmed the predicted developmental sequence, showing that the Vernacular is established by the age of 7-8, the Speculative appears by 10-11, and the Symbolic emerges in the compositions by students aged 14-15[156]. Swanwick (1991) points out that in Stavrides' data there was also 'a greater dispersion of the lower criterion levels in the higher age groups', with compositions ranging from the manipulative to the symbolic levels. He believes that this is probably because

[150]Swanwick, Keith (1994) op.cit., p.165.
[151]Hargreaves, David (1986) op.cit., p.83 and 102.
[152]Hargreaves, David (1986) op.cit., p.84.
[153]Swanwick, K. (1991) 'Further Research on the Musical Developmental Sequence', *Psychology of Music*, **19**, p.30.
[154]Swanwick, Keith (1994) op.cit.
[155]Stavrides, Michael (1995) op.cit.
[156]Swanwick. K. (1991) op.cit., p.30.

composition is a more recent achievement in school music programmes in Cyprus (different from UK, where music education is more firmly established).

Davies (1992) argues, however, that children's compositions present signs of structural organisation earlier than the spiral sequence predicts[157]. An important condition of her study that may have led to this assumption is that she studied only songs. While it seems reasonable to believe that instrumental composition imposes more constraints on children inventing music, the counterpart of the argument is that songs are very much an extension of verbal language. Consequently, as Swanwick (1994) argues, it is "not always clear whether or not there is deliberate structural experimentation, 'playing about' with musical rather than linguistic images."[158] Davies' pupils' musical experience over the 18 months emphasised singing nursery rhymes, familiar songs, and echo games. Thus, it is not surprising that their own songs reflected the pattern and manner of songs learned, the kind of structure offered, encouraged and supported by the environment. Davies does acknowledge this effect, reporting that their songs tended "to use 2- or 4-bar phrases, which are what they encounter most in the music they hear and are taught."[159] She reports that *some* compositions presented coherence, repetition, a sense of closure, 4-phrase structure typical of nursery rhymes. The alleged structural speculation was not so evident when a sample of Davies' study was assessed by independent judges[160].

Hentschke's (1993) findings in the audience-listening setting suggest that children who take part in formal music lessons achieve higher levels than those who do not.

[157]Davies, Coral (1992) 'Listen to my song: a study of songs invented by children aged 5 to 7 years', *British Journal of Music Education*, **9**, pp.19-48.
[158]Swanwick, Keith, (1994) op.cit., p.93.
[159]Davies, Coral (1992) op.cit., p.46.

Children who had never been through formal music education made no reference to musical form - even within the oldest age group (12 to 13 years old). Their responses were clearly bound up at the expression layer of musical criticism, which is different from the sample from England, in which students mentioned the layer of form. Hentschke observed that music education was responsible for enhancing not only the understanding of music but also the capacity to communicate such understanding through verbal language[161]. The findings from both studies illustrate the impact of music education on development; "[i]t is very probable that a musically stimulating environment may enhance the levels at which a child may work and the opposite may also be true."[162]

The spiral model itself originated from analysis of compositions of children who attended regular music lessons at school. Swanwick and Tillman acknowledge that a rich environment may accelerate development through the levels of the spiral, while a poor environment may diminish it[163]. Like the higher Piagetian stages, the higher levels of musical development may not be a natural outgrowth of development, but rather an achievement made possible by education and training. Vygotsky believed that the higher cognitive processes arise from social interaction, and that those will reflect ways of thinking which are meaningful and relevant within particular cultural and social contexts[164]. Similarly, the development of musical understanding, especially at higher levels, may depend on specific forms of teaching - on the environmental influences. Swanwick (1994) writes: "We ought not to leave it to chance, to society or the media. ... music as part of a school curriculum offers

[160]Swanwick, Keith (1994) op.cit., p.94.
[161]Hentschke, L. (1993) op.cit., p.257.
[162]Swanwick, K. (1994) op.cit., pp.90-1.
[163]Swanwick and Tillman (1986) op.cit., p.338.

the possibility of levels of analysis which can enlarge and deepen intuitive response."[165]

The results of those pieces of research on the spiral indicate that there are important age-related constraints in musical development as much as in cognitive development in general. Musical development, therefore, may present both an overall path of development related to cognitive maturation and a culturally specific pattern. It seems likely that general cognitive developmental constraints are responsible for the *path* and upper limit of musical development according to age, but it is for the environmental input - education - to determine its pattern and 'timetable', either optimising or restraining development. This is pertinent to Fischer's notion of 'optimal level of skill performance': although it is thought to set up an upper limit on cognitive performance, below this limit performance may vary widely[166]. There may be optimal levels of musical development also dependent upon brain maturation. Swanwick had acknowledged that younger children will not "aspire to idiomatic authenticity" but this becomes imperative for older children[167]. Below the upper limit set up by brain maturation, the path of development may vary greatly among children according to environmental influence. There is evidence which suggests that higher levels of cognitive development are not achieved when people are not given opportunities to 'function' at such levels. Research has also shown that cognitive performance is affected by the complexity of tasks. Music education would thus draw on children's cognitive competence and enable them to perform at their optimal developmental level. In the empirical study it might be possible to observe the extent to which the

[164]Berk, Laura (1994) op.cit., p.256.
[165]Swanwick, Keith (1994) op.cit., p.118.
[166]Sincoff, J. and Sternberg, R. (1989) op.cit., p.31
[167]Swanwick, Keith (1994) op.cit., p.95.

nature of the tasks constrains students' achievement at (or close to) their optimal level across the three activities.

5. SYMMETRY IN MUSICAL ACHIEVEMENT?

This study now narrows its focus to investigate the demonstration of musical understanding through the three major activities. Recall that Hargreaves (1989, 1996) and Hargreaves and Zimmerman (1992) point to the possibility of identifying parallel developmental patterns across the various modalities of music making, for they believe that there may be general cognitive structures underlying them. We have been theorising that what operates across the various modalities is the broad conceptual dimension of understanding, the demonstration of which is dependent upon the nature and complexity of the task. We have seen that the notion of stages indicates that the mode of thinking particular to a stage applies across many tasks and problems. General biological constraints impose an upper limit on children's performance which determines the highest possible level of cognitive performance at that age, what Fischer called 'optimal level of skills development'. Such optimal level is manifested under optimal environmental conditions. Therefore, performance may vary widely below that upper limit according to variations of training and degree of experience in the tasks. However, studies in which the level of task complexity was controlled found a significant developmental synchrony across different tasks from the same content domain[168]. Can it be suggested then that if the complexity of musical tasks is controlled, children will reveal the same underlying level of musical understanding across the modalities?

We have seen that the spiral model assumes qualitative shifts that correspond to an unfolding awareness in regard to the layers of musical discourse, not domain-

[168]Marini, Z. (1991) op.cit., p.58.

specific musical skills (although these are implicit). It can be said that the three activities involve a unique form of understanding with its particular meanings. It seems likely that a broader conceptual understanding would be employed to mediate the accomplishment of different tasks in the three settings. Yet the same identifiable level of understanding will make different demands on the child in regard to composing, performing or listening. But it can be assumed that in the integrated approach to the three activities children would have experience in all three modalities. Therefore, as long as factors such as 'task complexity' and 'task familiarity' are controlled, we might expect a reasonable degree of symmetry in the level of musical understanding revealed across the three musical activities[169]. We shall attempt to clarify the following points:

First, can it really be assumed that the mode of thought characteristic of a particular level applies across different modalities of musical engagement? Is the revealing of musical thinking consistent, or symmetrical, across composing, performing and listening to music, i.e. are they symmetrical indicators of musical understanding?

Secondly, to what extent do the levels of skills involved in music making affect the level of understanding being revealed through music making?

Thirdly, does the psychological nature of different activities affect the revealing (and development) of understanding?

We shall now turn to the description of the research design.

[169]The term symmetry, instead of synchrony, will be used here, because synchrony tends to imply developmental timetable.

CHAPTER FOUR

THE RESEARCH DESIGN

THE RESEARCH DESIGN

1. RESEARCH PROBLEM

Assuming that musical understanding operates across the various modalities of music making, the question is then: is students' musical understanding manifested symmetrically across the different modalities of musical behaviour? Is their musical thinking consistent across composing, performing and audience-listening activities? Should the level of articulation of skills involved in the composing, performing and audience-listening tasks be *appropriate and accessible* for the student (otherwise, the demonstration of understanding will be constrained by technical problems), it is expected that achievement in the three activities will be symmetrical. In other words, a student's writing about music, inventing music and performing music would reveal the *same level of musical understanding*.

The main strands of the theoretical framework thus merge into the research problem. First, the relationship between the revealing of understanding and the level of skills involved. Secondly, the three activities as being the main 'channels' through which musical understanding can be demonstrated - though they are different in nature. And thirdly, that the demonstration of one's quality of thinking depends on the complexity of the tasks. The integrated approach to the three activities becomes an appropriate context to illuminate these issues, as in this approach students are supposed to have experience in all three settings.

It is thus hypothesised:

> Musical understanding will be manifested symmetrically across composing, performing and audience-listening activities once the tasks are appropriate and accessible.

If it is found that the achievement in the three settings is non-symmetrical, two main points will be examined: first, if it is possible to identify factors accounting for the non-symmetry; secondly, if there is an identifiable leading activity, one which facilitates the demonstration of the extent of students' understanding of music. It may be possible that both the complexity of skills and the distinctive nature of each activity affect the demonstration (and development) of musical understanding through that 'channel'.

All these issues have important implications for educational discussion on curriculum practice: the impact of each activity on students' musical development and assessment, the appropriateness of the level of skills, besides the important relationship between revealing and developing understanding.

2. THE SPIRAL CRITERIA AS MEASURE OF MUSICAL UNDERSTANDING

As has been seen in the previous chapter, our theoretical reference of musical development was the Spiral Model by Swanwick and Tillman[1]. The instrument for measurement of students' understanding across the three activities was the three-fold set of criteria statements derived from the Spiral Model. Hentschke (1993) believes that the fact that the dimensions of musical criticism unfold according to a sequential developmental pattern renders the Spiral Theory a tripartite function, working as a model of musical criticism, development and assessment[2]. The abstract nature of music can make the assessment of it rather subjective - if not arbitrary. Therefore it becomes imperative to find more objective parameters. Swanwick believes that "[c]riterion statements are a way of making explicit the basis of our judgements and are also a way of articulating these judgements to others."[3] They provide a frame of reference for assessment and an analytical framework for analysis of data. According to Swanwick, criteria should meet certain prerequisites:

> "(a) they should be clear;
> (b) they should be qualitatively different from each other;
> (c) they should be brief enough to be quickly understood but substantial enough to be meaningful;
> (d) they should be able to be hierarchically ordered in a clear and justifiable sequence;
> (e) they should be useful in a range of settings, including different achievement levels and musical styles;
> (f) they should reflect the essential nature of the activity - in our case they should be true to the nature of music."[4]

The above remarks from (a) to (d) are necessary for the criteria to achieve

[1]By Swanwick and Tillman (1986), extended in Swanwick (1988, 1994).
[2]Hentschke, L. (1993) op.cit.
[3]Swanwick, K. (1994) op.cit., p.110.

reliability; and the last two (e) and (f) are particularly relevant in the context of this study, as they are intrinsically connected to the issues of internal validity of the criteria, as well as the validity of the construct they represent: *musical understanding.* The criteria derived from the spiral model can function as a valid model for assessment because it has ordered categories that capture in a qualitative way the unfolding of such awareness. It consists of eight statements that describe the main characteristics of each developmental level - the underlying shifts of motivation in relation to the layers of musical discourse. In this study it was crucial to have such a common frame of reference underlying assessment in all three settings.

The original criteria for assessment of composition first appeared in Swanwick and Tillman (1986). These were later redrafted for the two remaining activities. Swanwick (1988) offered "Possible GCSE grade-related criteria" for composing/improvising and for listening[5]. In Swanwick (1994) there is a revised version of the composing criteria, and a version of the performance criteria[6]. Swanwick believes that "the transposition between composing and performing suggests that the foundations of the criteria run pretty deep and relate well to the bedrock of musical knowing"[7]; i.e. the elements of musical materials, expression, form and value are parallel, at least, in those two activities. This enables a more valid assessment of musical understanding across different people, different activities, and different pieces.

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[4]Swanwick, K. (1994) op.cit., p.107.
[5]These are given in Appendix n.1.
[6]These are the versions of composition and performance criteria which were used here; the audience-listening version was revised and subject to a reliability test in this research (to be reported next). The three criteria are given together in Appendix n.2.
[7]Swanwick, K. (1994) op.cit., p.110.

Research on the spiral carried out by Hentschke (1993 - on audience-listening), Swanwick (1994 - on performance), Stavrides (1995 - on composition) provided evidence that supported the developmental map outlined by the theory in all three settings. Evidence has also confirmed the reliability of the composing and the performance criteria – "both about the criteria themselves and the way in which they attract the agreement of independent observers."[8] The criteria provide explicit grounds for analytical judgement and, at the same time, remain true to the nature of music, as they concern the layers of musical discourse. Swanwick (1994) reports that judges with no knowledge of the criterion statements were asked to rank compositions based on a numerical scale from one to eight (with no attached labels or statements). The results showed a significant agreement with judges assessing the same compositions through the criteria statements[9]. This indicates that the criteria do not conflict with intuitive judgements.

The audience-listening criteria, however, had not been subject to a reliability test prior to this study. A similar procedure to the one described by Swanwick[10] for the testing of the performance criteria was used here to test the extent to which the audience-listening criteria attract interpersonal agreement, as follows.

[8]Swanwick, K. (1994) op.cit., p.108.
[9]Swanwick, K. (1994) op.cit., p.111.
[10]Swanwick, K. (1994) op.cit., p.108.

2.1 – Testing the Audience-listening Criteria

This process was carried out during the fieldwork in Brazil. Swanwick's 1988[11] version of the criteria was translated into Portuguese with the advice of two musicians. The wording of the statements was thus slightly reformulated by this researcher; the essence of the qualitative developmental shifts was kept, and the eighth level was added. The statements were typed on separate cards not numbered or labelled in any way and shuffled randomly. Twelve judges, experienced musicians who were not acquainted with the developmental spiral, were asked to independently rank the cards in a qualitative hierarchical sequence. A Kendall Coefficient of Concordance[12] test gave a '*W*' value of 0.9193, a highly significant result at $p<0.0001$. The order of the sums of the ranks matches perfectly the predicted order of the criteria. Correlations between judges range from 0.7619 to 1[13].

These results lend reliability to the three-fold set of the criteria statements as an instrument for assessing musical understanding wherever it appears. It is an instrument that reflects the breadth of musical understanding as a construct, because both the criteria and the construct come from the same source: an analysis of musical experience in its comprehensive nature. Thus the criteria can be taken to be psychologically and musically valid. The revised version of the audience-listening criteria is given next.

[11]Swanwick, K. (1988) op.cit., pp.153-4.
[12]'Kendall Coefficient of Concordance *W*' is a non-parametric test which determines the degree of association among several sets of rankings; it is particularly useful to measure interjudge agreement (Siegel, Sidney, (1956) *Nonparametric Statistics for the Behavioral Sciences*, New York: McGraw-Hill Book Company, p.229).
[13]See Appendix n.3.

Audience-listening Criteria

Level 1 – Sensory: The student recognises sound qualities and effects, perceives clear differences of loudness level, pitch, timbre, tone colour and texture. None of these is technically analysed and there is no account of expressive character or structural relationships.

Level 2 – Manipulative: The student perceives steady or fluctuating beat, identifies specific instrumental and vocal sounds, devices related to the treatment of musical material, such as *glissandi*, *ostinati*, trills; yet he does not relate these elements to the expressive character and structure of the piece.

Level 3 – Personal expressiveness: The student describes the expressive character, the general atmosphere, mood or feeling qualities of a piece, maybe through non-musical associations and visual images. He relates changes in the handling of sound materials, especially speed and loudness, with changes of expressive level, but without drawing attention to structural relationships.

Level 4 – Vernacular: The student identifies commonplaces of metric organisation, sequences, repetitions, syncopation, drones, groupings, *ostinati;* he perceives conventional musical gestures and phrase shape and length.

Level 5 – Speculative: The student perceives structural relationships, the ways in which musical gestures and phrases are repeated, transformed, contrasted, or connected. He identifies what is unusual or unexpected in a piece of music; perceives changes of character by reference to instrumental or vocal colour, pitch, speech, loudness, rhythm and phrase length, being able to discern the scale in which changes take place, whether they are gradual or sudden.

Level 6 – Idiomatic: The student places music within a stylistic context and shows awareness of technical devices and structural procedures which characterise an idiom, such as distinctive harmonies and rhythmic inflections, specific instrumental or vocal sounds, decoration, transformation by variation, contrasting middle sections.

Level 7 – Symbolic: The student is aware of how sound materials are organised to produce a particular expressive character and stylistically coherent formal relationships. There is evidence of individual insights and independent critical appraisal. He reveals a feeling of valuing of music maybe evidenced by an account of personal involvement in a chosen area of music making and/or a sustained engagement with particular works, composers or performers.

Level 8 – Systematic: The person reveals a profound understanding of the value of music due to a developed sensitivity to sound materials, the ability to identify expression and comprehend musical form. Personal preferences give way to a systematic commitment to music as a meaningful form of symbolic discourse.

3. METHODOLOGY

Research is experiencing a shift from laboratory-like studies, using large groups of children and with tight control, towards more naturalistic studies, carried out in a real-life context. Hargreaves *et al.* (1989) point out that "[t]he study of artistic development should be based on activities which are part of the regular curriculum, and which are carried out in the classroom, rather than upon artificial 'tests' which are imported from the psychological laboratory."[14] This present empirical work was carried out in such a 'real-world' context, within children's regular classroom environment. Therefore, it was not open to experimental manipulation and control. The study consisted of a small sample design with repeated measures both across and within the three conditions (the three settings, composing, performing and audience-listening). Students' musical 'products' provided the data from which the consistency of their musical thinking was analysed[15]. They offered nine 'products', three in each modality, which were assessed by eight independent judges, split into two groups. Essentially, data received quantitative treatment concerning the testing of the research hypothesis - the 'symmetry' issue. In a second stage, and for illuminative purposes, some students' products are described in more detail; the issue of the relationship between musical understanding and musical skills is particularly addressed through musical profiles of the students involved. The context and methodological details are described next.

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[14]Hargreaves, D. Galton, M. and Robinson, S. (1989) 'Developmental psychology and arts education' in Hargreaves, David (ed) *Children and the Arts*, Milton Keynes: Open University Press, p.143.

[15]'Product analysis' was the method used in related pieces of research on the spiral model

3.1 - Population

The present research question entailed a particular approach to music education, which necessitated that the researcher herself carried out teaching over a period of time. It thus became imperative that the study was done in the researcher's own home town (Belo Horizonte, Brazil) and language (Portuguese). Also, as it is of particular interest to apply the integrated approach systematically in Brazil, this would constitute a profitable opportunity to get it tried out and get the community acquainted with it. It could also be illuminating to contrast these data with the research by Hentschke (1993) into audience-listening, in which a pilot study was carried out in Brazil with students who had never had any formal music education.

3.1.1 - Sampling method

A purposive sampling method was used. "The principle of selection in purposive sampling is the researcher's judgement as to typicality or interest. A sample is built up which enables the researcher to satisfy her specific needs in a project."[16] Non-probability sampling sets up constraints on interpretation of data and implications for conclusions and generalisation - whether the sample represents the larger whole about which conclusions are to be drawn[17]. The research problem itself suggested the features of the sample to be investigated[18]; thus a particular sample

(Tillman 1987; Hentschke 1993; Stavrides 1995).
[16]Robson, Colin (1993) *Real World Research: A Resource for Social Sciences and Practitioner-Researchers*, Oxford: Blackwell; pp.141-2.
[17]Ibid.
[18]Ibid.

was selected so as to satisfy specific research needs[19] and to illuminate the theoretical discussion.

3.1.2 - Selection of participants

The selection of students was driven by three conditions: the school, the age group and the data required.

3.1.2.1 - The school

The school selected was the "Nucleo de Educacao Musical de Belo Horizonte", a high-middle class private *music school* which has 150 students from four to 16 years old. It may be convenient to recall that music is not a compulsory subject in school curriculum in Brazil; there is, instead, an integrated arts subject, in which music has little attention and is normally reduced to occasional singing. This particular school was chosen because it provides the range of musical education which enables us to investigate students' achievement across the three modalities:

a) It is a non-specialist school; that is to say, its aim is not to form specialist musicians, but rather to offer a comprehensive and holistic music education for all children interested. There are no entry tests.

b) It subscribes to the idea that music education has to involve students in composing, performing and audience-listening activities (although the activities were not systematically integrated before the beginning of this particular research project).

[19]Based on Cohen, Louis, and Manion, Lawrence (1980/1994) *Research Methods in Education*,

c) It allows for the practice of instrumental performance however without imposing syllabuses or heavy demands on students. Each student, in the instrumental lesson, develops a repertoire that suits his/her technical level, and at his/her own pace. This thus accounts for students' different aspirations and levels of commitment. That being so, there is the possibility to offer more focused instrumental tuition for those who are more productively engaged with the instrumental practice; these are encouraged to take part in recitals and competitions, often with successful results.

Such a view of music teaching is in consonance with the thesis and is perceived as a compromise between the two opposite approaches to music education: the broader yet 'looser' general music children normally have in school, and the more constricted and narrow specialist instrumental tuition. Another point has to do with the access to school. Since the researcher herself was a teacher at that school, access was unproblematic. The heads of the school and the many teachers were acquainted with the purpose and conditions of the research and were happy to collaborate. Later on, the parents of students who were selected for the sample were also informed about the research and posed no objections on their children's taking part.

3.1.2.2 - The age group

This is not a longitudinal or cross-sectional study like the previous related studies by Tillman (1987), Hentschke (1993) and Stavrides (1995). As this present study

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London: Routledge; p.89.

was intended to investigate the consistency of musical understanding across all three activities, it was devised so as to concentrate on one age group, that from 11 to 13,5 years old (132 to 162 months)[20]. This age group was selected because students at this age are expected to have already developed:

a) A reasonable level of instrumental performance skills;

b) A reasonable mastery of language skills and vocabulary so as to articulate their musical thinking, which is of particular relevance in the audience-listening setting;

c) A potential to achieve the spiral layer of musical form, as related studies have shown. This would allow greater dispersion of scores, if it were the case.

3.1.2.3 - The data required

Besides students being within the age range already specified, sampling was driven by further requirements, as follows:

a) Those who had a minimum of three years of attendance at classes at the school;

b) Those whose instrument was the piano. The school offers instrumental teaching on the piano, the recorder or the guitar. One instrument only was to be taken so as to minimise the potential technical differences across instruments. Also, different instruments set up particular constraints or advantages on compositional possibilities. Should there be compositions on different instruments, the judges' task could become more complex and their scoring less reliable. The recorder, for instance, being a melodic instrument, offers less possibilities of

[20]This corresponded to students' age in June 1997, when most of the data (7 out of 9 'products' from

choices in regard to harmony, texture, dynamics, register. When judging a student's composition for the recorder, for instance, it would be difficult to say if s/he did not shape phrases musically because s/he did not 'understand' it, or simply because the instrument did not allow her/him to. Because of its versatility, the piano enables a greater range of decision taking in regard to sound materials and expressive characterisation, thus allowing for a more valid assessment. Furthermore, the piano was the most popular instrument in the school, and the researcher's own instrument;

c) Most importantly, students were selected who could potentially offer the data required. There had to be a minimum number of 'products' by each student in each condition in order to confer internal validity to the investigation into the consistency of musical thinking. This implied:

- In the composing setting: that they were able to finish a composition within 20 minutes. Some students could not make it in less than one hour - a whole session.

- In the performance setting: that they were practising at least three pieces able to be recorded by the end of the semester. Due to the non-specialist nature of the school as well as to the naturalistic context of the research, no student was pushed into practising more than they would normally do.

After the first four months of teaching, thus based on the researcher's knowledge of the group[21], those students who appear to be able to offer the amount of data the study required were selected for the final sample. The initial sample frame

each student) were collected.

[21]Fraenkel, Jack R. and Wallen, Norman E. (1990/1996) *How to Design and Evaluate Research in Education,* New York: McGraw-Hill, Inc; pp.100-101.

including all 11 to 13.5 years old in the school counted 45 students. Out of these, 26 were concentrated in the six groups assigned for the researcher's 'musicalization' classes. Out of these, there were six students who played the recorder. There were then 20 students left who met all of the sampling requirements.

3.2 - Control

The rationale for selection of the sample is intrinsically connected with the issue of control. Variables controlled were:

a) Age;

b) Students taking part in the classes over the five months of teaching within the integrated approach to composing, performing and audience-listening activities;

c) Those who could offer the amount of data needed;

d) The musical instrument - the piano.

Students' social background was considerably levelled, as it was a private school that attracts high-middle class students. Further control was introduced by the repeated measures, as described next.

3.3 – Repeated Measures

Measures were students' musical 'products', that is to say, their compositions, performances and reports of audience-listening to music. Students were to offer

three 'products' in each setting:

a) In the composing setting: three different original piano compositions, to be played by the student him/herself;

b) In the performance setting: three pieces from her/his piano repertoire;

c) In the audience-listening setting: appraising reports from three different pieces.

In the audience-listening setting all students were responding to the same three pieces of music; in the performance setting there were a few cases in which the same students played the same pieces; in the composing setting the musical products were, obviously, original. There were thus nine measures from each student, resulting in repeated measures both *across* the conditions and *within* the conditions. Once participant variables were controlled, the internal validity of the study increased[22].

[22]Based on Coolican, H. (1994) *Research Methods and Statistics in Psychology*, London: Hodder & Stoughton; p.52.

4. THE FIELDWORK

4.1 – The Teaching

The academic year in Brazil extends from February to November, split up into two semesters (February-June, August-November). The teaching period in the research extended over the whole semester from February to June 1997, making 20 weeks. Students in the school attend two one-hour lessons per week, one being a one-hour 'musicalization' lesson, and another a one-hour instrumental lesson. The researcher's teaching consisted basically of the 'musicalization' lessons. These, carried out in groups ranging from five to eight students, consisted of general musicianship activities, including audience-listening, group composition and group performance experiences, as well as music theory in general (including notation). Before this research, students were not used to individual composition, although group composition was often undertaken. An overall planning of lessons was drawn before the beginning of the semester, as the details and particularities were to be raised throughout the process[23].

The piano lessons, in pairs, were given by different teachers, with whom the researcher worked closely throughout the process (the researcher herself happened to have only four piano pupils). The piano lesson is repertoire-oriented and lays more weight on staff notation than the 'musicalization' lesson does. Students normally practise and rehearse their repertoire over the whole semester

[23]Instances of lessons are given in Appendix n.4.

or even for the whole year. The teacher normally assists students in reading the scores, and after some practice they are usually encouraged (but not forced) to play by heart. By the end of the year students take part in informal presentations for their families and friends.

Students gained a comfortable level of familiarity with the tasks as well as with the recording procedures over the five months of teaching. Besides the individual compositions that constituted the actual data in the setting, each student had many other opportunities to compose and improvise, either individually, in pairs, or groups of three or more. Composing, recording and discussing their own compositions, as well as listening to and appraising music became a routine practice alongside instrumental performance, whether their individual piano playing or group performances - these mainly on percussion instruments.

Students received approximately 20 one-hour 'musicalization' lessons and 20 one-hour piano lessons. Students in the researcher's classes were informed that they were not being tested, but rather were offering information to enable teachers to think more carefully about their teaching.

4.2 – The Collection of Data

4.2.1 – Composing setting

All compositions were produced individually, during the student's regular piano lesson. As agreed with the piano teacher beforehand, the researcher invited the student to a separate room. The first composition by a student (the first to be considered for analysis) was produced at least ten weeks after the beginning of the teaching period. Time spent making a composition was limited to a maximum of 20 minutes. This was thought to be sufficient for students to work out and organise musical ideas into pieces without these getting too complicated or long, because they were to be 'oral', not involving notation. Although students had already developed reasonable notational skills, oral composition was preferred as it frees the imagination, while notation tends to impose several constraints over the composition. It has been previously observed that students often produce pieces more sophisticated and complex than their notational skills would allow them to write down. Tillman noticed that "imaginative composition projects [may] lose all their life by prolonged and even unsuccessful attempts to notate"; even when staff notation is replaced with graphic notation it may become an end in itself, "separated from the magic of the sounds it is meant to serve."[24]

The initial stimulus for each particular composition was limited to a minimum, so

[24]Tillman, J. (1987) 'Towards a model of the development of musical creativity: a study of the compositions of children age 3-11', Unpublished PhD thesis, University of London Institute of Education, v.2, p.113.

that the least interference from the researcher was observed. Stimuli were of two types, one for each of the first two compositions:

a) a rhythmic pattern or concept that the student was studying, such as syncopation, triplets, compound time; semitone, intervals, scales;

b) a particular technical skill of the student's piano repertoire[25], which had already been mastered, like thirds, chords, alternating hands, repeated notes.

After the stimulus was offered, only one recommendation was given: that the student explored various possibilities in the piano until an interesting musical idea appeared[26]; then s/he should follow as s/he wished. From that recommendation to the very end, absolutely everything in the composition was determined by the student[27]. He/she could even modify the initial stimulus according to his/her will. For the third composition no stimulus of any sort was given; the student was asked to produce whatever s/he wanted to. Since this was made in the two last weeks of the teaching period, and students were accustomed to and enjoyed composing, the absence of stimulus posed no difficulties for them, even in regard to the time spent in composing. Once the student said the composition was finished, it was recorded. Then s/he was asked if s/he was pleased with the recording, i.e., whether her/his performance of the composition was consistent with her/his original intention. Thus, a second recording was allowed to those who were not pleased the first time. All compositions were subsequently coded.

[25]See Paynter, J. (1992) op.cit., pp.64-5.
[26]See Paynter, J. (1992) op.cit., pp.25, 85, 93.
[27]Instances of compositions drawn from the same stimulus are given later.

4.2.2 – Performance setting

The students' performance repertoire was chosen over the first two months of teaching. Teachers were advised about the necessity to assign to students pieces which were appropriate to their technical level and which were musically interesting in respect both to expressive characterisation and form. Students had thus from 12 to 18 weeks for practising and rehearsing the pieces before the end of the semester. Recording sessions took place over the last two weeks of the semester. Students were allowed to play a piece a second time when they were not pleased with their first recording. Performances were subsequently coded.

4.2.3 – Audience-listening setting

The collection of data in the audience-listening setting was through an interview, which consisted of having students listen to music and then report. In her cross-sectional research into audience-listening responses, Hentschke (1993) employed a multi-instrument method because of the younger children's limited mastery of the language and vocabulary. She came to the conclusion that out of all techniques used, the semi-structured interview was the most appropriate instrument to gather data in this setting[28]. In this present research, because of the small age range of the population, it was possible to carry out a structured interview with fixed and sequenced questions, eliminating potential bias.

[28]Hentschke, Liane (1993) op.cit., p.235.

4.2.3.1 - Questions format

Three open-ended questions formed the frame of the interview; these "supply a frame of reference for respondents' answers, but put a minimum of restraint on the answers and their expression"[29]. As Swanwick warns, a question like ""what instruments did you identify?" leads the student to respond in terms of the musical materials[30]. Therefore, questions have to be broader to minimise "the chance of the interviewer leading the children towards certain kinds of answer"[31], yet still being able to prompt their responses. The questions devised by Hentschke were used here although with some procedural changes in regard to the interview format. In Hentschke's semi-structured interview the ordering of the questions varied, and 'others' could follow according to children's comments. Although this was necessary to counterbalance the more rigid techniques she used, such a procedure is a potential source of bias. Therefore, this present research used a structured-interview, with fixed questions, which were presented in the following fixed order:

a) "What kind of things do you perceive in this music?"

b) "What can you tell me about this music you have listened to?"

c) "If you had to describe this music to a friend who had never heard this music before, what would you say about it?"[32]

Although the three questions have equivalent meanings, the ordering above suggests a progression from 'perceiving' (first audition to the piece), to 'reporting to

[29]Kerlinger, F. (1970) *Foundations of Behavioural Research*, New York: Holt, Rinehart & Winston.
[30]Swanwick, Keith (1994) op.cit., p.112.
[31]Ibid.
[32]Ibid.

the interviewer' (second audition), and finally to reporting to someone else' (third audition). This third question adds a social and even affective element, which may prompt the student to give a clearer and more thorough answer. The only possible follow-up question was "what do you mean?", in cases in which answers were ambiguous or too vague.

4.2.3.2 - Answers formats

Students were both to write and talk about the pieces. These two types of answering procedures would control two main variables:

a) Individual differences:

Some students may feel more comfortable writing about music, others may prefer to talk about it. These two different opportunities would avoid a single answer format constraining some students' responses.

b) The 'perceiving' versus 'memorising' issue:

Besides meeting individual differences, the two answer formats could also help to maximise students' reports, because there is an important difference between 'perceiving' and 'memorising'. The pieces of music consisted not of short extracts, but of whole pieces (or movements), lasting from two to three minutes. This 'writing' procedure would relieve students from having to rely totally on their memory. This would reduce the chance of them not mentioning things because they have forgotten, and not because they *have not* perceived. The 'narrative' procedure (report while listening) was introduced to counterbalance the previous procedure of their making notes while listening, as one may be distracted from the music and miss what comes next.

4.2.3.3 - Interview procedure

Extra individual sessions were scheduled for the interviews. These were carried out over the two last weeks of the teaching period, outside the normal schedule of the school, for reasons of room availability and quietness. The room was the same where students' lessons happened, which, was a satisfactory physical condition, besides having the advantage of being a familiar environment. The facilities required included a tape player, a tape recorder, paper and pencil. Students' replies were fully tape recorded for later transcription and analysis. It was explained to them that this was necessary to save time in handwriting, and to catch the whole of their answers and allow these to flow[33]. The interview length was from 35 to 40 minutes. Once the interview started, there was no interruption.

Attitudes were extremely positive, demonstrating total willingness to participate. A few students seemed a little concerned at the beginning, but as the procedures were explained and the interview started, they became more confident. Other factors such as room familiarity, the researcher being their own teacher, and task familiarity may have helped to counterbalance the more artificial aspects of the interview, such as structured questions and the recording of answers. No student demonstrated tiredness or lack of concentration.

The interview started with an explanatory introduction about the procedures - that it consisted of three pieces which were to be listened to three times each, and about which the student was expected to report. Then it proceeded as follows:

[33]Coolican, H. (1994) op.cit., p.129.

a) The student was asked to just listen carefully to the music for the first time.

b) For the second hearing, the student was given paper and pencil, and it was explained that s/he could make notes about the music while s/he was listening to it. The first open-ended question was posed: 'What kind of things do you perceive in this music?'

c) Once the second playing had finished, the student was asked to report what s/he has perceived of the music, as the second question "What can you tell me about this music you have listened to?" was posed. The student could just rely on her/his notes, or enrich and complete them if desired. Answers were fully tape recorded.

d) After that, the student would listen to the music a third time; so, with the microphone and tape recorder next to her/him, the student *could* (not that s/he *had to*) talk as the music went on, narrating the musical events as they happened over time. The third question was posed: "If you had to describe this music to a friend who had never heard this music before, what would you say about it?" In this third opportunity to listen to the piece, the question would invite the student to add more details, correct or just confirm things already mentioned, pointing out the precise moment of musical events happening.

This procedure was repeated for the two remaining pieces, which were subsequently played. Students' oral reports were fully transcribed and coded for further analysis. Their notes were checked against the transcripts for anything that was missing in the oral report.

4.2.3.4 - Selection of the pieces

Several points had to be taken into account for selecting the three pieces for the interview. They had to meet the following criteria:

a) These should be representative of different Brazilian musical styles, periods, and composers. Brazilian music presents a wide spectrum from which it was possible to select a good enough sample that met the other requirements. Nonetheless, they should not be very well-known pieces, to minimise chances that students had already listened to them before; previous knowledge of a piece would result in bias. For example: an instance of *Bossa-Nova* was to be included, but it should not be *The Girl of Ipanema*. Contemporary popular music should not be included so as to avoid responses in terms of personal preferences or prejudice and cultural value attitudes.

b) Pieces should range from one and a half to three minutes; whole pieces were used, so that pupils could experience the totality of a work.

c) Pieces had to be rich musically speaking, which means being drawn from rich musical materials, producing a particular expressive characterisation and structural and symbolic interest: they should be developed enough to be interpreted at any level of musical criticism.

d) Pieces should be very different from one another, both in regard to materials, expressive character and form.

e) Pieces should be exclusively instrumental, since lyrics constitute another complex dimension in music that is hard to disconnect from the instrumental strands.

f) Pieces should be drawn from familiar idioms.

g) In consonance with the argument of the thesis, they should not require very complex listening skills, so that their responses were not constrained by the level of skill articulation involved. The objective was not to test students' discriminative skills, but to check what dimensions of music capture their attention. Nonetheless, the three pieces selected had slightly different levels of complexity regarding materials and structural organisation, and also regarding the description of the expressive characterisation. The following pieces were then selected[34]:

1) ***Dindi***, by Tom Jobim (1927 - 1994) (with Aluisio de Oliveira)

This is a *Bossa Nova* song, and the arrangement contains no lyrics. It is of an easy flowing motion and cheerful but relaxed character. The various timbres by the strings, flute, saxophone, and electronic piano, dynamically alternate in the foreground and background throughout the piece. Each instrument imposes its own character, the saxophone more relaxed, the flute more expansive, the strings more uniform.

The flute announces the introduction punctuated by the saxophone; the strings take over, first in the lower register then repeating the section in the higher register. Then the saxophone introduces the main section, punctuated by the flute and strings; now the strings repeat the main section, in a more steady way. Then comes a more introspective part, by the lower strings and then the saxophone. The main section returns now by the flute. Then the piano makes the 'introspective' part seem more 'flowing' with plenty of ornaments pushing up and downwards. Main

[34]Other details of the pieces can be found in Appendix n.5.

section again, with the higher strings, leading to a quieter coda and ending up with an interrogative melody by the saxophone. This is supposed to be the more difficult piece in terms of form. The alternation of instruments playing the same tunes, and with different expressiveness, makes it difficult to relate precisely the parts to one another.

2) ***Canto***, (Third movement of the Suite *Quatro Momentos no. 3*) by Ernani Aguiar (b. 1950)

This is Brazilian classic music with some nationalistic elements, for string orchestra and percussion. The percussion signals a sad suspense until the strings offer a slow supplicating and dragging melody, a lament, in an insisting descending pattern with repeated notes, material from which most of the section is drawn. Dialogues between higher and lower strings happen mostly in an imitative fashion, always punctuated by gentle but expressive 'comments' by the percussion. Then comes a shorter contrasting central section, with an unexpected change of mood, faster and more energetic, with a steady pulse and more assertive character, reminiscent of Brazilian regional music. Over an ostinato rhythmically articulated and more expansive percussion, violins play a more vivid tune, of two ideas, which are announced just once, and die away. The percussion brings back the first section, shortened and slightly modified. This is the easiest piece; instruments are quite familiar, and the striking change of character makes the structural organisation evident. It has a strong evocative appeal, being more suggestive of story-like images and feelings.

3) ***Remechendo***, by Radames Gnattalli (1906 - 1988)

This piece was arranged by the composer himself for saxophone quartet, piano, and percussion. It is in a quite dancing and stylized 'Choro' style, very fashionable in the first-half of the century. After an introduction in ascending patterns by the piano, the saxophones present the main theme, dance-like, quite cheerful and almost funny. It is in *Rondo* form (ABACA), and although there are no relevant changes in character throughout, the parts are quite distinguishable.

5. ASSESSMENT OF STUDENTS' 'PRODUCTS'

5.1 – The Judges

Eight out of the 12 judges who participated in the validation of the audience-listening criteria were invited to the task of assessing students' 'products'. They had already demonstrated a high level of inter-judge reliability when assessing the audience-listening criteria. Over the two months preceding the assessment of data, meetings were arranged with the judges to get them acquainted with the purpose of the thesis and particularly with the Spiral Model and the assessment criteria. These meetings gave them the opportunity to practise and absorb the criteria with real exemplars selected from the data by Tillman (1987) and Hentschke (1993). According to Boyle (1992), examples provide a frame of reference for judges, leading "to more consistent applications of evaluative criteria, hence, yielding more reliable judgements"[35].

5.2 - Procedure

As we have seen, there were 20 students, each of whom offered nine items - three compositions, three performances, three audience-listening reports - making 180 items altogether. In order to make the judges' task more reasonable, students' 'products' were randomly split into two sets of data, and assessed by the judges who were also split into two groups of four. Compositions and performances were

[35]Boyle, J.D. (1992) 'Evaluation of musical ability', in Colwell (ed) op.cit., p.259.

randomly edited on cassette tape, and the printouts of the transcripts of the interviews were shuffled. The assessment took two sessions of approximately two and a half hours, with about half of the 'products' being assessed each day. In the two sessions, they were presented in this order: first the compositions, then the listening transcripts and finally the performances (to alternate listening-reading-listening procedures).

Judges were to listen to (or read) and independently assess each item subsequently. They were to assign a 'Spiral' level corresponding to the highest level of musical understanding revealed in each item - a qualitative, not quantitative assessment. They were given a transcription of the three-fold set of criteria statements and three scoring sheets, one for each setting[36]. They were instructed to listen to the entire piece before making their assessment, for it could be only in the last measure that, for instance, a composition shifted from vernacular to speculative. The performances were listened to just once, as would be the case in a real-life examination or recital. The compositions were heard twice. This was thought necessary because assessing compositions was not a routine procedure for the teachers (judges) as assessing performances was; also, they were original pieces of music, and a second hearing could lead to a more coherent judgement. Time was allowed between the items for reflection and reference to the criteria. For the assessment of the audience-listening transcripts, judges were allowed to proceed (read and score) at their own pace. The results as well as discussion of the findings are given in the next chapter.

[36]See Appendix n.6.

CHAPTER FIVE

RESULTS AND DISCUSSION

RESULTS AND DISCUSSION

1. RESULTS

1.1 – Inter-judge Reliability

Inter-judge reliability for each of the two groups of judges was tested by the Kendall Coefficient of Concordance[1], which produced highly significant results of the order of $p<0.0001$, as shown in Table 1:

Table 1 -Agreement within each of the two groups of judges

	'W'	Chi-Square	Significance
Group 1	0.7866	251.7231	p<.0001
Group 2	0.6780	265.7731	p<.0001

Correlations range from 0.5981 to 0.7042 for Group1 and from 0.4123 to 0.6273 for Group 2[2].

1.2 – Raw scores

The scores represent the Spiral levels, with 1 standing for the lowest level (Sensory) and 8 standing for the highest (Systematic), as given in Table 2.

[1] 'Kendall coefficient of concordance *W*' is a non-parametric test which determines the degree of consensus among judges (Siegel, S. (1956) op.cit., p.229).

Table 2: The Spiral Levels

Scores	Level label
1	Sensory
2	Manipulative
3	Personal
4	Vernacular
5	Speculative
6	Idiomatic
7	Symbolic
8	Systematic

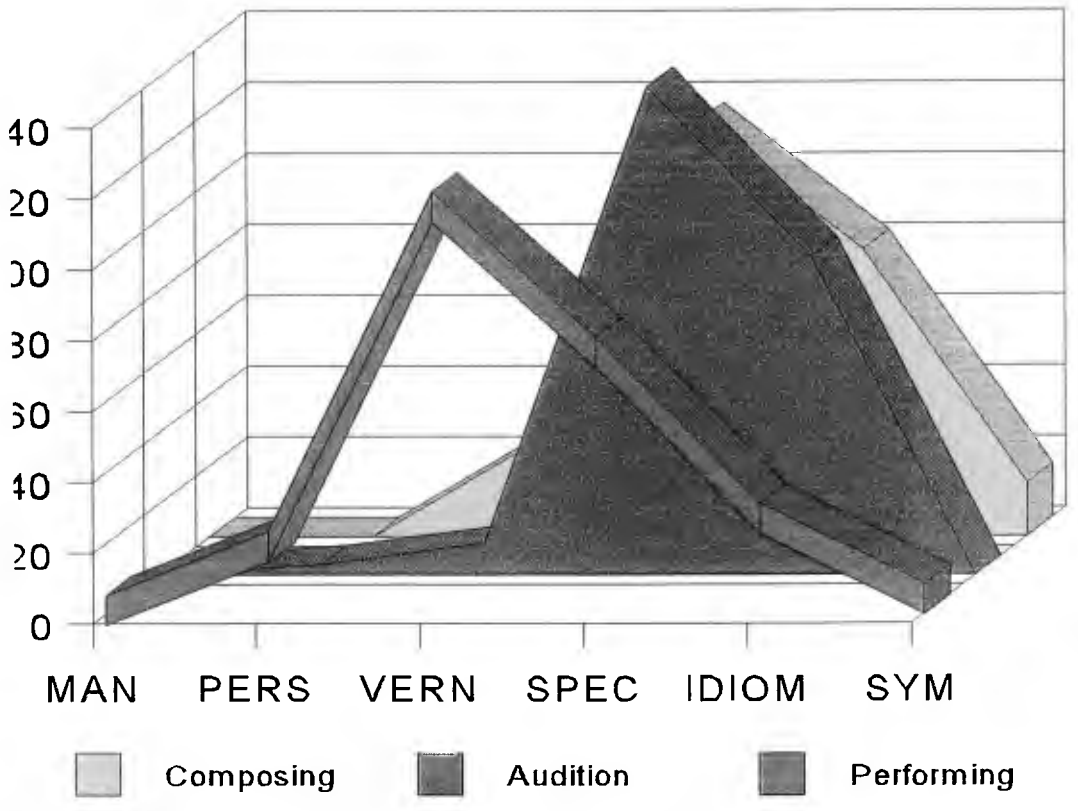
All raw scores for the products in each setting were computed to show the range and distribution of judges' scoring[3]. The summary is given in Table 3 and Figure 1 (next page). The summary shows that the total distribution across the eight levels confirms the expected distribution for the age group selected for the study. This is still more evident in the composing and audience-listening settings, in which the raw scores are clearly concentrated around the Speculative and Idiomatic levels (the spiral layer of form). There is a greater dispersion of *lower* levels in the performance setting than in the other two settings.

[2]See Appendix n.7.
[3]The raw scores are given in Appendix n.8.

Table 3: Distribution by raw scores

	MAN	PERS	VERN	SPEC	IDIOM	SYMB
COM	0	0	27	117	81	15
AUD	0	3	9	138	90	0
PER	1	19	115	74	27	4

Figure 1: Distribution by raw scores



1.3 – The 'Rule' for Summarising Data

To address the issue of symmetry the raw scores had to be summarised into one overall score for each student in each setting. A common procedure would be to find averages, particularly the *median* or the *mode*, which are appropriate measures of central tendency for ordinal level of measurement[4]. Nonetheless, to reduce the scores to such averages could be misleading in regard to an essential premise of the thesis: the demonstration of *the highest (optimal) level of musical development* through the activities. It is convenient to take a hypothetical example to demonstrate the effect of reducing the scores to averages. Take, for instance, the three compositions by a student; these were assessed by four judges, making 12 observations within the setting, as given in Table 4 (J = judge).

Table 4: Hypothetical judges' scores for the three compositions by a student (J= 'Judge')

Composition 1				Composition 2				Composition 3			
J1	J2	J3	J4	J1	J2	J3	J4	J1	J2	J3	J4
5	5	5	4	5	5	6	5	6	7	6	6

In this instance, should either the *mode* or the *median* be used, the derived score for that student in the composing setting would be 5 - despite her having been assigned to level 6 four times, and once to level 7. Both the *median* and the *mode* are unaffected by extreme values in one direction[5]. Consequently, they

[4]Coolican, H. (1994) op.cit., p.206.
[5]Coolican, H. (1994) op.cit., pp.205-6.

would have given a distorted picture of the student's understanding of music by leaving precisely the highest scores - the bit this research is looking for - out of the derived scores. A more coherent procedure was to set up a 'theory' for summarising the raw scores into more valid derived scores. A '*rule*' was then devised, one that was related to and supported by the theoretical framework. The critical point was: how much evidence was needed to say that a particular quality of thinking was revealed in a student's products? Or, how frequently was that quality of behaviour occurring so that it evidenced the consistency of that quality of thinking? A student could have 'accidentally' produced a *rallentando* which could have led a judge to assign him a higher score. On the other hand, the rule should be able to contemplate the possibility that a student may have produced, for instance, one Idiomatic and two Speculative compositions. This could be due either to development over time or to the fact that people might move back to earlier levels, functioning, at times, below their optimal level of development[6]. For there can be a difference between the optimal level developed and the level displayed on a given occasion, throughout a particular piece and activity. That is why it was imperative to have several (nine) observations per student, representative of a range of musical behaviours, thus lending the measures more validity. Thus the following operational '*rule*' was followed:

[6]Typical cases of shift between levels, as well as 'transition' cases, will be addressed in next chapter.

> For a student's products in a setting, find the highest score assigned at least three times out of the 12 observations.
>
> A higher score includes the previous ones, e.g. a score 7 includes level 6, as the levels are cumulative.

A number of three observations (out of 12) was thought to represent enough evidence to indicate that a particular level of understanding had been reached. This number was also thought to allow a safety margin for both chance and error not to confound the results. To be assigned three times to a higher level in a setting by highly reliable judges (at $p<0.0001$) would be an indicator valid enough to place a student in that particular level. Therefore, the rule does not discriminate beyond that extent, for instance, between a student who had been assigned a higher level in three observations from another who had been assigned the same level in, say, eight observations. According to this rule, the derived score for the example above in Table 4 above would be 6, a value which appeared five times in the raw scores (four times, plus again implied in a score 7).

1.4 – Derived Scores

The rule was applied for all students' 'products' in the three settings; the derived scores are given in the Table 5 below. A derived score in the table represents a student's overall score for that setting (the levels labels were given in Table 1 overleaf).

Table 5: Students' derived scores:

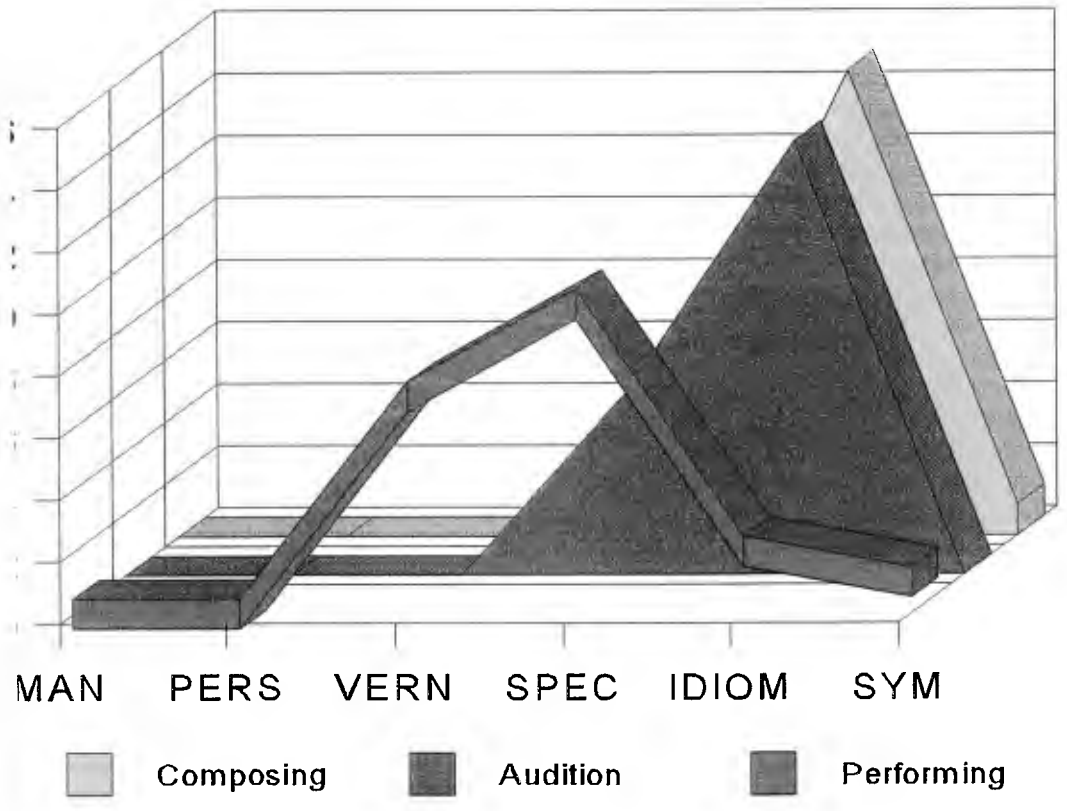
Case	COMP	AUD	PERF
1	6	6	4
2	6	6	4
3	6	6	5
4	6	6	5
5	6	5	4
6	6	6	4
7	6	6	5
8	7	6	5
9	6	6	4
10	6	6	5
11	6	6	5
12	6	6	6
13	6	5	7
14	5	5	4
15	6	6	6
16	5	5	5
17	6	5	4
18	5	6	5
19	5	5	5
20	6	6	5

The distribution of students' derived scores by level is shown in Table 6 and Figure 2.

Table 6: Distribution by derived scores

	MAN	PERS	VERN	SPEC	IDIOM	SYMB
COM	0	0	0	4	15	1
AUD	0	0	0	6	14	0
PER	0	0	7	10	2	1

Figure 2: Distribution by derived scores



Again, performance is the setting which presents greatest dispersion of *lower* levels, ranging from the Vernacular to the Symbolic. The derived scores for composing and audience-listening are also clearly concentrated in layer of 'Form' - Speculative and Idiomatic levels.

1.5 – Testing the 'Rule'

The next step was to correlate the two 'distributions of scores', the one before the rule (Table 3), and the one obtained from the rule (Table 6). A Spearman Correlation Coefficient gives a correlation of 0.7274, $p<.001$. These figures demonstrate that the derived scores correlate significantly with the raw scores from which they were drawn[7]. This indicates that the rule does not distort the raw scores significantly, thus legitimating it.

1.6 – Testing the 'Symmetry' Hypothesis

The derived scores (Table 5 above) were submitted to a Friedman Two-Way Anova, for testing whether the three related variables came from the same population[8]. The test on all three variables (composition, audience-listening and performance) showed that the differences between the settings is statistically significant at $p<.001$ (Table 7).

[7] See Appendix n.9.
[8] See Appendix n.10.

Table 7: Difference between the three variables

Variables	Chi-Square	Significance
Composition/Aud-List/Performance	13.8250	p<.001

The Friedman Two-Way Anova was carried on for each pair of variables at a time to check if the difference could be explained by one single variable. Results are given in Table 8.

Table 8: Difference between each two variables

Variables	Chi-Square	Significance
Composition/Audience-listening	0.4500	p<1 (n.s.)
Composition/Performance	8.4500	p<.01
Audience-listening/Performance	9.8000	p<.001

These results show that the difference between Composition and Audience-listening is not statistically significant; therefore they are assumed to come from the same population. The results of the remaining pairs clearly show that Performance is the variable responsible for the variance across the three variables. These findings suggest that *there is no symmetry across all three activities.* However, there is a significant symmetry across composition and audience-listening.

1.7 – Searching for a 'Leading' Activity

The next procedure was to identify a possible 'leading' activity, i.e. one in which students' achievement was higher. It was found that most students achieved

equally higher scores in composition and audience-listening. Table 9 gives the number of students by symmetry or non-symmetry across the activities.

Table 9: Symmetry and non-symmetry by number of students

Symmetry: same level on 3 settings		04
Non-symmetry:	Same level on Comp and Aud	11
	Same level on Comp and Perf	01
	Different levels on 3 settings	04

Thus, 11 cases in which composing was equal to audience-listening, plus the four cases of symmetry across all three, makes 15 students who achieved symmetry across composing and audience-listening. Out of the 20 cases, composition was a "top score" 18 times (15 times equal to audience-listening and 3 times ahead of it), while audience-listening was a "top score" 16 times (15 times equal to composition and once ahead of it). Out of the 16 cases with non-symmetry, performance was the least developed activity in 14 cases. Among the 11 cases that achieved symmetry for composing and audience-listening, performance was one level behind in seven cases, and two levels behind in four cases. No student showed a discrepancy across the three settings which exceeded two levels (ex: level 6 for composition, 6 for audience-listening, 4 for performance). Among the 16 with non-symmetry, there were eight students who scored across two levels (ex: 6-6-5), and eight students who scored across three levels (e.g. 6-6-4 or 6-5-4).

1.8 – Age effects

A Chi-square test was used to detect possible age effects within the group[9]. Students' ages ranged from 11 to 13.5 years old (132 to 162 months). They were split into two categories, the "younger", from 132 to 140 months, and the "older", from 149 to 162 months. The scores for all three settings, which ranged from Vernacular (4) to Symbolic (7) levels, were split into two categories: the 'lower', including Vernacular (4) and Speculative (5) levels, and 'higher', including Idiomatic (6) and Symbolic (7). Table 10 gives the count for the two age groups.

Table 10: Scores by age category

	'Lower'	'Higher'
Younger	12	15
Older	15	18

A Chi-square value of 0.006, probability of 0.94 ($p<1$, ns) shows no significant association between students' age and their scores, thus legitimating the choice of the age cohort as a single group. Analysis in separate settings is also non-significant.

1.9 – Gender effects

A Chi-square test was also used to check possible gender effects[10]. Among the 20 students were 14 girls and 6 boys. Their scores count for the three settings is given in Table 11:

[9] See Appendix 11.

Table 11: Scores by gender

	'Lower'	'Higher'
Girls	18	24
Boys	9	9

Again, there was no significant association between students' scores and gender, with a Chi-square value of 0.259, probability of 0.61 ($p<1$, ns). This suggests that this factor did not account for variance, though the small numbers involved suggest some caution in this interpretation.

Two different levels of discussion will be undertaken: first, the interpretation of the findings just reported. In the next chapter, individual students' 'products' (compositions, performances and audience-listening reports) which might illuminate some issues will be discussed.

[10] See Appendix 11.

2. INTERPRETATION OF THE FINDINGS

In summary, the results indicate that students achieved non-symmetrically across *all three* activities, but they did achieve symmetrically across composing and audience-listening. Performance was the setting in which students achieved lower scores; it was therefore the poorest indicator of their understanding. The overall distribution of the scores is consistent with the range and distribution found in related pieces of research on the spiral model (Hentschke 1993 and Stavrides 1995). In Hentschke's pilot in Brazil, students of the same age as in this study, but with no formal musical education, revealed no awareness of musical form. The findings of this research, conversely, confirm the expected patterns for this age cohort (11 to 13.5) within the framework of formal music education, as students' 'products' were mostly gathered around the Form layer of musical criticism. It is important to bear in mind that although 16 students achieved non-symmetrical results, the variation of their scores across the settings was confined to the nearest level in eight cases and to the next two levels in the other eight cases. The results for the age cohort, if contrasted with Hentschke's (1993) findings in Brazil, emphasise the role of education in students' development.

The interpretation of the findings highlights important issues approached in the theoretical framework. It is argued that musical understanding is a broad conceptual dimension which is manifested through various 'channels' - the activities. If a student reveals a particularly high level of understanding in musical composition, for instance, it could be reasonable to infer that his understanding of

music had been refined *at least* to that extent. So, the level of understanding revealed in one activity should be able to predict the level to be revealed in other activities. As has been seen, the examination of individual students' scores showed only four cases of symmetry, or consistent musical thinking across composing, performance and audience-listening. So, what we could more safely assume is that individuals would have *the potential* to reveal the same level of refinement of musical thinking through other modalities of musical behaviour. Besides the possibility of people moving to earlier levels at times[11], there seem to be other factors preventing them from demonstrating the same quality of understanding in the other activities - even despite experience and instruction. Why was students' thinking not revealed consistently across the activities, since the underlying conceptual dimension is supposed to be the same? Is it that they just failed to transfer musical understanding across the activities?

There are two main areas of speculation underlying the non-symmetrical demonstration of understanding across all three activities: the level of practical skills involved in the tasks and the distinctive nature of each modality. The refinement of the specific skills of a particular 'channel' will either facilitate or constrain a person's functioning at her optimum level of understanding. But also, the activities entail differing procedural processes, of engaging in musical discourse in different ways. In this research students have experienced the three settings in the integrated approach. We can then contemplate the possibility of identifying an activity which would have facilitated the demonstration and development of understanding. Distinctive features could be identified in each

[11]Swanwick, K. (1994) op.cit., p.91.

setting: out of the 20 cases, composition was the setting in which almost the totality of students achieved higher: it was a 'top score' in 18 cases. Audience-listening was a 'top score' in 16 cases, with responses gathered in the Form layer of musical criticism. The difference between composing and audience-listening scores was not significant; 15 students achieved the same level in both settings (four symmetry cases plus 11 cases of composing equal to audience-listening). A very different situation was found in performance: it was the setting of lower achievement in 14 cases (out of 16 with non-symmetry).

2.1 – The Homogeneity in the Audience-listening Setting

Among the three settings, audience-listening is the one which presents the more distinctive procedural nature. In this setting the assessment of musical understanding is indirect, i.e. through students' reports. The actual 'product' is 'distinct from the audience-listening experience itself'[12]. This has to be translated through other language than music into a shareable 'product', while in the two other settings the products are more direct. This particularity of audience-listening is revealed in the criteria statements themselves. The statements in the composing and performance criteria say "the composition [performance] reveals itself..."; while the audience-listening statements read "the student perceives...". The complexity of response to music cannot be reduced to a verbal report. It also carries a great deal of subjectivity, depending on previous experience and background, as much as to intellectual, emotional and physical conditions. But as Swanwick reminds us,

[12]Loane, Brain (1984a) 'On 'Listening' in Music Education', *British Journal of Music Education*, **1**,

listening to music is not just

> a set of private experiences, incommunicable and varying from listener to listener depending on individual perceptions and responses, perhaps a sensory pleasure or an opportunity for a personal reverie but little more. [...] there does seem to be 'objective' knowledge lurking here somewhere which can either be apprehended or 'mis-taken'.[13]

It is such 'objective' knowledge that the spiral criteria articulate. The pieces selected for the interview presented clear communicable musical patterns and no matter whether a student had associated the piece to a 'dark corridor' or a 'rain forest', to a 'primitive tribe' or a 'battle', their reports gave clear clues as to which piece they referred to. What followed was that *all students referred to the three layers of musical criticism, materials, expression and form, in all three pieces of music.* Audience-listening was the setting which presented the greatest homogeneity of responses: it had the smaller range, with all derived scores concentrated within the Form layer of musical criticism (six students achieved the Speculative and 14 achieved the Idiomatic level). What is surprising is not that all students had demonstrated awareness of musical form - this was indeed expected - but that this awareness was consistently shown even in the raw scores[14]. Out of those, 95% were either Speculative or Idiomatic, with 82.5% in composition and just 42% in performance.

There can be two main strands of explanation for this homogeneity in audience-listening. First, the question of control: audience-listening was the only setting in which students were experiencing the same three pieces of music. This means

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1, p.32.
[13]Swanwick, K. (1994) op.cit., pp.13-14.
[14]See Table 3 given earlier.

that the task factors were held constant for all students, i.e. 'music' variables were controlled. Most importantly, it was the only setting in which the level of complexity of the pieces was carefully controlled beforehand by the researcher. The criteria for selection of the pieces for the interview read that they should be developed enough to prompt responses at all levels of musical criticism yet not involving complex discriminative listening skills in order to facilitate appraisal. We were not aiming at testing their discriminative skills or knowledge about music, but rather investigating the extent of their awareness of music. Since the technical skills were controlled at an accessible level, their motivation towards musical form was revealed. Should the complexity of the audience-listening tasks be higher, we could expect lower achievement in the setting, or, at least, more heterogeneous results.

Secondly, there is a point here which cannot go unnoticed: no student achieved the 'value' layer in audience-listening not even in the raw scores, while there were 15 judgements for composing and four for performance at this level in the raw scores. Such patterns deserve further speculation. Why were responses so much more consistent in this setting, with just 5% of the responses bounded at the Expression layer of the spiral and not a single instance of the Symbolic level? Is it because in the experience of listening to music the musical object directs and focuses responses? It may be that the fact that the dimensions of materials, expressiveness and structure - well developed and somehow evident in the pieces - have captured their attention and directed their responses. Because of the age of the students, the perceptual elements concerning materials, expression and form that were present in the musical objects were likely to be identified. However, the achievement in composition was slightly higher, despite the fact that in this setting

they were supposed to make the whole of the 'product' themselves.

2.2 – Skills in the Composing and Performance Settings

The problem of skills seems to have had a greater impact on the performance setting. Performance was the activity which presented the greater distribution of lower levels. Consequently, among the three modalities it was the poorest indicator of students' understanding of music. In the 11 cases in which composing and audience-listening were symmetrical, performance was one level removed in seven cases and two levels removed in four cases. Consequently, should those students be assessed only through their instrumental performance, the extent of their understanding of music would be seriously underestimated.

Just the opposite happened in the composing setting. Students were able to demonstrate understanding of musical form through their compositions even producing Idiomatic, quite stylized pieces. Nonetheless they fail to demonstrate this quality of thinking in their performance. And this despite the fact that compositions were produced within twenty minutes while performances were rehearsed over five months. It seems that a reason behind this higher achievement in composition, as in audience-listening, is linked to the levels of technical articulation involved. In composition students themselves determined the level of skills, setting up the technical boundaries within which the piece would be drawn. The stimuli given as starting points set up no technical constraints - neither compositional skills nor performing skills. And when these were specific piano technical points, they were

carefully drawn from the range of technique they had mastered. From the stimuli, everything else was determined by the students themselves, who, obviously, draw on their actual technical possibilities to produce the compositions. Consequently, understanding was given breadth to expand closer to the upper limit of development set up by maturation.

There seems to be a difference between performance skills in the composing setting and in the performance setting itself. In composing, the skills seem to function as an instrument to let the musical discourse flow, while in performance students were constrained by technical elements. In composition they drew on instrumental skills they have mastered, as well as on a range of possibilities of melody, texture, phrase shape, chords patterns from the group compositions, from the audience-listening repertoire, and a lifetime of informal musical nourishment. This problem of (in)appropriateness of skills in instrumental performance needs to be put into perspective. What is being suggested is that no matter the level of technical complexity people are working at, if technical demands are much higher than what people can manage, they may not be able to show the extent of their understanding. The crucial point thus seems to be the choice of the performance repertoire so that it adequately and comfortably allows students to reveal the quality of their musical thinking.

The sample selected for this study came from a non-specialist music school, where each student develops instrumental performance at his own pace, without heavy demands or prescribed syllabuses. In the context of specialist instrumental teaching, demands on students are expected to be heavier, and the repertoire

much more advanced. Certainly is it necessary at times to assign a student a piece or exercise 'to develop the fourth position'. However, a piece which may be appropriate for developing a particular technical problem may not allow much breadth for 'functioning' at higher levels of musical criticism. It is not hard to see teachers presenting one new technical challenge after the other, with no opportunity in between for the student to exploit that technique to make music with a sense of expressive and structural interest. In this study, all piano teachers - including this researcher - have similar backgrounds, and finished their first degree in piano in the same Conservatoire. The four pupils who achieved symmetry were taught by three different teachers, and one of them had other pupils in the sample with non-symmetrical results.

2.3 – The Psychological Nature of the Modalities

The suitability of skills partially explains why students achieved higher scores in composing and audience-listening, and one or two levels removed in performance. But it may be illuminating to recall Swanwick's[15] assumptions on the psychological nature of the modalities, discussed in Chapter Three. Audience-listening has a heavier bias towards accommodation. Conversely, composition is to a greater extent assimilation, an exercise of imaginative play. As Vygotsky has suggested, in imaginative play children may override the expected level for their age cohort[16]. In audience-listening responses were confined to the Speculative and Idiomatic levels, while in composition there was a number of judgements at the Symbolic

[15]Swanwick, K. (1983) op.cit.

level. Despite all external influences that may be detected in compositions, composing is an opportunity for assimilation to take over. In composition the student is the one who decides - either consciously or not - what elements of musical discourse will be articulated and how. This does not diminish the importance of the consistency achieved in audience-listening, but it certainly highlights the capability of students to compose at a higher level.

Traditional instrumental performance also involves a great deal of accommodation to a musical product which would have been produced by someone else, in another time and place. The individual has to adjust himself to a series of external constraints - it is a struggle to master various skills, from notation (if this is the case) to specific techniques. It requires an effort of accommodation to the external impositions of the pieces. However, the psychological motivation towards mastering and the accommodative effort of playing could be balanced with an imaginative and insightful interpretation of the piece. But one will only be able to make performance decisions within a range of performing skills that one controls. Beyond that level the person may not be able to demonstrate her musical conception because her fingers may not 'move' accordingly.

There seem to be important psychological differences between performing one's own composition and performing someone else's. It is important to recall that our students were to *perform their own compositions*. It is striking and almost puzzling that in many cases they were able to play their own compositions more meaningfully and beautifully than their 'normal' piano repertoire - this despite the

[16]See Chapter Three.

fact that in the performance setting they had practised even for months. There were also cases in which they played their compositions *technically* better than their 'normal' repertoire. This may be due to the fact that while composing they are using their skills with a direct musical purpose - to achieve a particular result or effect that is in their mind. There were instances of students who could not shape a phrase in their performance, but who produced expressively shaped phrases in their compositions. Harrison and Pound (1996) observed that primary children revealed more understanding and imagination when improvising music spontaneously: "where structures were prescribed by the teacher without pupil understanding, spontaneity was lost and standards of performance declined."[17] While composing, children have the opportunity to optimise the skills they have mastered, and put them to work not just mechanically but musically, to realise their musical idea or conception.

The assimilation/accommodation issue has also an affective component. The suitability of repertoire regards not only technical aspects. Intellectual and affective aspects like personal preference and taste in terms of expressiveness and style may also play their role. The distinctive nature of the activities sets up different levels of freedom in regard to choices and decision making over musical discourse. When performing someone else's piece, students must first 'conform' to what is being dictated by the score, and, hopefully, give their individual interpretation which would involve no more than subtle deviations of timing and loudness. On the other hand, while playing their own compositions, they are playing what is technically appropriate for their fingers and hands, and expressing their own flow of ideas, with

[17]Harrison, Chris and Pound, Linda (1996) op.cit., p.239.

their meanings, shapes, character, personality, emphasis: they are speaking from their minds and souls.

Although it seems that both the issue of skills and the nature of the activities played their part in facilitating or constraining achievement, these two factors have to be clearly disentangled in the three settings. In composition, the two factors were summed up in a positive way: they used the composing skills they wanted to use, and the more assimilative nature of the activity may have enabled them to achieve closer to their optimal level of development. Audience-listening requires an accommodative effort, but the pieces were selected to control the level of skills required, also allowing them to achieve higher. What seems to have occurred in performance was that the accommodative nature of the activity was taken to an extreme because of the necessity to adapt to the idiosyncrasy of someone else's musical discourse and to master technical skills involved in the repertoire, not allowing them to produce a more imaginative and refined interpretation.

A major implication of these findings is that the setting in which tasks were less appropriate and accessible (performance) the revealing of students' understanding of music was inhibited. Should the composing tasks have pre-set more complex techniques, a particular style or another medium students were not acquainted with, the results could have been quite different - the same for audience-listening. All these issues may be illuminated by a more detailed discussion of individual students' 'products', to which we now turn. Compositions, performances and audience-listening reports were selected which have theoretical, psychological, educational or musical interest. These also illustrate the spiral levels and reveal the

richness of the data from which the findings emerged. At times a student's composition will be compared with his/her performance or audience-listening report to show the reciprocal influence among the activities, or to observe the consistency (or otherwise) of their understanding of musical discourse.

CHAPTER SIX

DISCUSSION OF STUDENTS' MUSICAL 'PRODUCTS'

DISCUSSION OF STUDENTS' MUSICAL 'PRODUCTS'

1. COMPOSITIONS

Students' compositions were assessed according to the extent to which they revealed a *concern* or *awareness* of the layers of musical discourse. The articulation of these layers was distinguished from the sophistication and effectiveness in which such layers were developed. A piece could reveal, for instance, an imaginative use of the instrument, with exploration of pitch relations, texture, dynamics. But a composition would still be confined to the level of materials should it not articulate expressive gestures, and confined at the level of expressive characterisation if gestures were not meaningfully organised. In some of these cases, it seems that the handling of the attractive materials has 'sent' the child back for a while to the Manipulative level, as she kept repeating them, enjoying the pleasure in sounds themselves and in controlling them. Some pieces have a rich harmony, but the composition ends without much structural planning; others negotiate quite simple materials into an organised and coherent structure.

It is interesting to observe the cumulative nature of the layers of musical discourse in the way sound materials are put together, producing shadows of expressiveness and structural interest. In some instances, features peculiar to earlier levels are more evident than in others; many times they are interwoven with artistry. Some compositions reveal a concern for the resulting sonority; some show a clear playing around with chords, register, articulation, and pedal. Some reveal the pleasure in mastering certain patterns or techniques. Many have quite a distinctive expressive

character, a vigorous or meditative mood. There are a few Vernacular pieces which are however as interesting for their organisation and cheerful mood. Many others have the Speculative touch, just leaving the Vernacular behind, or deviating at the end, or speculating within or across phrases. Some pieces reveal a clear struggle to reach the Idiomatic level, but with elements not fully integrated into the piece. Others have an imaginative construction and coherence, whether or not using complex materials, harmonies and rhythms. A number of them suggest the attainment of the Symbolic level, as an insightful celebration of music as a symbolic form.

There were pupils whose inspiration was immediate; i.e. lots of ideas came up quickly. These normally changed the initial idea many times, generating new ones, and not always making the best choice out of those. Other pupils needed much more time until a tune or pattern appeared, but normally these were more organised and often more predictable. Small performing mistakes occurred in compositions; i.e. the playing of the composition was inhibited by technical matters. Harris and Hawkesley (1989) have insisted on the need to distinguish between the ability to produce and develop a good musical idea and the ability to realise it in performance[1]. Some students managed to produce imaginative pieces requiring very basic piano technique.

Some compositions are more fluent, others more disjointed for a lack of technical control. A number of them could really be more difficult to remember and play by heart. Also, some students seemed to wish to draw on the upper limit of their

Manipulative skills, as if they were exercising the pleasure of mastering more demanding techniques. Recall that compositions were produced within 20 minutes and without notation, and subsequently performed. There was no time to strengthen the Manipulative 'slice' of it, and the researcher was not supposed to take recordings over and over again until it got 'perfect'. This would be a biased procedure, and could take the spontaneity and validity out of the process.

Another point raised in the literature was students' using elements which went far beyond their formal knowledge[2]. It is possible that when trying out ideas, a student came across a particular chord by chance, and then, pleased with its sounding qualities, purposefully decided to incorporate it in the composition. There are cases of an imaginative, sensitive and effective use of harmony and tonality, not constrained by an eventual knowledge of rules and stylistic norms. The diversity of expressive characterisation and the solutions of structural organisation they managed to produce with musical materials is remarkable, whether these were more or less complex. Each composition is unique, a small and fascinating 'world', and all deserved to be addressed in detail. A number of compositions are described here, not as a substitute for reference to the tapes, but to share the parameters of analysis with the reader. Transcribing them could be awkward for the limitations of staff notation. The whole motion and expressiveness of the pieces can only be felt by listening to them. The reader needs to consider the quality of the recordings that were made not in a studio but in a normal classroom environment, with the quality of the instruments varying according to

[1]Harris, Ruth & Hawksley, Elizabeth (1989) op.cit.
[2]See Loane, Brian (1984b).

availability. A number of *cross-references* have been included which point to different products by the same student. Some cross-references point out, for instance, cases of students' sophisticated application of pianistic skills while performing their own compositions, which was not revealed in their performance of 'normal' repertoire.

1.1 - Understanding and Skills

This first composition is a critical example of how it is possible to reach artistic quality in music with quite simple materials and skills, as hinted earlier in the thesis[3]. It reveals a sophisticated understanding of the handling of musical materials to create levels of expressiveness and structural interest.

Composition n. 1

This is a long and very well shaped and planned piece, with several events, drawn on simple materials and demanding nothing but elementary piano technique. The texture is light with the left-hand playing the middle C with *one finger*. This C comes as an introductory gesture and is kept throughout the piece as a pedal, which implied harmonic colour is changed alongside the tonal centre of the melody. The melodic line consists of the exploration and development of a fragment, which is played all over with two or three fingers.

At the end of the first section there is a *rallentando*; she slows down to prepare for

the change of mood in the second section; this slight but purposeful changing of speed and dynamics produces a striking change to a more ethereal, exotic and mysterious atmosphere. Then she produces a 'transition' (bridge) section in octaves (across the Cs) which leads back to the first idea, modified, and then to the amazing ending gesture; it fades out, with the *appoggiatura* (sib-lab) reminding us of the initial cell; she finishes with the diminuendo and a sensitive delay before striking the last C.

All this is extremely coherent but not predictable; it is full of surprises, and holds the interest to the very end. Note the consistent way in which gestures are related, the distinctive shape lengths of the phrases, the balance within and across phrases. There is a planned rhythmic variation, with a variety of note values, dotted and syncopated rhythms; there is also a purposeful alternation of *staccato* and *legato*, revealing a refinement on the application of the basic piano technique she controls. However, this understanding is by no means revealed in her performances[4], neither in terms of expressiveness, appropriateness of speed, or of structural balance and phrase shape. She achieved the Idiomatic level (6) in composing and audience-listening, but no more than Vernacular (4) in performance (her performance was also assigned to Personal level (3) three times in the raw scores). With such basic piano technique she managed to offer a composition which is a remarkable instance of the relationship between musical understanding and skills, picturing music as extremely organised and meaningful discourse.

[3]See discussion in Chapter One.
[4]Example 'Composition and Performance' n.1 illustrates this case.

1.2 - The Concern for Musical Form

The motivation towards musical form was evident in the results as all students achieved either the Speculative or Idiomatic levels. Between the conventional Vernacular and the stylish Idiomatic there is a profusion of exploratory moves: those of speculation, surprises and deviations, as an attempt to overcome the predictable, to challenge the established norm. In the previous level, Vernacular, the child would have incorporated these norms, and now she is able to deviate from them. Within the Speculative there is an array of possibilities and various 'degrees of speculation'. There are instances of compositions which are almost totally Vernacular, in regard to metre, phrase shape and length, harmony, rhythmic patterns; but somewhere, mostly at the end, there is a modest deviation, which is itself still almost predictable. It is interesting to observe their speculative treatment of materials, expressiveness or structure. In many cases, these structural surprises are incorporated into Idiomatic pieces, some quite stylish and extremely rich, others with more conventional materials but also very well organised and planned.

Some students reveal a development across the three compositions, the last one being at a higher level than the previous ones. On the other hand, there are cases of the older students in the sample producing quite conventional pieces. This may reflect the adolescents' impulse to engage in socially accepted patterns; or this may coincide with a process of shifting levels, of their experiencing a new idiom, new expressive or structural possibilities. Some compositions are recognisably more difficult to categorise, suggesting a transition between two levels. The next composition is one of the most representative of the Speculative level.

Composition n.2

This composition is not just typically Speculative but is another consistent instance of the handling of materials to produce differing expressive character and structural interest. There is a strong feeling of personal expressiveness. The vernacular melodic pattern is played over an ostinato (which is sensitively made light and short) and is transformed by the speculative exploration of expressive possibilities of changing dynamics, tempo, articulation and register. The same vernacular motif reappears in the speculative closing phrase, with the plagal cadence and slowing down.

The composition above is a typical case of a student moving back to an earlier level, because six weeks before that composition she had produced this clearly Idiomatic piece:

Composition n.3

There is a speculative exploration of intervals producing a stylish harmony, in a light texture, with lots of expressive silences in between. The idea of the repeated chord (right hand) is established as a platform from which she deviates, accumulating tension towards the end. Syncopated rhythms, *staccato* and *legato* are explored with artistry. Although short, it has a coherent overall plan. The closing gesture, the descending bass line like the introduction, gives it even more unity.

This also constitutes a striking instance of the interaction the activities. The harmony and character of this composition were borrowed from a jazz piece from her piano repertoire[5]. Although the borrowing of material and mood can be identified, she had produced a totally new piece, articulating new relationships in an original musical structure. That is a case of performance and composition enriching each other, but with plenty of space for personal exploration and insight. But there is another type of transferring occurring here. The girl was able to transfer her piano skills - the touch, the articulation, dynamics, etc. - from her regular performing experience to the performing of her own composition

[5]This composition and the jazz piece constitute the example 'Composition and Performance' n.3.

(something that not all children managed to do).

The two next instances illustrate the inventiveness of their compositions.

Composition n.4[6]

This Idiomatic piece, in a more symmetrical shape - ABA - reveals a sustained concern for coherence, balance, and unity, with the second episode derived from the first. It presents a clever grasp of tonality, with variation of bass notes. The texture is light, with plenty of *staccatto*, in an optimistic but unpretentious character. The ending is as coherent, with an emphatic slowing down – maybe more than the character of the piece would require.

Composition n.5[7]

This piece has a hint of the Symbolic level. Everything here contributes to make it so interesting: the sensitive handling of materials, the sense of enjoyment in controlling sounds, the spontaneity, lightness and playfulness of staccato, the sense of movement, the transposition of the motif in irregular phrases, the exploration of harmonic colour and tonality, the way she incorporates the speculative exploration of form with a remarkable sense of style. Besides all that there is the surprising diluting of the idea towards the end, when she turns to the lower register for the long and innovative ending gesture, yet keeping the same character up to the last note.

1.3 - Instances of Thematic Development

There are some pieces which present extremely beautiful themes with a profound sense of significance: a celebration of music as symbolic discourse. Listening to these compositions on tape reveals, however, differing levels of accomplishment of pianistic skills, the third one being the most sophisticated in terms of interpretation.

[6]Composition n. 8 and Performance n. 9 are also by this student.

Composition n.6[8]

With an initially simple idea she achieves such a thematic unity, expressive power and structural interest. Note the treatment of the theme with two motifs, the three descending notes and the ascending pattern, and the harmonic result suggested by the *two notes* of the bass line (B-A). For the third phrase she inverts the direction of the second fragment, bringing the melody downwards again. The last phrase, which starts again with the initial motif, leads to the speculative closing section, in which she inverts the direction of the motif, repeating it over the descending bass line, producing a diagonal movement, ending up with an assertive fifth.

Composition n.7

This piece illustrates the power of music as a symbolic way to articulate experience. This is by a very shy and passive girl, who once given the opportunity to compose individually produced this rather imaginative and distinctive piece. She seems perfectly at ease in exploring the extremes of the instrument, building a striking expressive character. She exploits the expressiveness of syncopation, pushing the move forward. She first establishes the theme over the ostinato, in the extreme low register of the piano, with the semitone producing a tense and exotic atmosphere. Then she starts to deviate, developing a longer phrase, with two hands playing the same melody, until the cadence, alternating tension and rest. The ostinato returns leading to the ending gesture, the right hand going to the higher register and, once there, she brings the initial theme again, slowing down, fading out. These ingenious ideas, both the ostinato and the powerful theme are explored with a strong speculative feeling.

Composition n.8[9]

Note the deepness of this beautiful *cantabile* which appears to be a critical instance of music speaking about the nature of human feeling. The choice of speed, the modal scale, the theme, all contribute to produce the mood, a lament, with no tension but sorrow. It is short, the construction is simple and clear, but so sensitive and with an amazing sense of phrase direction and balance. The repetition of the melody in the third phrase is a conscious deviation of ordinary arrangement of phrases, and it then pulls the melody downwards again towards the closing gesture.

It is not a coincidence that this is by the girl who achieved the Symbolic level (7) for performance. This is beautifully played, in *legato*, with the weight of the low notes

[7]Composition n. 13 is hers.
[8]Composition n. 14 is hers.
[9]Performance n.9 is hers.

purposively planned: a perfect marriage of musical understanding and skills, resulting in a celebration of music as symbolic discourse. Judgements were split between Idiomatic (6) and Symbolic (7). This indicates that her achievement in composition was very close to her achievement in performance.

1.4 - The Primacy of Assimilation: Compositions under the Same Stimulus

The following instances illustrate the minimum influence that the stimuli imposed over students' making of the compositions. Stimuli were limited to the category of musical materials; these were either a rhythmic pattern, a concept, or a particular element from piano technique. It reveals the extent of their imagination, the interesting developments of the compositional process, their preferences and motivation towards musical discourse. The stimulus for the following compositions was the 'chop sticks' technique. Some students produced melodic interval patterns; others used the technique constructing two voices, often with a more stable line while the other voice made the melody.

Composition n.9[10]

This is a typical instance of the 'chop sticks' technique repertoire they used to play on the piano in the early years. This is in a quite cheerful mood, revealing the playfulness of the technique (he was actually playing with one finger each hand) which continues all over the piece. Yet he speculates over the technique itself, even crossing hands. First the lower voice (left hand) moves while the upper voice keeps a pedal; then the melody changes to the upper voice (right hand), with the other hand keeping the middle C. The ending rhythmic gesture is quite speculative, finally deviating from the established pattern.

[10]Composition n. 12 is his.

Composition n.10

The 'chop sticks' technique is used here in a much more imaginative way. It has originated dissonant intervals which are alternated with a melodic pattern in semitones which is transformed throughout the piece. Note the flexibility of rhythm and the irregular phrase length, producing asymmetrical sequences. Once the idea was established, he introduced a purposive deviation, changing the direction firstly of the melodic semitones and then in the last phrase of the intervals too, not to mention the assertive motif in octaves. The result is a dynamic balance between unity and contrast, within a wondering atmosphere.

Composition n.11

This is a very well shaped piece, with its overall plan in ternary structure (ABA'), and with the two different episodes containing three phrases each (not the common 'four') giving it still more unity. In section A he uses the 'chop stick' technique to highlight the syncopation in the higher voice. It pulls the music forward, creating alternating patterns of tension and rest. Once the syncopated pattern was established, he deviated from it, playing both voices together. The way he explored the expressive power of the syncopation produced a sense of hesitation, sorrow, melancholy, reinforcing the longing suggested by the minor tonality and the slow pace. In the middle section the melody turned to the left hand; it seems rather the main theme, surrounded by the outer sections. He repeated the phrase but with a speculative changing of the reflective repeating note, which also changes the implied harmony, consciously deviating from what we would expect. Then the first episode returns almost identical, closing up the cycle.

For many compositions the stimulus given was 'chords' - just that, with no further suggestion neither on what type of chords nor on how they should be used in the piece. The three pieces selected here from this category present a hint of the Symbolic level: that is students' developing their 'voices' into this symbolic discourse.

Composition n.12

There is an evident sense of delight both in the resulting sound of the chords and in controlling them. There is a strong feeling of personal enjoyment with the forward motion of the piece, the energetic and optimistic character. The phrase shaping reveals patterns of movement and relative rest with the repeated chords. Yet he changes the direction of the chords, speculating within the phrases, going up, down or repeating chords,

changing to a lower octave, and it has a short but coherent closing gesture, with the expectation he creates by delaying - and emphasising - the last chord, this one in staccato. The piece has a chordal texture all over: he made the chords the subject of the composition. It is loud, assertive, and confident; it is rhythmically powerful, with a rhythmic complexity that he will not be able to notate for years to come. Still, it points to the typical adolescents' experiencing music as a way to articulate experience.

Composition n.13

Here again there is an evident sense of delight in the speculative exploration of gentle chord colours and the expressiveness of chords themselves into a light, serene, flowing and ethereal atmosphere. Despite the strong sense of spontaneity and playfulness, the treatment of the chords and the modulations is quite impressive, as is the gentle fitting of melody and chords. Before modulating, she explores the melody over the chords, letting it flow up and downwards, speculating within and across the phrases, which also vary in length. Then she continues just slowing down, fading away and stops gently. It seems she has overriden the Idiomatic: while demonstrating consistent control of materials, expressiveness and form, she is indulging herself in a more assimilative experience, and making music her personal language.

Composition n.14

This is a remarkable contrast to the two preceding compositions. Here the stimulus (chords) was taken to the opposite extreme: the melody is accompanied by just one chord only all through. However it is not an ordinary chord but a 'Wagnerian' chord, one which already entails a dramatic expressive character. Everything is so coherent and contributes to increase the dramatic character: the perfect choice of speed, the melody mostly in semitones and with plenty of dissonances. The way gestures are related is quite impressive: the treatment of the melodic fragment, the building block of the piece, which is repeated, modified, shortened, extended. The phrases are quite balanced but they are not predictable; note the speculative atonal treatment of the fragment in the central section; the turning back to the first idea, slightly modified, leading to the surprising ending chords, which go on clustering, accumulating further tension. She probably came across that chord while exploring possibilities at the piano, and enjoyed its colour and expressiveness; over that chord she created such an intense and coherent musical structure which holds the interest through to the end.

These compositions are so different from each other that they do not leave a clue of what the stimuli were like. Indeed, the 'chop sticks' technique or the chords were

just an excuse to get them started. Afterwards, their imagination took over, releasing the accumulated repertoire of ideas on the handling of materials, expressiveness, exploring repetition and deviation, unity and contrast, according to their internal motivation and for their personal satisfaction. Some are surprisingly beyond our preconceived frame of expectations and assessment. The assimilative nature of composition allowed more freedom of choice; it enabled them to show their individuality and personal style. They explored the stimuli whatever way their intellectual and affective impulse led them to, letting intriguing musical richness, variety and interest flourish.[11]

[11]The compositions n.15 and 16 relate to the Audience-listening reports, to be discussed next.

2. AUDIENCE-LISTENING REPORTS

However subjective musical experience can be, students' responses to the pieces revealed the more objective and shareable part of musical experience. According to Swanwick, these more concrete elements correspond to the dimensions of musical criticism, the unfolding of which is implied in the spiral criteria statements. Different pieces of music may trigger responses according to the way materials, expressive character and form are articulated. In the first piece of the interview, the Bossa-Nova song, the dynamic changes of instrumental timbre are associated with the structure. In the second, a short movement from a Brazilian classic suite, the different expressive character of the parts makes the structural organisation quite evident. The third piece, a sort of Brazilian Tango, has more homogeneity of both materials and expressive character throughout. First, we transcribe a comprehensive account of the three pieces by a 12.5 years old girl. She is the only case of the Symbolic (7) level for composition, with Idiomatic (6) for audience-listening and Speculative (5) for performance. In order to preserve the authenticity of students' statements, their reports were translated from Portuguese into English fairly literally - rather than idiomatically.

Music 1 - *Dindi*, by Tom Jobim.

> "The music is nice, calm. It starts normal, tranquil. Sometimes it gets tenser, goes higher, the instrument changes, and then it relaxes again. The strings stay in the background; the sax predominates, and the keyboard enters at times. It is nice to listen to, tranquillises you; it is because of the instruments. If there were heavier instruments, the music would be heavier; with smoother instruments, the music becomes nice. ... then other instruments come making variations, it changes. The style changes; the saxophone holds the attention, making a more modern melodic line, from classic it becomes more jazzy. Then the calmer character returns, with instruments that make it sound calmer. Now it gets rather sad. Most variations happen

when the instrument changes. Now the flute returns in this part. Now it changes again, with the piano, but is still calm. When the instruments that do a solo play we can distinguish the solo from the background, otherwise everything is mixed. The saxophone makes the line of the music, the melody, and the others make the background."

Music 2 - *Canto*, by Ernani Aguiar

"The music seems like an encounter of two civilisations, the primitive and the classic, because the [Brazilian] indians' music has a steadier rhythm than the classic - like that part in which the drums appear. The beginning is more mysterious. These contrasts are really great; there is a mixture which holds the attention; we can perceive it very well. From more melodic instruments it turns to more percussive and rhythmic ones. In the beginning there is a feeling of mystery, 'what is going to happen?' It gives no clue of what the music is like, with the cymbal giving a sound. Then the contrasts predominate throughout the music. Sometimes the classic is predominating, then there is the rattle, making a contrast. They have nothing to do with one another. Then the guiro; piano and guiro do not fit well together, but it captures the attention, giving a great contrast, a more melodic instrument with a more rhythmic one. Now it turns to the drum mixed up with the classic - absolute contrast: from a rhythm like samba, like indians' music, again to the classic. The mystery returns with the classic. This sound [percussion] gives the impression of ending up, fading out."

Music 3 - *Remechendo*, by Radames Gnattalli:

"This music is looser, there is no heavy beat. It is more like jazz, you feel like dancing. The instruments give an idea of those American places, those 'corners' where women go dancing, like cabarets. It is relaxed, for dancing, it is happy. It is such a contrast with the other pieces. The other has more of a classic rigour; this one is happier. The piano gives the idea of how the music is going to start; it hints that it is going to be happy. Now the part changes, the rhythm changes a little. There is the same speed all over; it continues with the same character. It is happy from the beginning to the end, but you can perceive the parts have changed, because of the rhythm, and sometimes it goes higher, down, or stays the same. At times the piano shows up, when the others stop; it gives a special touch to the music."

From the next section, several statements are given to illustrate each level of criticism according to the spiral criteria. Actually, responses were mostly cumulative; i.e. the layers of materials, expression and form were interwoven. Recall that judges were to assess a student's report as a whole; i.e. look for the highest level of musical understanding revealed. All students achieved at either the Speculative (5) - six cases, or the Idiomatic (6) - 14 cases.

2.1 - The Layer of Musical Materials - Sensory and Manipulative Levels

A 'sensorial' attention to materials, as expressed in the criteria statements, implies recognising sound qualities and effects, such as differences in terms of loudness, pitch, timbre, tone colour and texture.

Music 1:
"Sometimes it is lower, with lower instruments, sometimes higher, with higher instruments. Not always high and low play together."
Music 2:
"There is a sound like 'toom' and it goes higher, reminding of sounds from China."
"Throughout the music the loudness of instrument increases."
"The beginning sounds like the wind..."
"This sound is like the rattle-snake, and the guiro, like the frog."
Music 3:
"Then it goes slowing down and gives a little burst in the end."
"Sometimes it sounds like those 'Smoking-Mary' trains because of that blowing noise."
"It starts very soft, with an instrument going up and down."

A 'Manipulative' concern about materials is revealed in the identification of instruments, devices such as *glissandi*, *ostinati*, trills, and attention to beat. All students were aware of changes of instrumental timbre. They could identify percussion, piano/keyboard, string and wind instruments, although some students mistook a saxophone for a clarinet, for instance (a more specific skill within the layer of materials).

Music 1:
"There is no voice, there are instruments like the piano, sax, and percussion. There is the flute, like a bird whistle."
"There are wind instruments and variations in sounds."
"The saxophone enters sometimes taking it upward and downward."
Music 2:
"Was it a string quartet? And percussion, the cymbal, some different instruments."

"There are many instruments which can make animals' sounds, like the violins, rattle and guiro.
"The music has higher instruments complemented by the lower, like the violin accompanied by the cello."

Music 3:

"There are plenty of percussion and the instrument which plays the introduction is the piano. The melody is by a wind instrument but I could not identify it."
"It starts with the piano announcing the music and then other instruments appear."

They perceived texture, solo and background:

Music 1:

"Sometimes all instruments play together, sometimes it is just one."
"There is an instrument playing sort of 'hidden'."
"Sometimes all instruments stop, except the background and one instrument."
"The percussion in the background gives the beat."

Music 2:

"The are a few 'details' by the guiro."
"The music begins with some noises, then the instruments start. Some instruments play only at times, like the guiro".

Music 3:

"Sometimes most instruments are silent but the piano continues playing."
"There is a rhythm in the very background, a rhythm like samba, a 'tchic-tchic'. There is the piano but it does not appear too much, it is rather hidden because of the instruments which 'come first'."

This whole paragraph shows a sustained concern with instruments, the girl describing the sequence of changes of timbre:

Music 1:

"There is the introduction, with the flute, with strings in the background. The flute again. Now the melody on the sax. Some details by the flute. Now the violins. Now some chords by the piano. It changes again to the flute, with details of the saxophone. It seems that the strings do not stop playing in the background. This music is nice."

2.2 - The Layer of Expressive Character - Personal and Vernacular Levels

All students referred to the expressive character of the three pieces.

Music 1

"It is calm but happy."

"It is agitated but tranquil at the same time; it is not monotonous, but also not jumpy; it is for listening to and relaxing."

Music 2

"It is calm, but rather sad."

"It is very mysterious."

"The music is very sad, it seems that someone is crying."

"The beginning is typical of 'soaps' in sad moments, like goodbyes."

Music 3:

"This is more agitated, you feel like dancing."

"Very happy, good to raise your mood. It is like a circus, something really very happy, cheerful, jumpy."

The features of each piece have encouraged them to relate the expressive character with materials or structure accordingly. Some statements evidence the awareness of the levels of expressiveness generated by the changing of instruments, prompting rather cumulative accounts:

Music 1:

"Sometimes it is more active, then it gets calmer and slower with lower instruments."

"The accompaniment is more active, more rhythmic, and the melodic part, by the winds, the main instruments, is more *legato*, smoother."

"It is slow, with the flute, calm, smooth, with the saxophone."

Music 2:

"It uses the guiro to create mystery and the violin in the lower register to create suspense. ... It begins with the cymbal to become more mysterious."

"When the drums strike, it sounds more shady."

Music 3:

"The piano gives the hint that the music is going to be happy."

"The instruments remind those places in America, like Cabarets; it is more casual, for dancing, happy."

The second piece was the one with stronger evocative appeal. It has a drastic change of mood in the central part, encouraging responses in terms of non-musical

associations and stories.

> "In the beginning it seems like a corridor; the shaking of metals seems water dropping. It is dark. Then comes the violin and it seems there is a bird behind, and then a frog croaking. ... Then there is the cello together with the violin, like a frog and seagull."
> "It seems the music starts in Venice, because everything is calm, with the water passing by the houses, everything calm, there is no traffic jam."
> "The story of this music is a battle; in the middle it is tense, like the beginning of the battle; then the climax and when it finishes, some are wounded, but all gets calm again."

There were quite a small number of statements in terms of personal preferences:

> "It is not the kind of music children like, because it is not agitated; who listens to this kind of music is adult people."

They have also discriminated such vernacular devices as repetitions, sequences, *ostinati*; there were not many responses in this category, since they were mostly identifying, instead, what was not vernacular - speculative deviations and idiomatic features.

Music 1:
> "There are some scales."
> "In the part A the cello makes an echo to the flute."

Music 2:
> "In the central part there is like a sequence, an ostinato, increasing the tension of the part."

Music 3:
> "There are many scales by the piano, like sequences."
> "It always repeats the phrase within each part."
> "It is composed of many phrases which repeat all over with some differences."

2.3 - The Layer of Musical Form - Speculative and Idiomatic levels

2.3.1 - The level of skills

One of the criteria for selection of the pieces for the interview was that they should not demand complex listening skills so that the extent of the children's awareness of music could be revealed. Even so, the three pieces purposefully presented slightly different levels of difficulty in terms of musical form, as a built-in attempt to approach the problem of skills in the setting. However, we were not measuring students' capability to describe features with precision, but rather what was the highest dimension of musical criticism they revealed. Consequently, the differences in complexity of the pieces did not affect the revealing of their motivation towards musical form, as these quotations illustrate:

Music 1:

The first piece of the interview was certainly the most difficult one. The awareness of musical form was evident as all children referred to the structural organisation; most of them referred to its idiomatic features, even labelling it as Bossa-Nova. However, the problem of skills can be noticed in their responses. The complexity of the piece caused hesitation and doubts, and affected the extent to which they could grasp the relationship among parts.

> "All the time it returns to the main theme."
> "There are parts which repeat but they're not the same, they're just alike."

They pointed out the various instruments or sound changes throughout the parts of the music:

"Now comes another part, which is like the first but is higher. Then it gets slower, then another part starts."
"The sax gave a solo; it linked parts to one another, when there was only the beat in the background."
"In one part there is the solo by the sax, another by the piano, another by the strings."
"It starts with one instrument playing and then the section is repeated with another instrument."

And how parts related to the mood:

"There is another part, a more mysterious one."
"Now the piano plays that 'suspense' part."
"The other part is more dancing like, softer."

But when it came to structural sequencing, they seemed rather puzzled, trying to identify patterns. Some students tried to label the parts as A, B, A', etc., but there was much hesitation:

"*I think* this is part A and *I think* it is repeated later, *I think* twice. ... *It seems* to be ABACA."
"The parts are confusing."
"There are many parts, but I don't know exactly how many."
"This seems to be an introduction. ... It seems the music is ABC and back to A; I don't know if it is C or B slightly modified."

In the two other pieces, of much simpler structure, almost all children described the structure with precision - the ABA' (second piece) and the Rondo ABACA (third piece).

Music 2:
"It is like parts A, B, and then A', because this is smaller."
"The parts are Introduction, A, B and A'."
"Part B could be divided into two small parts."

And associated materials, mood and structure:
"The structure of the music is ABA. Part A is calmer, more like classics, with two instruments, violins and cellos. Part B is more agitated with other instruments."

Music 3:
"It is ABACA - a rondo."

"The parts are introduction very calm with the piano, part A very agitated, like a samba. Part B is still agitated with the same rhythm and percussion. Then part A, the basic part, returns, and then part C. This is like a finishing up, but then it goes back to the basic part."
"In the first part it goes repeating the same thing and then there is a sort of bridge and repeats the part again."

Now materials, texture and structure interwoven:

"When parts change, for instance, from A to B, the background by the piano shows up."
"There are some pauses when most instruments stop but the piano continues playing."

2.3.2 - The awareness of Speculative

Many students pointed out the surprises and deviations, speculating about the unfolding of the music.

Music 1:
"In some parts it seems the music is ending, but it starts again."
"Now it is creating a 'climate' to finish the music."
"In the middle everything changes, some percussion enters, with various instruments."
Music 2:
"It changes suddenly, without notice."
"It seems to be over, but it starts again, slower, like the beginning; it is like an A', because the percussion was left out."
"Part A' starts like part A but then it changes."
Music 3:
"It seems it is ending up, and then the first part returns."
"The end is quite unexpected; some people may even be frightened."
"Now it changed to another part, but it keeps the same character. It is happy from the beginning to the end, but you can perceive that there are different parts, because of the rhythm, and sometimes it goes up, or down, or stays quieter."
"There is less variation than the other pieces."

And a pictorial account of changes of expressive level and structure:

"Part A resembles a mass; it is quite religious, calm; it sounds like the

person is walking slowly, like a procession. In part B it seems there was a fight and when it ends up all becomes calm again, the mass and the procession reappear."

And this whole paragraph, interweaving materials, expression and form:

> "It sounds like nature, animals. There is a dance like [Brazilian] indians' in the middle. The introduction is only with percussion. The first part is slow and there are sounds of animals, like a snake and a frog, like a real forest. The second part is a happy dance, strong, faster, and then there is the cymbal playing and the other part starts. This is sad, slow, like the first part, with many sounds by the cymbal."

2.3.3 - The Idiomatic awareness

In the Idiomatic level the student places the piece within a style or idiom, as suggested by its harmonic, rhythmic, or structural features.

Music 1:

Although there were no lyrics, students guessed that it was Brazilian music, and many labelled it Bossa-Nova:

> "It sounds like music from Rio de Janeiro, because the rhythm is calm, it reminds you of the sea, it is nice."
> "There is quite a Brazilian style. Is this Bossa-Nova?"
> "It has a rhythm of Bossa-Nova. ... It seems like music by Tom Jobim."
> "It is like a mixture of Bossa-Nova and Jazz."

And this more sophisticated account:

> "I perceived it is quite cheerful, and more recent, because the saxophone is often used in jazz, and jazz is a more recent style. ... It is a quite Brazilian style; there are parts very characteristic of music by Tom Jobim."

Music 2:

Here, identifying the two contrasting idioms:

"There are classic elements, instruments more like an orchestra, but even so there are more urban things too, more known to the people, like folklore."
"It is like an old waltz in the beginning and in the end; part B is more agitated, reminiscent of folklore. ... It is a mixture of cultures."
"It starts with the percussion and cymbal; then it becomes more like classical music with percussion in the background; then it gets more agitated, like [Brazilian] indians' music. Then only percussion remains and it seems the music is over but then the classic part returns."
"In part A there is a sort of percussion followed by a more classic melody with sounds resembling animals. Part B is happier, in a quite Brazilian style, like music by Lorenzo Fernandes. In part C the classic melody returns."

Music 3:

They were all certain this was Brazilian music, 'a different kind of samba':

"The introduction is like classical music, very calm. Then starts a samba, but a samba in the old style; it is like those themes of black and white films."
"The rhythm is of Brazilian music, like samba."
"It is very characteristic of Brazilian music, like *Tico-Tico no Fuba*, Carmem Miranda, etc."
"It is like a different kind of samba, a samba combined with another rhythm."
"This is like a kind of samba more like Bossa-Nova. There is nothing of classic. It is more like music that ordinary people like; you don't have to be refined or intelligent, as to go to an opera, things like that. There are also more urban elements, like the piano, the tambourine giving the rhythmic feel, and the sax."

2.4 - Hints of the Interaction between Composing and Audience-listening

There were quite interesting cases of students who demonstrated an analogous motivation towards certain features of music in audience-listening and composition. For instance, the students who mentioned structural elements as introduction and coda in their reports, also incorporated clearly identifiable starting and/or ending gestures in their compositions. There was a girl, the youngest in the sample, whose compositions had something in common: the alternation of phrases in left and right hands, all three very speculative, imaginative and surprisingly well

planned. For instance, in the first section, melody and accompaniment are together, then in the next section it is just the right hand playing a melody, then just the chords, and then two hands together again. The resemblance with her attention to the alternation of instruments in the listening reports seems to be more than just coincidence. These compositions are given on tape. Composition n.15 relates to this report:

Music 1

> "The beginning repeats but each time with one instrument. First, one instrument 'speaks', then the other. ... Sometimes both play together, sometimes they play separately."

Music 3:

> "There is more than one instrument... Sometimes it changes the instrument ... Sometimes more than one instrument play together."

Another case is by the same girl who produced the strikingly Speculative Composition (n.2), in which she explores changes of speed, dynamics, register, and echoes. This report relates to Composition n. 16 on the tape.

Music 2:

> "It is gentle in the beginning. Throughout the music the loudness of the instruments increases. ... The second part is more rhythmic and smaller. ... [Third part] is smooth, different from the beginning, but analogous to it."

Music 3:

> "...there are lower parts and at times the piano makes an echo. By the end, it goes fading out, but in the very end there is a crescendo and it gets much louder. The beginning is slower than the rest of the music. When parts change some instruments stop."

Such examples illustrate a parallel quality of thinking being revealed through different 'channels'.

3. PERFORMANCES

Note that this heading implies the performance of pieces composed by someone other than the performer himself. The assessment in this setting took place only through this 'traditional' type of performance, although students were also playing their own compositions. This has raised particularly interesting points, to be discussed later. The reading of this section does become more meaningful and insightful by listening to the selection of musical examples on the tape included. Since this was the setting of lowest achievement compared with composing and audience-listening, throughout the discussion a student's performance may be associated with his/her composition, being edited in pairs on the tape.

3.1 - On the Repertoire

The repertoire is agreed between teacher and pupil, and is chosen from a wide range of styles, from Bach, Tchaikovsky, Bela-Bartok, to Villa-Lobos, Bossa-Nova, Beatles, jazz, and so on. There is a complicated problem here, as students in the sample – 11 to 13.5 - do not accept that they should play elementary or childish pieces. On the other hand, because of the non-specialist nature of the school, they are not committed to daily practice. There are students who do not practice at all, most of the work being done during the weekly lessons. It is possible that the teachers are to some extent indulgent and tolerant, avoiding putting the student under pressure, and celebrating the smallest achievement. Nevertheless, while many students achieved low scores even with less demanding pieces, those few with higher achievement in performance were actually more committed to practice

and played a much more advanced repertoire. In general, teachers have to compromise between the age of students and the amount of practice, assigning them an interesting but less demanding repertoire. But it is not always possible to achieve such a balance, and I have witnessed teachers' efforts to better the standard of students' performances, without much success. Some performances became rather mechanical, without much expressive and structural refinement. Sometimes we can notice that the child has the intention to make it, but the fingers just do not allow her to. In some cases, it is a real struggle to make a student achieve at least a Vernacular performance of a piece, in a much slower tempo than would be necessary to reach idiomatic authenticity[11]. It is striking though that the choice of speed in their compositions was always sensible and sensitive, absolutely appropriate to highlight the expressiveness of the piece and let the musical discourse flow.

What happened in most cases in the performance setting was that pieces were inappropriate for students' technical skills and commitment to practice, accounting for the considerable decalage between this and the other two settings. In such cases, the technical demands of the repertoire did constrain the revealing of the extent of their understanding of music. For how can one produce an expressive and meaningful *rallentando* if one is not able to play in time? How can one make expressive decisions without control? Besides the technical level of the pieces, other possible factors determining the quality of performance may be related to personal preferences in terms of expressive characterisation and style, as mentioned in the previous chapter. It happens at times that a professional

[11]Performance n. 2 illustrates such case.

instrumentalist or conductor is recognised for his interpretation of a particular composer or style. It is quite possible that students too will play better certain kinds of music which are closer to their own 'voice' or spirit. Performance being rather accommodative in nature, such empathy with a piece would allow the engagement of more intuitive and assimilative components in the interpretation of it.

There is another point to consider in the choice of repertoire: if a piece is itself vernacular, how much further can one go in the interpretation of it? It is not to depreciate such types of music; reaching the conventions of the Vernacular is indeed a necessary and natural stage of development. Still, there are vernacular pieces that are just as beautiful and coherent, and many are extremely useful in developing certain techniques and concepts. It may be that the establishment of a 'repertoire' of vernacular conventions works as a platform from which people can deviate when producing their compositions. But if students have the maturity to reach more advanced levels, they should be given challenges that offer such opportunity, in order to maximise their potential at each age. The comparison among their compositions and performances shows instances of students producing quite stylish, daring and innovative compositions, while playing a totally conventional repertoire, often chosen according to the students' notational skills (the constraints of notation will be addressed later). It seems to be essential that teachers identify critical moments to help a student to reach a new level of understanding.

3.2 - Typical Examples of the Spiral Levels

First, typical instances of performances from Personal (3) to Symbolic (7) levels are given. These illustrate both the standard of performance in this study and the application of the criteria statements to them.

3.2.1 - Personal Expressiveness

The statement criterion for this quality of musical understanding reads:

> "Expressiveness is evident in the choice of speed and loudness levels but the general impression is of an impulsive and unplanned performance lacking structural organisation."

There were only two performances assigned to this level. This one is an arrangement in 'chop-stick' style of Bach's Toccata and Fugue in D minor. The interpretation contains clearly impulsive changes of speed revealing a sense of personal involvement but it still lacks structural balance. This student has achieved the Vernacular (4) and Speculative (5) in the other two pieces. This being so, his overall score for performance was 5, Speculative - the highest level identified across the three pieces, and Idiomatic (6) in the two other settings.

Performance n.1 - Bach's *Toccata and Fugue D minor*, arrangement by Diana Zeoli.

3.2.2 - Vernacular

The statement criterion:

> "The performance is tidy and conventionally expressive. Melodic and rhythmic patterns are repeated with matching articulation and the interpretation is fairly predictable."

About half of the total[12] of performances were assigned to this level (while there were just three Vernacular compositions). The example shows a tidy performance but with no signs of Speculative or Idiomatic touches. The student had just managed to put the hands together, and it would take him some time until he could produce an Idiomatic performance of the piece, requiring almost twice the speed. He got thus Vernacular (4) in performance, Speculative (5) in audience-listening and Idiomatic (6) in composition.

Performance n.2 - (extract) *Pequena Serenata*, by Haydn.

The next example is the case of a nice but vernacular piece that offers little room for speculative and idiomatic functioning.

Performance n.3 – *Strolling in the park*, by Jon George.

[12] A precise figure cannot be given since there were cases of partial agreement among judges.

3.2.3 - Speculative

The statement criterion:

> "A secure and expressive performance contains some imaginative touches. Dynamics and phrasing are deliberately contrasted or varied to generate structural interest."

About one third of the performances were judged to be Speculative, for presenting a personal touch of imagination, or a sense of spontaneity and playfulness. The next example is the same piece as the previous one; this enables us to compare performances in different levels of the same piece. Here the boy managed to play more consistently achieving the Speculative level. Sometimes a particular chord or a *rallentando* at the very end shifts an otherwise Vernacular performance into the Speculative level - that was exactly the case of this example. This boy achieved symmetry across the three activities.

Performance n.4 - *Strolling in the park*, by Jon George.

The interpretation of the next piece is tidy with quite insightful and gentle Speculative touches. This girl also achieved symmetry across the three activities at the Speculative level.

Performance n.5 - *Evening Chimes*, by Petr Eben.

3.2.4 - Idiomatic

Some judges stated that it was easier to recognise Idiomatic performances than any other level, as those are fluent and stylistically sound. The criterion says:

> "There is a developed sense of style and an expressive manner drawn from identifiable musical traditions. Technical, expressive and structural control are consistently demonstrated."

Just two girls achieved the Idiomatic in this setting. One of them produced just one Idiomatic (6) performance, the other two being Speculative (5). But the other girl, besides having achieved symmetry across the three activities, also demonstrated a very consistent Idiomatic quality of performance in the three pieces, with considerable agreement among judges. For this reason the three pieces are given on tape. Although there were some small mistakes, the Idiomatic conception is clearly demonstrated in the stylistic differences across the pieces, with the appropriate character, choice of tempo, articulation, touch, the shape of each voice, phrase direction, the balance of hands. The pieces are:

Performance n.6 - *Suite da Boneca Iaiá*, First Movement, by Lorenzo Fernandez.

Performance n.7 - *Sonatina in F minor*, by Diabelli.

Performance n.8 - *Marche*, from the Book of Anna Magdalena Bach.

As Miles and Huberman (1984) advise, it is important though to 'check the meaning of outliers'[13]. This girl is one of the students in the school who receive a more focused teaching, for their great interest and commitment to practice. She has a visible technical fluency, exceptional reading, and keeps a large repertoire. This indicates once more that when the problem of technical skills is neutralised, children are allowed to demonstrate the extent of their understanding of music.

[13]Miles M. and Huberman, A. (1984) 'Drawing Valid Meaning from Qualitative Data: Toward a

3.2.5 - Symbolic

The criterion:

> "The performance demonstrates confident technical mastery and is stylistic and compelling. There is refinement of expressive and structural detail and a sense of personal commitment."

The statement describes exactly this which was the only case of a Symbolic performance in this study (the other two performances by this girl were Idiomatic).

> Performance n.9 – *Assim ninava maman* (from *Suite Petizada*), by Villa-Lobos.

This girl is the student who achieved higher in performance – Symbolic (7) - with Idiomatic (6) in composing and Speculative (5) in audience-listening. Her case does constitute an exception. Besides being highly motivated, demonstrating intrinsic interest in performance, she does have a special talent. She carries out extensive practice every week, which has enabled her to develop consistent and skilled piano playing. This is never just mechanical but always musical and sensitive, with intellectual and emotional depth. This being so, for her, instrumental performance was an optimal 'channel' to allow the extent of her musical understanding to be demonstrated. She showed such a higher level of functioning in the activity in which she had extensive knowledge-base and talent.

There were thus *some* cases in which performance was as valid an indicator of understanding. However, we shall recall the cases of symmetry in order to

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Shared Craft', in *Educational Researcher*, v.13, p. 28.

disentangle the amount of practice and achievement in performance. Besides the case of the girl just mentioned, who achieved higher in performance than in the other settings, there were four cases of symmetry: two at the Speculative and the other two at the Idiomatic level. Out of those, only the girl reported as the 'Idiomatic case' above kept up regular and extensive practice, while the others hardly practised at all. Although small in number, these cases suggest that the amount of practice was not necessarily associated with the effective demonstration of understanding through performance, the appropriateness of the repertoire being the main factor underlying the symmetry (or otherwise).

3.3 - The Two Contexts of Performance - the Non-symmetry

As indicated earlier in this chapter, the fact that performance took place in two contexts (performance and composing) has enabled an illuminating comparison of students' playing their 'normal' repertoire and playing their own compositions. In some cases there is such a gap in quality between a student's compositions and her/his performances, that is does not seem to be same person playing. It may be though that the process of formal music education itself produces a dichotomy between the two activities, noticed even here in the case of a non-specialist music school. There seems to be some misconception surrounding instrumental teaching and an emphasis on the development of staff notation is one of them. In that school, staff notation is introduced by the end of the first year, when children are from seven to eight years old. Before that, they had been playing a number of pieces either by ear or imitation, besides plenty of improvisation and small

compositions. Since the first lessons children play, for instance, improvisations on the black keys, with teacher's accompaniment, with varying expressive character. This allows them to experiment with different moods, by changing levels of loudness, speed and accent. All this is done by using one or two fingers ('chop sticks' technique), while the shape of the hand is being developed. This is also done with contemporary materials and graphic notation using clusters, lines, points, glissandi, and silence, exploring the expressive qualities of these elements and the impact of different sequencing of them. Thus, throughout the first year, children are prepared both musically and technically, experimenting the consequences of different kinds of physical approach to the instrument, so that from the second year notation is introduced.

Two cases were selected to illustrate the difference of quality in musical products in the two contexts that have led to non-symmetrical results (instances of symmetry between composition and performance are given in the next section). The examples on tape are given in pairs; i.e. a student's composition is followed by her performance. The first example is that of the girl who produced the 'Composition n.1' described earlier, the striking instance of the relation between understanding and skills. In the performance setting, however, she achieved more than Vernacular. She achieved non-symmetrical derived scores with performance being two levels removed (composing and listening 6, performance 4). All the refinement, the careful touch, the phrase shape, phrase direction, the sophistication of the connections between sections, the ending gesture, the structural interest, shown with artistry in her composition, all disappeared in her performance. It just does not seem to be the same person playing the two pieces.

Composition and Performance n.1

The next example is another case of non-symmetry, but with performance just one level removed (composing and listening 6, performance 5). Her performance of her own composition is also more refined than her performance of this version of Tchaikovsky's *Dance of the Sugar Plum Fairy.*

Composition and Performance n.2

3.4 – The Interaction between Composition and Performance

There are clear instances of students transferring their performance experience to the compositions. Such transfer happened in differing degrees and involving different elements of musical discourse. Many students have borrowed materials from their performance repertoire; others reproduced the expressive character of a piece. Some took advantage of their idiomatic awareness and produced compositions in the same style as their repertoire. In these cases, they showed the knowledge of how materials, especially certain harmonic colours and textures, work to create mood and stylistic authenticity. The interaction, in these cases, includes also the transfer of technical fluency, motor control, quality of touch, articulation.

The first instance is by a girl who achieved symmetry at the Idiomatic level. Both pieces indicate the same quality of playing. Although she has borrowed the idiomatic features, chords, articulation and mood from the jazz piece *Big Band*

Tune, she does take decisions over the structure, the direction and sequence of phrases, towards the maximum tension and then finishing with the same bass fragment as the introduction. She also reveals a sophisticated used of *staccato* and *legato*, certainly developed thanks to her experience in performance.

Composition[14] and performance n.3

The next performance was assigned to the Speculative (5) level, and the judgements for composition were split between Idiomatic (6) and Symbolic (7). It is another instance of a student developing her 'voice' into music. The composition is quite long (thus the hesitation), shaped, with a structured overall plan which includes an introduction, and an ending gesture, slowing down and fading away. The style of accompaniment, the mood, the finishing up in a minor tonality, are borrowed from *Romeo and Juliet*.

Composition and performance n. 4

Although there remains the fact that performance was in general the poorest indicator of children's understanding of music, these musical examples point to a very positive effect it made on composition: it has offered not only inspiration but, most importantly, the technique to allow students to produce remarkable compositions, creating new structural relationships according to their willingness. These are fortunate instances of the mutual nurturing among the activities. This charges teachers with a great responsibility, for a comprehensive instrumental teaching does contribute to fostering students' musical development – since they

are given the opportunity to play easier pieces through which they might demonstrate the extent of their understanding. Performance is as important for presenting its very nature, procedures and outcomes. Integrating it with composing and audience-listening to music may lead to a healthy balance between imitation and imaginative play.

[14]This composition is also described earlier ('Composition n. 3').

CHAPTER SEVEN

CONCLUSIONS

CONCLUSIONS

1. SUMMARY OF THE THEORETICAL FRAMEWORK

This thesis has aimed at illuminating two relevant strands of thinking on music education which have an impact on children's musical development. One is the relationship between musical understanding and skills; the other, the role of the central modalities of music making, composing, performing and audience-listening. Musical understanding and skills are conceptually disentangled in an attempt to clarify how they relate to each other. They are considered as two complementary dimensions of music making and development. Musical understanding is defined as the awareness of the meaning embodied in the elements of music as discourse, materials, expression, form and value, as proposed by Swanwick. An important assumption in the thesis is that musical understanding is a single conceptual dimension which pervades and guides all music making, being thus manifested in people's making and responding to music. Therefore, composing, performing and audience-listening are relevant indicators of that understanding, and the windows through which it can be investigated. Not only is understanding demonstrated through active music making, but it is also the way it is developed. This implies the necessity of developing the counterpart of music making: modality-specific skills. It is important though to avoid that the development of skills outweighs the development of a critical and creative understanding of music as symbolic form. The skills are regarded not as ends in themselves, but as tools for translating musical conception into sounds (in composition and performance) or to make sense out of sounds (in audience-listening).

It is proposed that understanding and skills relate to each other in three important ways. First, as just pointed out, that musical understanding is acquired and demonstrated through participation in these main modalities, which requires the articulation of particular skills. Secondly, that the demonstration of the sophistication of understanding depends on refinement of the skills particular to that 'channel'. This is of consequence for assessment in music education: we can only assess with more confidence the extent of students' understanding provided that the tasks are at a level that they can control. Thirdly, that if students are to develop a higher level of musical understanding, it is necessary that they are given the opportunity to work or 'function' at that level. As research has indicated, higher levels of cognitive functioning are not achieved when people are not encouraged to engage with music at such levels.

As we saw, it is widely believed that composing, performing and audience-listening are the central modalities of music making that children should be involved with in a comprehensive music education. This approach is conceptually opposite to specialist music teaching, which lays great emphasis on the development of technical skills and tends to focus on one specific direction. Composing, performing and audience-listening are the fundamental processes of music. Therefore, they are thought to be the essential facets of engagement with it. Each of these activities has its own nature, procedures and outcomes, providing particular insights into the functioning of musical ideas.

The relative importance of the three activities in children's musical development is also addressed from a psychological perspective. They involve essential

psychological processes of *imaginative play, mastery* and *imitation.* Thus, musical *composition* would have a tendency towards imaginative play, a feeling of assimilation, as one organises sounds according to one's internal needs and for one's own satisfaction. *Audience-listening* would have to do with the element of imitation, as it requires the person to accommodate to the characteristics of the music. *Performing* is also accommodative in nature; it is associated with mastery play and involves a strong element of control. Just as cognitive development depends on the equilibrium between tendencies of assimilation and accommodation, the integrated approach to the three activities would conveniently bring imaginative and imitative activities into balance.

The literature also recommends that the activities should be integrated in the curriculum, as they appear to illuminate and interact with each other. The literature on psychology of music indicates that there are general processes underlying the various modalities of music making. However, the nature of this interaction is not clear. It is thus proposed in the thesis that such interaction is not straightforward, but happens at the dimension of understanding. The cognitive structures that underlie the various modalities are the schemata corresponding to the awareness of the functioning of the elements of music. The reciprocal influence among the activities therefore happens through the mobilisation of those schemata - that is what the activities share in common.

Assuming that musical understanding corresponds to a single conceptual dimension that underlies all music making, we argued that it would be possible to identify a parallel quality of musical thinking across the various modalities. We thus narrowed

the focus of the discussion to investigate students' achievement – the revealing of understanding – across composing, performing and audience-listening. The instrument for assessing understanding is derived from Swanwick and Tillman's (1986) Spiral Model of musical development. This model comprehensively describes the elements of musical experience, contemplating what all musical activities share in common - the articulation of the elements of musical discourse. It is considered that there are general biological constraints that impose an upper limit on achievement at each stage of development. Such an optimal level is thus manifested under optimal environmental conditions. These include practice, environmental support, and, most importantly, that the complexity of the tasks are controlled at an appropriate level so that the person can demonstrate the extent of his/her understanding.

The three main strands of the theoretical framework thus merge in the research problem: the relationship between the revealing of understanding and the level of skills involved; the three activities as the main 'channels' through which musical understanding can be achieved and demonstrated; and third, that achievement – the demonstration of one's quality of thinking – across the activities will be symmetrical given appropriate environmental conditions. The empirical project was devised to address the following questions:

- If the revealing of musical thinking is consistent, or symmetrical, across composing, performing and listening to music, i.e. if they are symmetrical indicators of musical understanding. It was assumed that the integrated approach to the activities was an adequate setting to investigate such questions

as whether children would have experience in all three modalities and develop a reasonable degree of practical functioning.

- Secondly, that symmetry would be observed should the tasks be appropriate and accessible. We wanted to observe the extent to which the level of skills would affect the level of understanding revealed through music making.
- Thirdly, as an eventual outcome of the findings, it could be possible to infer whether the different psychological nature of each modality would affect the revealing (and development) of understanding.

The empirical study consisted of a small sample design with repeated measures both across and within the three conditions (composing, performing and audience-listening). Students' 'products' were independently assessed by four judges according to the three-fold criteria derived from the Spiral Model of Musical Development.

2. SUMMARY OF THE EMPIRICAL FINDINGS

- The results indicate that there was no symmetry across all three activities. However, achievement in composition and audience-listening was symmetrical, performance being the variable responsible for the difference.
- Only four (out of 20) students achieved symmetrically across all three activities. Yet 15 students (including those four) achieved symmetrically across composing and audience-listening.
- Performance was the modality in which students achieved less, mostly the Vernacular (4) and Speculative (5) levels. Hence, it was the poorest indicator of their understanding of music.
- Composition was 'a top score' in 18 cases, and audience-listening, in 16 cases. Out of the 16 cases with non-symmetry, performance was the less developed activity in 14 cases.
- No student showed a discrepancy across the three modalities which exceeded two levels (ex: level 6 for composition, 6 for audience-listening, 4 for performance).

The findings will be restated and expanded throughout the next sections, which point to implications for theory, practice and research in musical education.

3. IMPLICATIONS

Before starting to draw the implications of this research, it is important to acknowledge the possibilities of generalisation beyond our sample. Although it was small (20 students) and presented a confined profile (Brazilian students from 11 to 13.5 of age, pianists[1]), the findings can shed light on important issues that have been raised in the theoretical framework. The sample embraced conditions that enabled us to address the relationship between understanding and skills across the various modalities, and to address the relative role of these in musical development. This was only possible because all students selected for the sample were productively involved in the integrated approach to the three activities and could offer a minimum number of products, across which we could assess their understanding of music. Hence, there is a relevant scope for generalisation at a theoretical level: *students may achieve below their optimal level when the tasks are not appropriate and accessible.*

3.1 - Theoretical Implications

- **The relationship between musical understanding and skills**

The thesis has proposed some theoretical clarification into this relationship, with reasonable support from the data.

a) Musical understanding is a broad conceptual dimension which pervades all music making. The symmetrical results across composing and audience-listening

[1]For justification on these sampling requirements please refer to Chapter Four.

seem to support the assumption that musical understanding is a broad conceptual dimension that operates across more than one modality.

b) The revealing of understanding depends on the refinement of the skills particular to that modality of music making. The non-symmetrical findings in performance support our argument that the revealing of understanding is constrained (or otherwise) by the complexity of skills involved in the tasks. Why was the achievement in composing and audience-listening symmetrical? In these two modalities the tasks were more appropriate and accessible. In audience-listening the pieces were carefully selected by the researcher, and did not demand very complex listening and discriminative skills. In composition the stimuli did not set technical constraints - students themselves determined the level of skill within which they would be working. The situation was very different in performance. It seems that the tasks (the pieces) were beyond the level that students could control. Therefore, the revealing of their understanding of music was constrained, resulting in the lower achievement in the setting. If those students were assessed only through their instrumental performance, the extent of their musical understanding would have been seriously underestimated.

- **The nature of the interaction among the activities**

It was argued from a logical and psychological point of view that such interaction is at the dimension of understanding, for that is what the modalities share in common. What will be transferred across the activities is musical understanding, the concepts and schemata of the awareness of the elements of musical discourse, with its particular articulation of materials, expressive gestures, and idiomatic features. The skills, procedures, techniques and experiences which link a composer, a performer

and a listener in relation to the same piece of music are completely different; what they share in common is the attention to the layers of the musical discourse; what they communicate is the dimension of musical understanding. There are instances in the data that illustrate the assumption of the interaction among the activities happening at the dimension of understanding (materials, expression or form). Such transfer was more or less evident according to the refinement of the skills of the relevant modality. Although this was hinted at in our data, it seems to be a profitable area for further speculation.

3.2 – Educational Implications

- **Assessment**

It was clear in our data that when the tasks were not appropriate and accessible, students could not reveal the same level of understanding as revealed through other tasks. Therefore it is important to determine what would count as valid 'channels' and valid ways in which to assess students' music making. It is essential to provide multiple opportunities in different activities, so that the level of skills and the level of understanding can be disentangled. Moreover, it has to be clear what is being assessed: whether understanding or skills, especially if students are only given the opportunity to play an instrument, and are being assessed through performance. Only when students play what they are able to play comfortably can we assess how effectively they can communicate musical structure and expressiveness in a meaningful way.

- **The relationship between revealing understanding and developing understanding**

An implication of this research for musical education is that it is necessary that students have opportunity to participate in more accessible tasks, so that they can reveal the extent of their understanding of music. This is not only crucial for assessment in music. As has been argued in Chapters One and Three, this may affect their development: it is necessary that students 'function' at their optimal level so that they can develop and maximise their potential. Such optimal level is revealed and developed under optimal environmental conditions. Therefore, music education should develop to the full students' current competencies, letting them work closer to their optimal level. If a person is not given the opportunity to work at a higher level s/he will not be developing to that extent.

- **Approaching skills musically**

It has been extensively argued that skills are the means that enable the communication of musical thinking. It is not to argue against the necessity of developing skills – these are indeed essential. Nor is it being suggested that students need to develop a high level of skills in all three areas. It is not a question of acquiring the skills of the expert or not, but to make clear that technical skills are 'cold' and meaningless 'instruments' if not used to serve musical communication and understanding. What we are criticising is the approach to musical teaching which lays most emphasis on this dimension, whether in instrumental performance or in the kind of teaching which focuses on discrimination and development of skills, notably pitch, rhythmic, harmonic discrimination. The ultimate purpose of acquiring skills is that these can be converted into expressive and critical music making.

Probably the key to facilitate musical growth is to foster gradual challenges that can work as propellers of musical development. Within any level of skills we can teach for musical understanding. We may select materials of increasing difficulty over time, and try to maximise those skills as far as possible according to pupils' maturation. This can be fostered at all levels of skills, whether students are involved in mastering a three-tone tune or a Beethoven's Sonata. In this way students would develop skills gradually and cumulatively with a musical purpose. We could think of teaching interventions as the activating of a sequence of spirals. Whatever the sound materials children are working with, whether high-low or twelve-tone technique, these can be shaped into expressive phrases to be arranged into particular structures. Students may play easier pieces that are still rich and musical: "it is possible to make great music at any technical level"[2]. Some of the students' compositions in our sample illustrate remarkably well the extent to which it is possible to make music in a consistent and meaningful way even at a basic level of skills[3].

If musical education is to pull students' conceptual thinking and practical accomplishment forward, it certainly needs to provide challenging tasks, of increasing conceptual and technical difficulty. This would probably be in consonance with Vygotsky's (1978) "zone of proximal development"[4], a concept according to which more demanding challenges that children cannot accomplish by themselves become possible with the support of more accomplished people. A sensible compromise would be not to always push students into such demanding tasks that they cannot afford to make expressive decisions. It is important to let them feel the

[2]Swanwick, Keith (1994) op.cit., p.154.

power of music to steer us and to deepen our experience in the world, while providing tasks that will gradually push the dimension of skills. Only then musical education, even within a specialist context, may afford the formation of creative and flexible musicians, capable of preserving and enhancing our musical inheritance.

- **The importance of the three activities**

Although it is widely thought that composing, performing and audience-listening are the central modalities of music through which musical understanding develops, to my knowledge, no piece of research has attempted to investigate the relative role of the activities in fostering children's musical development. The findings of this study come to support the idea that musical education should provide a wide range of musical experiences. It was evident in the data that different forms of musical behaviour may be either better or poorer indicators of students' optimal level of understanding, according to the nature of the task and the skills involved. Also, different students may have different degrees of ability or interest for one modality or another.

The data illustrate that composition, performance and audience-listening seem to have been nourishing students' experiences from differing angles. Audience-listening to music provides the nourishment, the entering into the array of expressive possibilities of music as symbolic system. Most musical inheritance will be experienced only through audience-listening experiences. But audience-listening experience is more confined in terms of decision making. Despite listening being a creative and particular experience, it allows decision making to a lesser extent. All

[3]See Chapter Six.

students perceived the three layers of musical criticism (materials, expression and form). This indicates that the features of the musical object have captured their attention, as they have already matured to that extent. But there are no signs at all across all reports of any student reaching the Symbolic level, which did happen in composition. Performance allows decision making to some extent, for the interpretative component that it involves. But it is composition that allows more breadth for decision taking over a much wider range. Experiences in composition may encourage pupils to develop their own 'voices' in musical discourse, articulating both their intellectual and affective lives.

The importance of enabling children to experience the three activities is also supported by Swanwick's account of their psychological nature. Through the balance between imaginative and imitative tendencies, especially within an integrated approach, not only musical development would be fostered, but also it would contribute to the whole of children's development. The different psychological nature of the activities adds up to this problem of skills, but it is important to disentangle these two elements in our data. Composition has a stronger assimilative nature, and in this setting the level of skills was appropriate (determined by the student). Audience-listening has a more accommodative nature, but here again the tasks were accessible (purposive selection of pieces). In performance, the two problems were summed up in a negative fashion: besides its being mostly accommodative, it seems that the pieces were too demanding, beyond a range of skills within which students could make expressive decisions. The result of such heavy demand on 'mastery' was that students were not given much chance to demonstrate as refined

[4]Vygotsky, Lev (1978) op.cit. p.86.

a musical conception as they did in composition.

The interaction among the activities was observed in students' production, with clear instances of transferring of certain elements. The analysis of the compositions revealed that students managed to produce interesting and meaningful compositions (some of which are really remarkable) at the piano because of their experience in performance. Through this modality they acquired certain practical abilities and developed a wide repertoire of musical ideas. Not all students, however, managed to play their compositions in a technically tidy and expressive manner; i.e. although these compositions demonstrated a high level of understanding, the performance of these compositions was not so refined in terms of touch and phrase shape. Even so, *all* compositions showed a very sensitive choice of tempo to highlight the expressiveness of the piece. This seems to support the assumption that the reciprocal influence between the activities takes place at the dimension of musical understanding. Their accumulated experiences in performance and audience-listening enabled them to put musical ideas together in an interesting and consistent manner; but the realisation of these through their playing was constrained by their piano skills.

This issue has relevant implications for curriculum practice. It indicates that the integrated approach may foster development when it focuses on the dimensions of musical criticism; but in order to maximise this interaction, it is necessary to provide students with modality-specific skills so that their musical thinking can be demonstrated. Music education may exploit the integration as a tool for teaching,

crossing activities and interweaving the layers of musical discourse[5]. Teachers might start from any of the activities (like composing) emphasizing any of those layers of discourse (expressive character), moving to another activity (listening), or moving to another layer (form), and so on. It helps to create a repertoire of ideas, increasing and enriching the person's available musical concepts and schemata. We have seen that it is at that level that the interaction happens. It follows that the activities do reinforce and illuminate each other but at the broader dimension of understanding. Consequently, the integrated approach will be relevant and meaningful to the extent to which it promotes the development of such understanding by attending to the layers of musical discourse – whatever the activity. In order to maximize this interaction, music education needs to provide students with underlying specific competencies so that such understanding can be demonstrated and fostered.

- **Composition as a 'leading' activity**

Among the three modalities, composition is the one which has the stronger assimilative nature, involving a greater extent of imaginative play and allowing more freedom than the others. As has been discussed in Chapter Three, it may be possible that this activity helps to foster the development of musical thinking, because the creation of imaginary 'worlds' may help to develop abstract thinking. When composing, students may practise their repertoire of musical schemata, re-organising and extending them. This certainly has an impact on curriculum practice and lends some empirical and psychological support the long commitment of some writers - notably John Paynter – to musical composition as a central activity in the

[5]Based on Swanwick, Keith (1994) op.cit., p.161.

music curriculum. Although students in the sample have in many occasions participated in group compositions, it was through individual work that the most striking compositions emerged. Although the difference between composition and audience-listening was not statistically significant, there is some indication of students achieving slightly higher in composition. This seems to be a relevant area of speculation for further research, using larger samples and cross-sectional or longitudinal designs.

- **Performance under focus**

Instrumental teaching carries the 'heavy' tradition of the virtuoso performer, which can help to perpetuate an equivocal conception of what musical experience is about. It is not that instrumental performance is in itself the 'villain' of music education; but the way it is conducted and assessed can lead to a result which is not always musically and educationally valid. The performance tasks (the repertoire) often stretch students' skills beyond a level they can afford. Pressure may come from all sides: from the syllabus imposed by the curriculum, from head-teachers, from teachers themselves who wish to see students playing demanding things. It is also not rare that pupils (and their parents) themselves put pressure on their teachers to assign them more demanding pieces, in which they may hardly reach a consistent manipulative performance. This has challenging consequences for music teaching in general: how can one make expressive decisions without control? What is the point in pushing children into tasks that they carry out mostly with no meaning, no shape, no sense of expressiveness, no coherence? How could it allow them to experience the power of music to enhance intellectual and affective life? All the pleasure, the enjoyment, and the fulfilment of musical experience may be easily

replaced with a mechanical and dull practice of a narrow repertoire. This is not to say that musical accomplishment can be achieved without hard work; but the nourishment of the affective side and opportunity for aesthetic insight can be easily neglected.

It is essential to find a balance between the need to develop understanding and develop skills in the choice of repertoire. Such balance will lean towards one pole or the other according to the nature of the educational setting - whether it tends more or less to specialist objectives. The teaching approach and profile of school do entail underlying principles for selection of the pieces. Obviously students have to be challenged and given more demanding pieces if they are to develop their 'fingers' - no dispute on that. But the undesirable situation is that in which across their whole repertoire children are not given the chance to perform pieces which they would play more comfortably with expression, insightful touches and a sense of style, so as to feel how fulfilling musical experience can be. Pieces should not be always so easy that they do not offer challenges for further development, but also not so difficult that they are beyond students' capabilities. This may result in a pointless and frustrating effort. But there is no harm in assigning technically easier pieces, in parallel to more demanding technical exercises. They can exploit technical skills more musically, exploring different loudness levels, articulation, speed, making expressive decisions over a range of skills the students can control. The balance could thus be achieved across several pieces: some more technically demanding, allowing a student to 'develop the fourth position', and others involving technical elements which students can manage more comfortably. Teachers should enable students to make the most of their capacity to understand musical

expression and form, leading to a sense of fulfilment and the possibility of valuing their music making as a symbolically powerful experience. Most of all, students should be encouraged to perform even their simple tunes or exercises with a sense of commitment, creativity and involvement, in the pursuit of expression and a sense of style. And they should do so as it is the only way that instrumental performance - at any level - can become musically meaningful and relevant.

There is also the issue of notation. There seems to be a sort of fascination surrounding staff notation, and the initiation into it represents a great achievement for children. Such 'power' of notation is overwhelming and it soon takes over, despite teachers' attempts to keep the creative work in parallel to the development of reading skills. The time allowed for creative 'playing around' on the instrument is gradually reduced and replaced by 'playing the middle C'. It divorces the 'playfulness' of improvising from the 'seriousness' of reading a score. Although notation can open many new possibilities, it takes students years until they can read and play music just as interesting, rhythmically as rich and as wide in *tessiture* as music they used to play in their first year, by ear, imitation or through improvising. It is for teachers to help them to keep the sense of imagination and playfulness in their performances, i.e. to restore and refresh the component of assimilation necessary to bring about an insightful interpretation.

- **Comprehensive and specialist settings**

While specialist and comprehensive forms of music education are seen as opposite, no coherent rationale can be conceived for music education. Instead, both views should be re-examined. On the one hand, a comprehensive approach needs to take

into account the relevance of acquiring practical skills to enable children to engage in genuine musical challenges. On the other hand, the specialist approach could be extended to promote a broader and critical musical understanding. This demands finding a balanced view of music education concerned with profiting from the insightful potential of various modalities of musical experience as well as establishing foundations for further pursuit of a specialised career. It is necessary to promote more specific and challenging experiences for those who desire or need a more focused guidance. The two views could be seen not as mutually exclusive but rather as complementary approaches: specialisation in music could be an outgrowth of a comprehensive music education. Even when performance is chosen as elective pupils should be given opportunities to engage with other modalities. The strengths of both comprehensive and specialist approaches may be associated. This would include providing specialist direction when and for whom it is appropriate, always searching for an optimum balance between musical skills and musical understanding.

- **The interplay between the left and right-sides of the Spiral**

The Spiral model embodies the dialectical tension between assimilative and accommodative tendencies in musical development. Education needs to allow for the self-generated impulse for musical exploration to be released, to allow breadth for intuitive exploration, which is characteristic of the left side of the spiral. On the other hand, as the tendency to accommodate to external influences soon takes over, education should also provide the best possible environmental support. Teaching should help students to incorporate the spontaneity into more organised forms of discourse. In this way, it would nourish the 'right side' of the spiral, fostering

development, while letting students explore and express their 'left side' according to their internal motivation.

3.3– Some Methodological Considerations and Suggestions for Further Research

- **The Spiral criteria as an instrument to assess musical understanding**

In this research it was the first time that the Spiral Model was used to measure musical achievement across all three modalities of music making. As a preliminary step, we carried out a reliability test on the audience-listening criteria, which attracted highly significant interpersonal agreement. This lent reliability to the spiral criteria in the three areas. This thesis stresses the importance of having musical understanding as the ultimate goal of musical education and as the reference of assessment. The research was carried out in a naturalistic context. We observed students' music making through the various products in their integrity, not fragmentalised into specific tasks. They were assessed not in the fashion of 'passing' or 'not passing' tasks, but according to criteria which are both musically and psychologically valid.

But it is necessary to extend the psychological perspective of the Spiral Model, addressing the mechanisms that underlie development. This would include the attempt to identify the existence of spurts in musical development (as theorised by Fischer and Pipp, 1984) under certain environmental conditions. There has been some empirical evidence from previous research that indicated that the higher levels

of musical development are not reached outside a framework of formal music education. This present study adds support to the developmental path predicted by the Spiral Model within such educational context. It is probable that cross-cultural studies might help to clarify the relative roles of biological and environmental factors in musical development. An important implication of this thesis for further research in the field is the need to consider the appropriateness of musical tasks; otherwise validity of such measures would be threatened.

- **The 'rule' for summarising data**

Another interesting methodological point in this research is the 'rule' devised to summarise data. It may inspire other studies, in the sense that there can be a sensible alternative for ordinary statistical procedures which can be misleading according to the nature of the research problem. The rule is actually a theory that is derived from and supported by the theoretical framework. Most importantly, it is not an arbitrary rule. The displays of data before and after the rule correlate quite well. However, the rule does not discriminate beyond a certain level; i.e. it does not differentiate a student who was assigned a higher score three times from one who was assigned more than three times (whether four or ten times). It could be illuminating to devise other studies which could thus discriminate between cases which would have just reached a new level from those which would already be more stable or consistent in that level.

- **Limitations of the research**

This research took place in a classroom environment. It has thus both the advantages (mentioned above) and the limitations of assessing musical experience

in real-life context. Although the non-probability sampling method has been extensively justified, we cannot totally eliminate the possibility of bias in the sample. It would be very illuminating though to compare our findings with replications with samples of a different nature. Profitable variations of this design would include cross-sectional samples and other cultural contexts. Another point to consider is the extent to which my own teaching would have affected the results. It was essential to have students to participate systematically in the integrated approach with a focus on the dimensions of musical criticism. I would be inclined to say that this might have really influenced their musical production – that is the purpose of education anyway. But the collection of data was carried out in a rigorous manner and the products were assessed by independent judges.

The procedures for collecting data in composing and performing settings can be considered as an extension of the ordinary educational experience. Students were accustomed to compose within a frame of time and to have their compositions recorded. They were also accustomed to have their performances recorded. Conversely, data in the audience-listening setting was collected in a more artificial manner. Students were used to appraising experiences in their group 'musicalization' classes, but not in such structured manner, individually, and with no interaction or feedback from the teacher/researcher. It could be argued that this would have affected the responses in the sense that these never achieved a higher level than the Idiomatic, not even slightly reaching out to the Symbolic level. But in composition they were also working by themselves, within a fixed time period, and still achieved high levels in the setting.

We must also recognise that memory may have played its part in students' accomplishment in the three areas, although it was controlled to some extent. During the audience-listening interview students listened to each piece three times, and were given the opportunity to take notes. In the recording of performance, nearly all students played by heart and a few relied on the scores. In composition, however, there were no memory aids; pieces were not to be very long or complicated. Nonetheless this was the setting of higher achievement. Should one think of anxiety factors having affected achievement? Often performers are very much affected by anxiety. Although it was a non-specialist school with a very tolerant environment, would 'adrenaline' not have had an effect? If the answer is yes, once again I would insist that it is important that students participate in various modalities, so that the constraints involved in each one can be disentangled.

- **Further research on composition, audience-listening and performance**

A particularly relevant area of speculation for further research is the claim that composition is able to foster development for its assimilative nature; i.e. to investigate the extent to which students can override their 'normal' level of development in imaginative play. The compositions collected in this research could also be re-analysed with the purpose of looking for patterns in terms of pianistic skills and the relationship with textural, rhythmic and harmonic choices; or the relationship between choices in terms of expressive characterisation and the repertoire they play. It could be very illuminating to investigate the extent to which familiarity with different styles and idioms affect students' responses. In the area of performance there are also several points raised in the research which deserve further investigation. For instance, to compare students' performances of (notated)

pieces composed by other people with performances of their own compositions. There are instances in the data of students who did not manage to shape a phrase in their performances of notated music, but who did beautiful phrases in their compositions. There seems to be an important psychological element of having to accommodate to others' musical ideas and style. Students may get more involved with the argument of a piece which 'fits' their personal style and musical preferences. Notation is another issue that may affect the resulting performance, by making it dull and mechanical rather than vivid and expressive. There is a discrepancy between what students can 'read' and what they would be able to play by other means than notation.

There is another important point that does not come from the data but from my observations. During the fieldwork I noticed a striking difference between the production of recorder and piano players of the same age group. The piano offers a much wider range of possibilities in regard to harmony, texture, dynamics, register, phrase shape and effects than the recorder. Consequently, it requires the exercise of musical judgements over a much wider range, and allows much more scope for imaginative exploration. Although the recorder can be a very convenient instrument for various reasons, it would be important to offer these students plenty of opportunities to deal with and take expressive decisions on those other musical elements. Because, again, if they are to develop understanding of those elements, it is necessary that they have the opportunity to work with them. The same applies for the artistic quality of the repertoire they play. There were some instances in the data of pieces that were themselves limited in terms of expressive and structural interest. This also may have an impact on students' achievement and development.

If the pieces themselves do not require or permit the student to exercise judgement at a higher level, how can such quality of musical thinking be developed?

There are other points that are not directly connected to the research problem but pertinent with the 'comprehensive versus specialist' debate. It is important to investigate if there are particular critical age periods for learning different skills or particular instruments; or if there are age levels at which more focused experiences should be set up into the comprehensive approach; or if particular musical styles and idioms are more suitable for some ages and stages of development. These are just some among the various unanswered questions awaiting investigation.

A final remark:

'Engaging with the conversation'

I hope that this thesis has contributed to reflection into research, theory, practice and assessment in music education. I would say that an important outcome of this work is that it draws attention to the relationship between revealing understanding and developing understanding. I strongly believe that even with the most basic level of technical skill children might be involved in musically rich and meaningful experiences which may foster their musical development. It is necessary to disentangle *the level of technical skills involved in a task and the level of understanding being fostered through that task*. Because, if pupils are not working at a level at which they can exercise judgement and take decisions, how can they be developing a more sophisticated quality of musical thinking? How can students develop a higher level of musical understanding if they are not given the opportunity to work or 'function' at that level? How can students have an aesthetically rewarding experience when they are still worried about 'the third or fourth position'? How can students engage in music as symbolic discourse if they never have the opportunity to produce a musically meaningful statement? If education is concerned with the potential of musical experience to develop the mind, to open new horizons, to deepen intellectual and affective life, there can be no compromise.

Music education needs to counterbalance the development of a broad musical understanding, to enable creative and critical functioning, together with the development of modality-specific skills, to enable people to produce musical utterances that display that understanding at its best. Understanding and skills are

complementary dimensions necessary to enable students to engage with the 'conversation' conceived by Oakeshott (1962), developing their own voices as well as understanding or challenging others' voices. Then we would have the paradigm of a musically educated person: one who has learnt to articulate genuine musical understanding into this form of knowing through the main windows from which can be displayed: composing, performing and audience-listening activities.

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APPENDICES

APPENDIX 1

'Possible GCSE grade-related criteria for composing/improvising and listening'

a) Composing/improvising (Swanwick 1988, pp.152-3).

Grade G: SENSORY Intermittent control of minimal musical materials is associated with little or no expressive characterization. There are no identifiable structural relationships and the evolution of the composition may depend heavily on technical accidents which are not exploited.

Grade F: MANIPULATIVE Minimal materials are carefully negotiated with little expressive characterization. The musical ordering may be arbitrary, rambling or repetitious and will lack cohesion and internal logic.

Grade E: PERSONAL EXPRESSIVENESS The mastery of limited materials, though not always total, is sufficient to make personal expression possible. There is clearly identifiable mood, atmosphere or gesture, though loosely organized in a fairly spontaneous manner.

Grade D: VERNACULAR A limited range of materials is managed consistently. The vocabulary of expression lies within recognizable musical conventions. There may be much repetition but will be little contrast or development, and the course of the music will be fairly predictable.

Grade C: SPECULATIVE Limited musical materials are generally well handled. Expressive characterization may be fairly conventional but will be structured in interesting, possibly experimental ways. There may be variation, transformation and contrast of musical ideas and the work has the potential to hold the attention.

Grade B: IDIOMATIC Technically developed materials embody expressive and structural elements organized within a coherent musical style. There will be

imaginative structural juxtapositions taking place over a time period long enough to demonstrate an ability to sustain and develop musical thought.

Grade A: SYMBOLIC Technical mastery serves musical communication. The listener's attention is focused on formal relationships and expressive character which are fused together in an impressive, coherent and original musical statement, made with commitment.

b) Listening (Swanwick 1988, pp.153-4).

Grade G: SENSORY The student recognizes clear difference of loudness level; widely different pitch differences; obvious changes of tone colour and texture. None of these is technically analysed and there is no account of expressive character or structural relationships.

Grade F: MANIPULATIVE The student identifies, but does not analyse, devices to do with the management of musical material: for example, trills; *tremolos*; scalic patterns; *glissandi*; steady or fluctuating beat; spatial and stereophonic effects; like and unlike instrumental sounds.

Grade E: PERSONAL EXPRESSIVENESS The student describes the general atmosphere, mood or character of a passage and recognizes changes of expressive level, without drawing attention to structural relationships. Descriptions of the music may be in terms of dramatic incidents, stories, personal associations and visual images, or feeling qualities.

Grade D: VERNACULAR The student recognizes common musical procedures and may identify such elements as metre, phrase shape and length, repetitions, syncopations, sequences, drones, *ostinati*. There is some technical analysis.

Grade C: SPECULATIVE The student identifies what is unusual or unexpected within the context of a particular work and is able to draw attention to changes of

character by reference to instrumental or vocal colour, pitch, speed, loudness, rhythm and phrase length; the magnitude and frequency of changes, the extent to which changes are gradual or sudden.

Grade B: IDIOMATIC The student places music within a stylistic context and shows awareness of technical devices and the structural procedures that characterize a particular idiom; such as transformation by variation, decoration and contrasting middle sections, distinctive harmonies and rhythmic inflections, specific instrumental sound production or vocal *melisma*.

Grade A: SYMBOLIC In addition to meeting the criteria for the other grades, the student displays evidence of personal exploration and commitment through an account of a chosen area of musical investigation. There will be evidence of individual insights and sustained engagement with particular works, performers or composers.

APPENDIX 2

Spiral Criteria for Composing, Performance and Audience-listening

a) Composition Criteria (Swanwick 1994, pp.88-90).

Materials

Level 1 – Sensory: There is evidence of pleasure in sound itself, particularly timbre and extremes of loud and soft. There mat be exploration and experimentation with instruments. Organisation is spontaneous, possibly erratic, pulse is unsteady and variations of tone colour appear to have no structural or expressive significance.

Level 2 – Manipulative: The handling of instruments shows some control and repetitions are possible. Regular pulse may appear along with technical devices suggested by the physical structure and layout of available instruments, such as *glissandi*, scalic and intervallic patterns, trills and *tremolo*. Compositions tend to be long and repetitive as the composer enjoys the feeling of managing the instrument.

Expression

Level 3 - Personal expressiveness: Expressiveness is apparent in changes of speed and loudness levels. There are signs of elementary phrases - musical gestures - which are not always able to be exactly repeated. There is drama, mood or atmosphere, perhaps with reference to an external 'programmatic' idea. There will be little structural control and the impression is of spontaneity without the development of ideas.

Level 4 – The vernacular: Patterns appear - melodic and rhythmic figures that are able to be repeated. Pieces may be quite short and will work within established general musical conventions. Melodic phrases may fall into standard 2, 4 or 8-bar units. Metrical organisation is common along with such devices as syncopation, melodic and rhythmic *ostinati* and sequences. Compositions will be fairly

predictable and show influences of other musical experiences: singing, playing and listening.

Form

Level 5 – The speculative: Compositions go beyond the deliberate repetition of patterns. Deviations and surprises occur, though perhaps not fully integrated into the piece. There is expressive characterisation which is subject to experimentation, exploring structural possibilities, seeking to contrast or vary established musical ideas. After establishing certain patterns a frequent device is to introduce a novel ending.

Level 6 – The idiomatic: Structural surprises are integrated into a recognisable style. Contrast and variation take place on the basis of emulated models and clear idiomatic practices, frequently, though not always, drawn from popular musical traditions. Harmonics and instrumental authenticity is important. Answering phrases, call and responses, variation by elaboration and contrasting sections are common. Technical, expressive and structural control is demonstrated in longer compositions.

Value

Level 7 – The symbolic: Technical mastery totally serves musical communication. Attention is focused on formal relationships and expressive character which are fused together in an impressive, coherent and original musical statement. Particular groups of timbres, turns of phrase and harmonic progressions may be developed and given sustained concern.There is a strong sense of personal commitment.

Level 8 – The systematic: Beyond the qualities of the previous level, works may be based on sets of newly generated musical materials, such as scales and note rows, novel systems of harmonic generation, electronically created sounds or computer technology. The possibilities of musical discourse are systematically

expanded.

b) Performance Criteria (Swanwick 1994, pp.108-9.)

Level 1 – Sensory: The rendering is erratic and inconsistent. Forward movement is unsteady and variations of tone colour or loudness appear to have neither structural nor expressive significance.

Level 2 – Manipulative: Control is shown by steady speeds and consistency in repeating patterns. Managing the instrument is the main priority and there is no evidence of expressive shaping or structural organisation.

Level 3 – Personal Expressiveness: Expressiveness is evident in the choice of speed and loudness levels but the general impression is of an impulsive and unplanned performance lacking structural organisation.

Level 4 – Vernacular: The performance is tidy and conventionally expressive. Melodic and rhythmic patterns are repeated with matching articulation and the interpretation is fairly predictable.

Level 5 – Speculative: A secure and expressive performance contains some imaginative touches. Dynamics and phrasing are deliberately contrasted or varied to generate structural interest.

Level 6 – Idiomatic: There is a developed sense of style and an expressive manner drawn from identifiable musical traditions. Technical, expressive and structural control are consistently demonstrated.

Level 7 – Symbolic: The performance demonstrates confident technical mastery and is stylistic and compelling. There is refinement of expressive and structural detail and a sense of personal commitment.

Level 8 – Systematic: Technical mastery totally serves musical communication. Form and expression are fused into a coherent and personal musical statement. New musical insights are imaginatively and systematically explored.

c) Audience-listening Criteria

Level 1 – Sensory: The student recognises sound qualities and effects, perceives clear differences of loudness level, pitch, timbre, tone colour and texture. None of these is technically analysed and there is no account of expressive character or structural relationships.

Level 2 – Manipulative: The student perceives steady or fluctuating beat, identifies specific instrumental and vocal sounds, devices related to the treatment of musical material, such as *glissandi*, *ostinati*, trills; yet he does not relate these elements to the expressive character and structure of the piece.

Level 3 – Personal expressiveness: The student describes the expressive character, the general atmosphere, mood or feeling qualities of a piece, maybe through non-musical associations and visual images. He relates changes in the handling of sound materials, especially speed and loudness, with changes of expressive level, but without drawing attention to structural relationships.

Level 4 – Vernacular: The student identifies commonplaces of metric organisation, sequences, repetitions, syncopation, drones, groupings, *ostinati;* he perceives conventional musical gestures and phrase shape and length.

Level 5 – Speculative: The student perceives structural relationships, the ways in which musical gestures and phrases are repeated, transformed, contrasted, or connected. He identifies what is unusual or unexpected in a piece of music; perceives changes of character by reference to instrumental or vocal colour,

pitch, speech, loudness, rhythm and phrase length, being able to discern the scale in which changes take place, whether they are gradual or sudden.

Level 6 – Idiomatic: The student places music within a stylistic context and shows awareness of technical devices and structural procedures which characterises an idiom, such as distinctive harmonies and rhythmic inflections, specific instrumental or vocal sounds, decoration, transformation by variation, contrasting middle sections.

Level 7 – Symbolic: The student is aware of how sound materials are organised to produce a particular expressive character and stylistically coherent formal relationships. There is evidence of individual insights and independent critical appraisal. He reveals a feeling of valuing of music maybe evidenced by an account of personal involvement in a chosen area of music making and/or a sustained engagement with particular works, composers or performers.

Level 8 – Systematic: The person reveals a profound understanding of the value of music due to a developed sensitivity with sound materials, the ability to identify expression and comprehend musical form. Personal preferences give way to a systematic commitment to music as a meaningful form of symbolic discourse.

APPENDIX 3

Testing the Audience-listening Criteria

a) Judges' ranking of the criteria statements

	var 1	var 2	var 3	var 4	var 5	var 6	var 7	var 8
Judge 1	1	2	3	4	5	6	7	8
Judge 2	1	2	3	4	5	6	7	8
Judge 3	1	2	3	4	5	6	7	8
Judge 4	1	2	3	4	5	7	6	8
Judge 5	1	2	4	3	5	6	7	8
Judge 6	1	3	2	4	5	6	7	8
Judge 7	1	3	4	2	5	6	7	8
Judge 8	1	3	2	4	5	7	6	8
Judge 9	3	1	2	4	5	6	7	8
Judge 10	2	1	4	3	5	7	6	8
Judge 11	3	1	4	2	5	7	6	8
Judge 12	3	2	4	1	5	7	6	8

b) Kendall Coefficient of Concordance

Mean Rank	Variable
1.58	Var 1
2.00	Var 2
3.17	Var 3
3.25	Var 4
5.00	Var 5
6.42	Var 6
6.58	Var 7
8.00	Var 8

Cases	W	Chi-Square	D.F.	Significance
12	.9193	77.2222	7	.0001

) SPEARMAN CORRELATION COEFFICIENT

'AR02	1.0000					
	N(8)					
	Sig .000					
'AR03	1.0000	1.0000				
	N(8)	N(8)				
	Sig .000	Sig .000				
'AR04	.9762	.9762	.9762			
	N(8)	N(8)	N(8)			
	Sig .000	Sig .000	Sig .000			
'AR05	.9762	.9762	.9762	.9524		
	N(8)	N(8)	N(8)	N(8)		
	Sig .000	Sig .000	Sig .000	Sig .000		
'AR06	.9762	.9762	.9762	.9524	.9286	
	N(8)	N(8)	N(8)	N(8)	N(8)	
	Sig .000	Sig .000	Sig .000	Sig .000	Sig .001	
'AR07	.9286	.9286	.9286	.9048	.9762	.9048
	N(8)	N(8)	N(8)	N(8)	N(8)	N(8)
	Sig .001	Sig .001	Sig .001	Sig .002	Sig .000	Sig .002
'AR08	.9524	.9524	.9524	.9762	.9048	.9762
	N(8)	N(8)	N(8)	N(8)	N(8)	N(8)
	Sig .000	Sig .000	Sig .000	Sig .000	Sig .002	Sig .000
'AR09	.9286	.9286	.9286	.9048	.8810	.9048
	N(8)	N(8)	N(8)	N(8)	N(8)	N(8)
	Sig .001	Sig .001	Sig .001	Sig .002	Sig .004	Sig .002
'AR10	.9286	.9286	.9286	.9524	.9524	.8571
	N(8)	N(8)	N(8)	N(8)	N(8)	N(8)
	Sig .001	Sig .001	Sig .001	Sig .000	Sig .000	Sig .007
'AR11	.8571	.8571	.8571	.8810	.9048	.7857
	N(8)	N(8)	N(8)	N(8)	N(8)	N(8)
	Sig .007	Sig .007	Sig .007	Sig .004	Sig .002	Sig .021
'AR12	.8095	.8095	.8095	.8333	.8810	.7619
	N(8)	N(8)	N(8)	N(8)	N(8)	N(8)
	Sig .015	Sig .015	Sig .015	Sig .010	Sig .004	Sig .028
	VAR01	VAR02	VAR03	VAR04	VAR05	VAR06

AR08	.8810				
	N(8)				
	Sig .004				
AR09	.8095	.8810			
	N(8)	N(8)			
	Sig .015	Sig .004			
AR10	.9048	.8810	.9048		
	N(8)	N(8)	N(8)		
	Sig .002	Sig .004	Sig .002		
AR11	.8810	.8095	.8810	.9762	
	N(8)	N(8)	N(8)	N(8)	
	Sig .004	Sig .015	Sig .004	Sig .000	
AR12	.9048	.7857	.8095	.9286	.9762
	N(8)	N(8)	N(8)	N(8)	N(8)
	Sig .002	Sig .021	Sig .015	Sig .001	Sig .000
	VAR07	VAR08	VAR09	VAR10	VAR11

APPENDIX 4

Instances of Projects and Activities

1) Elgar's *Enigma Variations* project:
Students were given a simple piece to perform in pairs (at the piano or xylophone) and then were asked to compose a variation on it. Each pair chose a definite expressive character for their variation. Next, they listened to Elgar's *Enigma Variations* (the third, fourth, seventh and eighth variations). They identified the theme and noticed the way it was transformed throughout, looking at how the changes of instrumentation, dynamics, speed and texture produced particular differences of mood. Then the whole group (about six students) started to work together in each pair's variation, adding other instrumental timbres and colours to enhance the levels of expressiveness. The theme and the three variations were subsequently performed as a whole piece.

2) Villa-Lobos *String Quartet no. Five*, First movement:
This is a very clearly structured and joyful piece in which the structure articulates different levels of expressiveness. In the appraising section we focused on elements of unity and contrast, the accompaniment in *staccato* and *ostinato*, which also links parts to one another, the manner of playing the string instruments in higher or lower registers and particular bowings to match the character of the sections, and so on. It was followed by improvisation over an *ostinato* which changed its character demanding that the other parts adapt to it. Next they developed compositions from the ideas which arose during the improvisation.

3) Tom Jobim and Vinicius de Moraes' *Eu sei que vou te amar*:
The project started from a singing performance and appraisal of the song. We focused on the development of the rather simple idea with repeated notes through sequences, which gradually expand upwards. Then it changes subject, with a contrasting melodic idea in longer *legato* phrases; thus the initial idea reapers in descending sequences, with a sensitive fusion of music and lyrics. Afterwards, in pairs, they worked on the exploration of short ideas, which once selected should

evolve into a similar structure to the song, with attention to phrase shape and direction.

4) Work with chords:
We started from a historical perspective of harmonic evolutions through periods and styles, through the appraisal of pieces from different periods. We focused on functions, colours, the manner of tension, expectation and relaxation evoked by various chords. We contrasted the effect of nursery rhymes being played with traditional and more elaborate harmony. Next the students produced individual compositions using chords in various ways. Some of these compositions are described in Chapter Six and given on tape.

Various other projects included activities like:

5) Percussion arrangements for pieces; for instance, to appraise a jazz piece through movements which should follow the music in terms of structure, dynamics, texture and weight. Then percussion instruments were selected to highlight those features.

6) To compose a piece over a given rhythmic line, as from a syncopation exercise in 'chop sticks technique', using the pattern either as the melody or as accompaniment. Instances of these compositions are given in Chapter Six and on tape.

7) To devise, for instance, an ABA piece, in which section A is more assertive in character and in section B the theme is transformed into a more ethereal character with different harmonic colours. Rondos also were produced, with improvisation in the several sections; these involved various styles, including a remarkable 'Rap'.

All compositions were performed by their creators, and at times also by other students. Appraisal and analysis of each others' pieces always took place.

APPENDIX 5

List of the Pieces of the Audience-listening Interview:

1) Tom Jobim (1927 - 1994) (with Aluisio de Oliveira) – *Dindi.*

The best of Antonio C. Jobim

1990 – Sonopress.

BS-204.

2) Ernani Aguiar (b. 1950) - *Canto*, Suite *Quatro Momentos no. 3*, Third movement.

Orquestra Brasil Folclore; Conducted by Carlos Moreno.

1996 - Microservice – Microfimlagens e Reproducoes da Amazonia Ltda.

NM 44796.

3) Radames Gnattalli (1906 - 1988) – *Remechendo*

Minasax Quarteto de Saxophones.

1997 – Microserve - Microfimlagens e Reproducoes da Amazonia Ltda.

MS – CD97/001.

APPENDIX 6 - Portuguese Version of the Spiral Criteria

CRITÉRIOS PARA AVALIAÇÃO DO DESENVOLVIMENTO MUSICAL

COMPOSIÇÃO	PERFORMANCE	APRECIAÇÃO
SENSORIAL: A composição se revela como uma prazeirosa exploração dos sons, particularmente de timbres e variações extremas de intensidade. Pode haver exploração e experimentação com instrumentos. A organização da composição é espontânea e possivelmente errática. O pulso é instável e eventuais variações de colorido e intensidade não parecem ter significação estrutural ou expressiva.	**SENSORIAL**: A performance é errática e inconsistente. O fluxo é instável e as variações do colorido sonoro e da intensidade não parecem ter uma função expressiva nem estrutural.	**SENSORIAL**: O aluno percebe efeitos e alterações nos parâmetros sonoros, como diferenças claras de intensidade, altura, timbre, colorido e textura. Nada disso é analisado tecnicamente e não há alusão ao caráter expressivo nem a relações estruturais.
MANIPULATIVO: A composição revela um certo controle no manuseio do instrumento tornando possível a repetição de padrões musicais. Pode aparecer um pulso regular bem como alguns procedimentos técnicos decorrentes da estrutura física e das características dos instrumentos disponíveis, tais como glissandos, motivos da escala ou intervalares, trinados e tremolos. As composições tendem a ser longas e repetitivas denotando um sentimento de prazer decorrente do domínio do instrumento.	**MANIPULATIVO:** Algum grau de controle é demonstrado por um andamento estável e maior consistência na repetição de padrões (motivos). O domínio do instrumento é a prioridade principal e ainda não há evidência de contorno expressivo ou organização estrutural.	**MANIPULATIVO** - O aluno percebe fontes sonoras bem características ou definidas, procedimentos básicos de tratamento do material musical (como patterns, ostinatos, glissandos, trinados), se o pulso é regular ou irregular, mas não relaciona tais elementos com o caráter expressivo e estrutura da peça.

EXPRESSIVO: Expressividade é aparente devido à ocorrência intencional de mudanças de andamento e níveis de intensidade. Há esboços de frases - gestos musicais - cujas repetições podem ser instáveis. Há conotações dramáticas, clima e atmosfera, talvez refletindo uma idéia 'programática' externa. A composição revela pouco controle estrutural e passa uma impressão de espontaneidade, pois não há desenvolvimento das idéias musicais.	**EXPRESSIVO:** A expressividade é evidenciada pela escolha consciente do andamento e níveis de intensidade, mas a impressão geral que se tem é de uma performance impulsiva e não planejada, faltando organização estrutural.	**EXPRESSIVO:** O aluno percebe de modo geral o caráter expressivo, a atmosfera ou clima emocional de uma peça, talvez por meio de associações e imagens visuais. Ele relaciona mudanças de nível expressivo com mudanças no tratamento do material sonoro, especialmente andamento e intensidade, mas não observa relações estruturais.
VERNACULAR: Aparecem padrões melódicos e figuras rítmicas passíveis de repetição. As peças podem ser bem curtas e baseadas em convenções musicais gerais já estabelecidas. As frases melódicas tendem a apresentar um padrão de 2, 4 ou 8 compassos. Organização métrica é comum bem como elementos como síncope, ostinatos rítmicos ou melódicos e seqüências. As composições são bem previsíveis (estereotipadas) e demonstram influências de outras experiências musicais (cantar, tocar e ouvir) vivenciadas pela pessoa.	**VERNACULAR:** A performance é fluente e convencionalmente expressiva. Padrões melódicos e rítmicos são repetidos de maneira semelhante e a interpretação é bem previsível.	**VERNACULAR:** O aluno percebe procedimentos de organização métrica, seqüências, repetições, síncopes, pedais, ostinatos, motivos musicais convencionais e tipos previsíveis de fraseado.

ESPECULATIVO: As composições vão além da repetição deliberada de padrões. São comuns as surpresas e novidades, embora talvez não completamente integradas à estrutura da peça. Há experimentação em relação à caracterização expressiva, explorando-se possibilidades estruturais, buscando-se contrastar ou variar idéias musicais preestabelecidas. Depois de se ter estabelecido uma determinada idéia musical, é freqüente a introdução de uma novidade no final da peça.	**ESPECULATIVO:** A performance é expressiva e segura e contém alguns toques de imaginação. A dinâmica e o fraseado são deliberadamente controlados ou modificados com objetivo de destacar as relações estruturais da obra.	**ESPECULATIVO:** O aluno percebe relações estruturais, identificando o que é incomum ou inesperado em uma peça; percebe relações entre as frases, como motivos musicais são repetidos, transformados, contrastados, ou conectados entre si; percebe mudanças de caráter associadas a cor instrumental, altura, andamento, ritmo, intensidade e tamanho das frases, podendo ser capaz de avaliar a magnitude de tais mudanças.
IDIOMÁTICO: Surpresas estruturais são integradas ao corpo da composição dentro de um estilo reconhecível. Contrastes e variações são empregados com base em modelos emulados e práticas idiomáticas claras, talvez derivadas de tradições musicais populares. Autenticidade harmônica e instrumental se torna importante. É comum o uso procedimentos como 'pergunta e resposta', variação por elaboração e seções contrastantes. Controle técnico, expressivo e estrutural é demonstrado possivelmente em composições mais longas.	**IDIOMÁTICO:** Percebe-se uma nítida noção de estilo e uma caracterização expressiva baseada em tradições musicais claramente identificáveis. Controle técnico, expressivo e estrutural são demonstrados de forma consistente.	**IDIOMÁTICO:** O aluno enquadra a música dentro de um contexto estilístico e demonstra percepção de mecanismos técnicos e procedimentos estruturais que caracterizam um determinado idioma ou estilo, como, por exemplo, harmonias e inflexões rítmicas características, sons instrumentais ou vocais específicos, ornamentação, transformação por variação, ou seções centrais contrastantes.

SIMBÓLICO: O pleno domínio técnico é colocado a serviço da comunicação musical. As relações estruturais e o caráter expressivo são enfatizados e fundidos em um todo coerente e original. Grupos específicos de timbres, progressões harmônicas e fraseado podem ser desenvolvidos recebendo atenção especial. Percebe-se um forte envolvimento pessoal do compositor com a obra.	**SIMBÓLICO:** A performance demonstra segurança técnica e é estilisticamente convincente. Há refinamento de detalhes expressivos e estruturais e um sentimento de comprometimento pessoal com a música.	**SIMBÓLICO:** O aluno compreende como os materiais sonoros são organizados para produzir certo caráter expressivo e relações formais estilisticamente coerentes. Revela um sentimento de valorização da música podendo se envolver em alguma área específica do fazer musical. Há evidência de *insights* individuais e apreciação crítica independente, e um forte engajamento com determinadas obras, compositores e intérpretes.
SISTEMÁTICO: Além das qualidades dos níveis anteriores, as obras podem ser baseadas em novos materiais musicais, como novas escalas e seqüências, novos sistemas harmônicos, sons eletrônicos ou de computador. As possibilidades do discurso musical são expandidas sistematicamente.	**SISTEMÁTICO:** O domínio técnico está totalmente a serviço da comunicação musical. Forma e expressão se fundem gerando um resultado - um verdadeiro depoimento musical - coerente e personalizado. Novos insights musicais são explorados de forma sistemática e imaginativa.	**SISTEMÁTICO:** O aluno revela uma profunda compreensão em relação ao valor cultural da música em conseqüência de uma desenvolvida sensibilidade ao material sonoro e da habilidade de identificar expressividade e compreender forma musical. Preferências pessoais cedem lugar a um comprometimento sistemático com a música como uma forma de discurso simbólico.

(A partir de Swanwick and Tillman 1986, Swanwick 1988 e 1994)
Versão em português: Cecília C. Franca e Silva, com colaboração de João Gabriel M. Fonseca e Abel Moraes.

Instance of Scoring Sheet:

COMPOSIÇÃO

1.		11.		21.	
2.		12.		22.	
3.		13.		23.	
4.		14.		24.	
5.		15.		25.	
6.		16.		26.	
7.		17.		27.	
8.		18.		28.	
9.		19.		29.	
10.		20.		30.	

APPENDIX 7

Correlations within Each Group of Judges

Kendall Correlation Coefficients

Judges Group 1

JUDGE2	.6574		
	N (81)		
	Sig .0001		
JUDGE3	.7042	.6515	
	N (81)	N (81)	
	Sig .0001	Sig .0001	
JUDGE4	.6319	.6275	.5981
	N (81)	N (81)	N (81)
	Sig .0001	Sig .0001	Sig .0001
	JUDGE1	JUDGE2	JUDGE3

Judges Group 2

JUDGE2	.5943		
	N (99)		
	Sig .0001		
JUDGE3	.5075	.5774	
	N (99)	N (99)	
	Sig .0001	Sig .0001	
JUDGE4	.4455	.6273	.4123
	N (99)	N (99)	N (99)
	Sig .0001	Sig .0001	Sig .0001
	JUDGE1	JUDGE2	JUDGE3

APPENDIX 8

RESULTS – RAW SCORES (J = 'Judge')

1. COMPOSITIONS

1.1 – Judges Group 1

Case	Composition 1				Composition 2				Composition 3			
	J 1	J 2	J 3	J 4	J 1	J 2	J 3	J 4	J 1	J 2	J 3	J 4
1	4	5	4	7	6	5	5	6	4	5	5	4
2	5	5	5	5	4	5	4	5	5	6	6	6
3	6	6	5	6	5	5	5	6	4	5	5	5
4	4	5	4	5	7	6	6	6	6	7	6	6
5	7	6	5	5	5	5	6	5	5	5	5	6
6	5	5	5	5	7	6	6	7	6	6	6	6
7	5	6	5	6	5	5	6	6	6	7	6	7
8	6	6	6	6	7	6	6	6	7	7	6	6
9	5	5	5	6	6	6	6	7	5	5	6	5

1.2 – Judges Group 2

Case	Composition 1				Composition 2				Composition 3			
	J 1	J 2	J 3	J 4	J 1	J 2	J 3	J 4	J 1	J 2	J 3	J 4
10	5	5	6	6	5	5	6	5	5	4	5	4
11	5	5	6	6	6	6	6	6	5	5	6	5
12	5	6	5	5	5	5	6	5	6	5	6	5
13	5	6	5	6	6	6	7	6	6	6	7	6
14	4	4	4	4	5	4	5	5	5	4	5	4
15	6	6	7	6	5	4	5	5	5	5	6	5
16	5	4	5	4	5	5	6	5	5	5	6	5
17	5	5	5	5	5	5	6	5	5	6	6	5
18	5	5	6	5	5	5	5	5	5	5	5	5
19	5	5	6	5	5	5	5	5	4	4	5	4
20	6	6	5	5	4	4	6	4	5	5	6	5

2. AUDIENCE-LISTENING

2.1 – Judges Group 1

Case	Music 1				Music 2				Music 3			
	J 1	J 2	J 3	J 4	J 1	J 2	J 3	J 4	J 1	J 2	J 3	J 4
1	5	5	6	5	6	6	6	6	6	6	6	6
2	5	5	5	5	6	5	6	6	5	5	5	5
3	6	5	5	6	5	5	6	5	6	5	6	5
4	6	6	6	5	5	3	5	5	5	5	5	6
5	5	5	5	5	5	5	5	5	6	5	5	6
6	6	6	6	6	5	3	5	4	5	6	5	5
7	6	5	6	6	5	5	5	5	6	5	5	6
8	5	5	6	5	6	6	6	6	6	6	6	6
9	5	6	5	5	6	5	6	6	6	5	6	5

2.2 – Judges Group 2

Case	Music 1				Music 2				Music 3			
	J 1	J 2	J 3	J 4	J 1	J 2	J 3	J 4	J 1	J 2	J 3	J 4
10	5	6	6	5	5	6	6	6	5	5	6	6
11	6	6	6	5	5	5	6	6	5	6	6	6
12	5	6	6	5	5	5	5	6	5	5	6	5
13	5	4	5	4	5	5	5	6	6	5	5	5
14	5	5	5	4	5	5	5	6	5	5	5	6
15	5	4	5	5	5	5	6	6	6	6	6	6
16	5	5	5	5	5	4	5	5	5	5	5	5
17	5	4	5	4	5	3	5	5	5	6	5	6
18	5	5	6	6	5	5	5	6	5	5	5	6
19	5	4	5	5	5	5	5	6	5	5	5	5
20	5	5	6	6	5	5	5	6	5	6	6	6

3. PERFORMANCE

3.1 – Judges Group 1

Case	Piece 1				Piece 2				Piece 3			
	J 1	J 2	J 3	J 4	J 1	J 2	J 3	J 4	J 1	J 2	J 3	J 4
1	4	4	4	4	4	4	4	6	4	4	5	4
2	4	5	5	4	4	4	3	4	4	3	4	4
3	4	5	4	4	5	6	5	5	3	4	4	4
4	4	4	4	4	3	3	3	5	3	5	5	5
5	5	4	4	4	4	4	4	4	3	3	4	4
6	3	3	3	2	3	3	4	4	4	3	4	4
7	4	4	4	4	5	5	4	4	5	5	5	6
8	5	4	4	4	5	5	5	5	4	5	4	4
9	5	4	4	4	4	4	3	4	3	3	4	4

3.2 – Judges Group 2

Case	Piece 1				Piece 2				Piece 3			
	J 1	J 2	J 3	J 4	J 1	J 2	J 3	J 4	J 1	J 2	J 3	J 4
10	4	4	5	4	4	4	4	5	4	4	4	5
11	4	4	5	5	5	5	5	5	5	4	4	5
12	4	6	6	6	6	6	6	6	5	6	6	6
13	6	6	5	6	5	6	5	6	7	7	6	7
14	4	4	4	4	4	4	4	5	4	4	4	5
15	6	5	5	5	5	5	7	5	6	6	6	6
16	5	4	5	5	4	4	4	4	5	5	5	5
17	4	4	4	4	3	4	4	4	4	4	4	5
18	4	4	5	4	4	4	4	4	6	5	6	5
19	5	5	6	5	5	4	5	5	4	4	5	5
20	4	4	5	5	5	4	5	5	4	5	5	5

APPENDIX 9

Testing the 'Rule' for Summarising Data

Correlation between the Distribution of Raw Scores and the Distribution of Derived Scores

	Raw	Derived
1	0	0
2	0	0
3	1	0
4	0	0
5	3	0
6	19	0
7	27	0
8	9	0
9	115	7
10	117	4
11	138	6
12	74	10
13	81	15
14	90	14
15	27	2
16	15	1
17	0	0
18	4	1

Spearman Correlation Coefficient: 0.7274, significance $p<.001$

APPENDIX 10

Testing the 'Symmetry' Hypothesis

1. Friedman Two-Way Anova on the three variables of the null hypothesis that "the three variables come from the same population"

Friedman Two-Way Anova

Mean Rank	Variable
2.28	AUD
2.40	COM
1.33	PER

Cases	Chi-Square	D.F.	Significance
20	13.8250	2	.001

The null-hypothesis can be rejected: the difference between the variables is statistically significance (variables do not come from the same population).

2. Friedman Two-Way Anova on each two variables

2.1 – Friedman Two-Way Anova on Composition and Audience-listening (not significant; p>0.5).

Mean Rank	Variable
1.42	AUD
1.58	COM

Cases	Chi-Square	D.F.	Significance
20	.4500	1	.502

2.2 – Friedman Two-Way Anova on Composition and Performance

Mean Rank	Variable
1.83	COM
1.17	PER

Cases	Chi-Square	D.F.	Significance
20	8.4500	1	.003

2.3 – Friedman Two-Way Anova on Performance and Audience-listening

Mean Rank	Variable
1.15	PER
1.85	AUD

Cases	Chi-Square	D.F.	Significance
20	9.800	1	.001

It is clear that Performance is the variable responsible for the difference.

APPENDIX 11

Testing Age and Gender Effects

Table 12 gives students' scores in the three settings according to their age in months and gender.

Table 12: Students' scores by age and gender

Case	Age	Gender	C	A	P
1	132	G	5	5	5
2	134	G	6	5	4
3	135	G	6	6	5
4	136	B	6	6	5
5	137	G	6	6	5
6	138	G	6	6	5
7	139	G	6	6	4
8	140	G	6	5	7
9	140	B	6	6	5
10	149	G	6	6	4
11	149	G	6	6	6
12	149	B	6	6	4
13	151	G	6	6	6
14	152	G	7	6	5
15	153	B	6	5	4
16	159	B	6	6	4
17	159	G	5	6	5
18	159	B	5	5	5
19	161	G	6	6	5
20	162	G	5	5	4