Engaging Adolescents in High School Music

Jennifer Claire Rosevear

Thesis submitted in fulfilment of the requirements for the degree of

Doctor of Philosophy

Elder Conservatorium of Music

Faculty of Humanities and Social Sciences

The University of Adelaide

February, 2008

CONTENTS

.

.

Appendices

.

ABSTRACT

This investigation aims to explore the attitudes of adolescents towards learning music and to gauge the extent of their involvement in the activities of playing, singing, creating and listening to music. It also seeks to determine the views of adolescents on attributions for success in various activities, including music. Beliefs about self-concept, or self-identity, and their relationships to academic achievement and musical involvement are explored.

The review of literature spans various facets of self-perception, including self-concept, self-esteem, self-efficacy, self-regulation, and self-concept development, and considers the role of music in self-concept development. The impact of self-perceptions on motivation, which is central to learning, achievement and engagement, is also considered. The basic principles of learning, and their application to learning in music, provide the foundation for specific aspects of music learning, namely, music literacy, learning to play a musical instrument, singing, music technology and informal learning. The relationship between music learning and academic achievement is reviewed. The particular importance of music in adolescence, and adolescent attitudes to school music, provide a backdrop to the analysis of the wide-ranging factors involved in self-concept development, motivation and learning principles, thus leading to an overview of the various approaches which can facilitate the engagement of adolescents in learning in general, and in high school music in particular.

A researcher-designed *Survey of Musical Experiences and Self-concept* was administered to Year 9 and 10 students in three high schools in metropolitan Adelaide, South Australia. Data from the survey, along with academic results, were collected from the 282 participants in the study. The data provide background information about each participant, along with their perceptions about perceived areas of strength and reasons for success in these areas. Information about involvement in musical activities was collated for all students, with approximately half of the students not studying music at school. Measures for self-esteem (Rosenberg, 1965) and perceived competence (Chan, 1993) were included in the survey. Using a mixture of qualitative and quantitative methods, the data were analysed in relation to the extent of involvement in

.

music, attitudes to learning music, students' attributions for success, and strengths of the relationships between musical involvement, self-concept and academic achievement.

Conclusions can be drawn based on the survey data and the literature review, and these emphasise the importance of the social nature of learning and of providing opportunities for creative work in classroom activities. The most outstanding finding to be highlighted from the study was the aspect of enjoyment as a reason for achievement which appears to feature prominently in students' responses, yet it is less widely recognised in the literature.

.

DECLARATION

This work contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text.

I give consent to this copy of my thesis, when deposited in the University Library, being made available for loan and photocopying, subject to the provisions of the Copyright Act 1968.

Signed: _____

Date: _____

.

ACKNOWLEDGEMENTS

.

LIST OF TABLES

.

.

LIST OF FIGURES

.

.

.

LIST OF MUSICAL EXAMPLES

.

Chapter 1

INTRODUCTION

1.1 Purpose of the study

The overall purpose of this study is to consider how to optimise and maximise the participation and engagement of high school students in Music[1] as a school subject. There are two main perspectives within which this consideration is being undertaken. Firstly, there is the perspective of the teaching and learning of Music as a school subject itself, and secondly, the perspective of the benefits of music learning in relation to other aspects such as self-concept development and academic achievement in general. The theme underlying this investigation is the relationship between involvement in music learning activities, self-concept development and academic achievement. The reciprocal relationship between self-concept and academic achievement is well recognised (Marsh, 2000). There is increasing recognition for the important role that music has in the development of self-identity and self-concepts (Hargreaves, Miell & MacDonald, 2002). If it can be shown that involvement in music learning can influence self-concept development and academic achievement, then increasing opportunities for students to undertake music learning need to be encouraged.

Within the high school curriculum, the subject Music can provide opportunities for students to study an area of interest, to develop practical skills, to express themselves, to be creative, to work collaboratively with peers, and to provide a sense of purpose and meaning. Music as a subject caters for a wide spectrum of backgrounds and interests. At one end, Music at school may be the extension of a passionate interest which has been nurtured for many years through family, school and other areas of the community. At the other end, Music may be the only school subject in which certain students are interested, and may be the only subject that keeps them going to school. Within a school, Music usually extends beyond the classroom to be a vibrant part of school life. Various school music performing groups, which arise from the foundation of the music curriculum, contribute to various aspects of school and community life

---

[1] The word Music appears with a capital letter, here and throughout the study, when referring to the name of the school subject.

.

such as school assemblies, school concerts, and performances in aged care facilities, shopping centres and a multitude of other community settings. Co-curricular or extra-curricular music performing groups fulfil an outreach function into the community which is very important.

However, within the subject of Music there needs to be ongoing recognition of the need to ensure that music teaching and learning embrace developments in general education in order to capture the interest and imagination of students and thereby to maximise engagement. This is likely to occur when students experience a sense of competence, relatedness and autonomy (Deci & Ryan, 1985). Students (and teachers) need to believe that everyone is capable of musical achievement (McPherson, 2007) as these beliefs impact upon whether or not music is likely to be taken up. Music is an area that has inherent interest and therefore lends itself to students being able to relate to it. Outside of school, listening to music, especially to contemporary popular music, is consistently rated as a highly popular past-time, albeit a passive one. Music listening is reported as being one of children's main leisure activities (Boal-Palheiros & Hargreaves, 2001), increasing dramatically in adolescence (Larson, 1995), to be *the* most preferred leisure activity for many adolescents (Fitzgerald, Joseph, Hayes & O'Regan, 1995; Roberts & Foehr, 2004). Acknowledgment of the important role of music outside school can be a starting point for education in music. The study of music has the potential to develop an individual's sense of autonomy, especially through active modes of engagement such as playing and singing, and composing, and the inherent opportunities for self-expression and creativity.

Aside from the development of musical understanding, the study of Music as a school subject can generate a range of benefits. Music learning can contribute to various aspects of self-concept development and academic achievement in general. Because music learning encourages active participation, involves aesthetic experiences and provides opportunities for group music making, it enhances perceptions about self-competence and fosters social aspects such as teamwork and co-operation. Learning to play a musical instrument, which is often undertaken in conjunction with Music as a school subject, enables students to develop self-regulatory strategies such as goal setting, time management, attention to the task and self-reflection. Such strategies can be applied to other areas of endeavour, including other school subjects. Although music

.

learning does not necessarily result in improved academic achievement, it is recognised that higher academic achievement is a characteristic of music and arts students at the high school level (Demorest & Morrison, 2000).

1.2 Theoretical basis of the study

The central role of the self-concept as a vital part of human development (Bruner, 1996) is taken as a theoretical starting point. Various facets of the self-concept are considered including self-esteem, self-efficacy and self-regulation. Self-esteem is the evaluative component of the self and involves feelings that one has about the perceived differences between the actual and the ideal self within different dimensions (Bruner, 1996; Dweck, 2000; Hargreaves, Miell and MacDonald, 2002; Rosenberg, 1965; Westen, 1996; Wylie, 1974). Self-efficacy refers to beliefs about the likelihood of being able to complete a task successfully, and involves the goals or tasks that are selected and the attainments of those (Bandura, 1997). The use of strategies to achieve goals falls within the area of self-regulation and this is widely recognised as being crucial to achievement in education and in everyday life (Baum, Owen & Oreck, 1997; Baumeister & Vohs, 2004; Zimmerman & Kitsantas, 2005). Dweck's (2000) theory about intelligence (being viewed as either a fixed entity or incremental) has implications for learning, particularly with regard to motivation. The principles of motivation, being based on needs for competence, relatedness and autonomy, as outlined in Deci and Ryan's (1985) self-determination theory, are relevant to learning. Weiner's (1986) model of attribution theory contributes to consideration of motivation in learning, and highlights the desirability of encouraging students to develop attribution beliefs based on effort rather than ability.

The constructivist family of learning theories, arising from the work of Bruner and Vygotsky, provides the basis for situating general principles of learning. Gardner's (1983) theory of multiple intelligences complements the constructivist theories of learning. The general principles of learning can readily be applied to music learning, the basis of which is thinking in sound. The Australian *National Review of School Music Education* (Department of Education, Science and Training, 2005) proposes guidelines for learning. These guidelines are categorised into music practice and

.

aesthetic understanding, which embrace an approach to music learning through making music, creating music and listening to music. That is, learning occurs through direct involvement with music and music making rather than learning 'about' music. The *South Australian Curriculum, Standards and Accountability Framework*[2] (Department of Education, Training and Employment, 2001) is based upon constructivism where "the learner is active in the process of taking in information and building knowledge and understanding" (p. 10). Learning to play a musical instrument, which is a part of music learning, involves developing a range of technical and musical skills through repetition and practice and therefore requires ongoing and persistent effort and motivation (Hallam, 2006a; Lehmann, 1997; McPherson & Zimmerman, 2002; McPherson & Davidson, 2006). Developing the ability to think in sound is central to all aspects of music learning. A basic principle in music learning is that the sound, whether real or imagined, comes before the symbol (Bridges, 1984; Gardner, 1983; Mills & McPherson, 2006; Schleuter, 1997; Wiggins, 2001). The informal learning practices of popular musicians, as outlined by Green (2002, 2005, 2006), warrant further consideration for inclusion in school music. The development of an incremental view of musical ability, which is that achievement in music is attributable to effort, is desirable, and this will help to promote a positive music self-concept (Hargreaves & Marshall, 2003; Lamont, 2002b; O'Neill & McPherson, 2002).

1.3 Research questions

The overall scope of this study seeks to consider how to optimise and maximise the participation and engagement of high school students in Music. It therefore involves consideration of various facets of self-concept development and learning principles, and how these may be applied both to learning in general and more specifically within Music as a school subject. In order to investigate these issues, the following six research questions were developed:

---

[2] The South Australian Curriculum Standards and Accountability (SACSA) Framework is the official curriculum document for schools in South Australia and describes the key ideas and outcomes on which schools build curriculum (South Australian Department of Education & Children's Services, 2007).

1. What is the extent of involvement in the musical activities of listening, playing and creating music by the participants in this study?

2. What are some of the attributions for success identified by the participants in this study?

3. To what extent do self-perceptions of the participants in this study relate to academic achievement?

4. To what extent do self-perceptions of the participants in this study relate to musical involvement?

5. What is the strength of the relationships between musical involvement, self-concept and academic achievement of the participants in this study?

6. What are the attitudes of participants in this study towards learning music?

In order to collect data pertaining to each of these six research questions, a *Survey of Musical Experiences and Self-concept* was developed (see Appendix E), with the intended audience for the survey being Year 9 and Year 10 students, comprising a mixture of those doing Music as a school subject and those not doing Music as a school subject. The other aspect of data collection involved having access to recent school results to give an indication of the academic achievement of the participants. Discussion of the results relating to each of the six research questions will occur in Chapter 6.

1.4 The significance of the study

Weiner's (1986) attribution theory explores beliefs about the reasons for being successful. Attribution theory identifies effort, ability, task difficulty and luck as the four main areas for the attribution of success, and thus provides a valuable framework for considering motivation to learn. In the present study, another factor emerged which was unexpected, but which became apparent in the data collected. The additional factor was that of enjoyment, which was perceived by the participants to be a frequent indicator of achievement.

Recent research has further emphasised the importance of the self-system in relation to achievement, whether in education, music or other fields, and particularly

.

with regard to the use of self-regulatory strategies which can be learned (Baum, Owen & Oreck, 1997; Hallam, 2006a; McPherson & Davidson, 2006; Zimmerman, 2000; Zimmerman & Kitsantas, 2005). The present study attempts to investigate two facets of self-concept, namely self-esteem and perceived competence.

Another aspect of the present study is investigation of the link between musical involvement and academic achievement. Gouzouasis, Guhn and Kishor (2007) investigated the predictive relationship between achievement and participation in music and achievement in core Grade 12 academic subjects. However, a dimension involving self-concept is not included in the Gouzouasis et al. study. The present study investigated aspects of self-concept, in addition to the relationship between music and academic achievement as in the Gouzouasis et al. (2007) study. Linch (1993) investigated the differences in academic achievement and level of self-esteem among high school instrumental music students. Linch's cohort included a mixture of participants, that is, those who were doing instrumental music and those who were not doing instrumental music, which is similar to the present study with regard to whether or not Music was being taken as a school subject. Linch's study measured self-esteem whereas the present study measured both self-esteem and perceived competence. Linch's study found no significant differences in the level of self-esteem, while there were significant differences in academic achievement in favour of the instrumental participants.

The survey participants include a mixture of those studying Music, as well as those not studying Music at school, with the extent of musical experiences being explored for all participants, not just those studying Music at school. The survey includes questions that relate to self-concept (namely self-esteem and perceived competence), as well as questions concerning beliefs about the reasons for achieving well in school subjects and other pursuits. The survey responses are then matched with the participants' school results to give an indication of their academic achievement. Because there is a mixture of Music and non-Music participants in the cohort, it is therefore possible to make comparisons between these two groups.

.

1.5 Context of the study

The study was carried out in Adelaide, which has a population of approximately 1.146 million people[3] and is the capital city in the state of South Australia. Following is a brief summary of some of the key features in the historical background of music education in South Australia in order to highlight those aspects which have contributed to the way in which music in schools has developed in this state.

European settlement in Adelaide began in the early 19th century, with the state of South Australia being proclaimed on December 28th, 1836. The teaching of musical instruments can be traced back to the beginning of the colony (Fox, 1988), and as schools became more widely established and with the proclaiming of the state's Education Act in 1875, singing became a compulsory subject. The development of singing, using the tonic *sol-fa*, was undertaken by Alexander Clark (1843-1913), who was appointed an Inspector of Schools in 1884 (Southcott, 1995). Clark supervised the development of the state's first music curriculum, a draft of which was published in the *South Australian Education Gazette* in 1891 (Southcott, 1995). The curriculum was based on singing songs using *sol-fa* notation, although Clark later made attempts to introduce staff notation into schools (Fox, 1988; Southcott, 1995).

Clark was also a co-founder in 1891 of the Public Schools' Music Society, an organisation which continues to flourish as the South Australian Public Primary Schools Music Festival. The Society organised an annual concert, comprising children from different schools making up the 'thousand voice choir'. Apart from suspending the concerts for several years during World War II, the principle of the massed choir concerts has continued to the present day. In 2003 the South Australian Public Primary Schools Music Festival (PSMF) was added to the Heritage Icon List created by the National Trust of South Australia (2007) and sponsored by BankSA. The PSMF currently involves approximately 6,000 children and 1,000 teachers in Adelaide, with 12 concerts, each comprising over 400 students, being held each September in the prestigious Adelaide Festival Theatre (South Australian Public Primary Schools' Music

---

[3] The proportion of South Australians living in Adelaide is nearly 73%. The population estimate is provided in the Australian Bureau of Statistics report 3101.0 *Australian Demographic Statistics* (p. 22) based on the 2006 Census (http://www.ausstats.abs.gov.au).

.

Society, 2007). Throughout the year, the children work on the specially selected repertoire, which is published in songbooks each year by the PSMF. Various support materials, such as recordings, as well as professional development for teachers, are provided. The Festival is also held in 9 regional centres throughout the state (South Australian Public Primary Schools' Music Society, 2007). Even though the PSMF is most effective in what it does, the number of government primary schools which have a specialist music teacher is very small. Unfortunately, most government primary schools do not have continuous, sequential music programs.

At the tertiary level, the University of Adelaide was the first in Australia to appoint a Chair in music in 1884. A rich bequest to the University from Sir Thomas Elder saw the establishment in 1898 of the Elder Conservatorium of Music. The fourth Elder Professor of Music, from 1948 to 1964, was John Bishop (1903-1964) who, along with Sir Lloyd Dumas, was also the driving force behind the establishment of the Adelaide Festival of Arts (Adelaide Festival of Arts, 2007), which is "acknowledged as one of the world's great arts festivals, with a tradition of innovation since 1960" (Dunn, 2002). The term 'festival' has been used as a state slogan – 'the festival state', and the main performing arts venue in the city is the Adelaide Festival Centre.

From around the early 1960s, the Music Branch of the Education Department of South Australia began to teach orchestral instruments in schools using peripatetic teachers conducting group lessons. The instrumental teaching program flourished, and currently operates as the Instrumental Music Service. Although facing financial pressures and restructuring, the Instrumental Music Service provides group tuition to approximately 9,000 students in both metropolitan and rural areas (Anderson, 2007). In general, the Instrumental Music Service complements the classroom based music curriculum in schools.

In the mid-1970s, the Labor government under the leadership of the Premier Don Dunstan and Education Minister Hugh Hudson, established four Special Interest Music Centres at four metropolitan government high schools – Brighton and Marryatville in 1976, Woodville in 1977, and Fremont in 1979. The Special Interest Music Centres continue to operate within the context of a comprehensive high school, and include programs of study for elective and general students, as well as special

.

interest students who are subject to a selection process based on potential demonstrated in an audition. In addition to the expected subjects such as English, Mathematics, Science and Studies of Society and Environment, special interest Music students study the equivalent of two subjects' worth of Music, and receive support to learn two instruments (including voice).

During 2005, the then Australian government Minister for Education, the Hon. Dr. Brendan Nelson, commissioned the National Review of School Music Education, which sought submissions from the public, including individuals and organisations regarding the quality and status of music in schools. The number of submissions to the review was around 6,000 which is a record for any national review ever undertaken in Australia. The report of the *National Review of School Music Education* (Department of Education, Science and Training, 2005), which is sub-titled *Augmenting the diminished*, highlights the value of music education for all Australian students, and acknowledges that:

> while there are examples of excellent music education in schools,
> many students miss out on effective music education because of the
> lack of equity of access; lack of quality of provision; and, the poor
> status of music in many schools. (p. v)

This ground-breaking report should enable improvements to music education to occur across the whole country. There are tensions between the state and federal governments regarding where responsibilities lie for funding education. There was a change of federal government from Liberal to Labor in November, 2007 and the new Opposition Leader is the Hon. Dr. Brendan Nelson. It is hoped that the recommendations from the Review can be implemented in a timely fashion.

Thus, this study has been carried out within the context of Music being relatively well supported in government high schools, with specialist music teachers in almost all high schools and the provision of some group instrumental tuition. There are also four Special Interest Music Centres in metropolitan Adelaide. The provision of music programs in primary schools is more sporadic. The outcomes of the National Review of School Music Education should provide benefits for music in South Australian schools in due course.

.

Chapter 2

REVIEW OF LITERATURE ON SELF-PERCEPTION AND MOTIVATION

This chapter reviews the relevant literature on various facets of self-perception, including self-concept, self-esteem, self-efficacy, and self-regulation. The literature on social cognitive theories of motivation in relation to learning will be explored, leading to consideration of the impact of self-perceptions upon identity development as well as upon learning and achievement.

2.1 Self-concept as an umbrella term

Understanding the concept of the self has been central to artistic and academic endeavours in society since at least the Middle Ages. According to Beane and Lipka (1984), the idea of seriously trying to know and understand oneself can be traced back many centuries in the history of art, music, literature, and other areas of the humanities. During the twentieth century, study of the self was the subject of increasing academic scrutiny, originating with the work of William James (1890) which is widely acknowledged as the springboard from which scientific interest in this area derived (see for example: Beane & Lipka, 1984; Blaskovich & Tomaka, 1991; Campbell, 1984; Elliott & Dweck, 2005; Harter, 1992; MacDonald, Hargreaves & Miell, 2002; Wells & Marwell, 1976; Westen, 1996; Wylie, 1974).

The importance of the development of one's self-concept is widely recognized across the social sciences and education. Bruner (1996) suggests that "perhaps the single most universal thing about human experience is the phenomenon of Self, and ... education is crucial to its formation. Education should be conducted with that fact in mind" (p. 35). The role of the self-concept is an essential factor in the consideration of educational progress (i.e. academic achievement). The Self-Concept Enhancement and Learning Facilitation [SELF] Research Centre at the University of Western Sydney deals with all aspects of self-concept research. The SELF Research Centre's (2001) vision statement affirms its aim to be internationally recognized as the leading centre for self-concept and identity research, by developing and promoting strategies that optimize self-concept as an important outcome in itself and in various social and cultural contexts. The SELF Research Centre (2001) also aims to "promote the role of self as a

.

key facilitator in the attainment of other valued outcomes such as: cultural identity; learning and achievement; healthier lifestyles; teaching effectiveness; physical, psychological, educational, social, emotional and occupational development and well-being" (p. 8). The SELF Research Centre cites the psychologist Nathaniel Branden in describing the importance of the self-concept/self-esteem construct. Branden states: "I cannot think of a single psychological problem … that is not traceable, at least in part, to the problem of deficient self-esteem" (as cited in SELF Research Centre, 2001, p. 8).

According to Lawrence (1988), self-concept is an umbrella term which refers to how we view ourselves (self-image), and how we view our ideal self (see Figure 1). The perceived differences, between the actual self and the ideal self, lie at the heart of the aspect of self-esteem. In particular, the feelings associated with evaluation of the discrepancies between self-image and ideal self contribute to one's self-esteem Lawrence (1988).
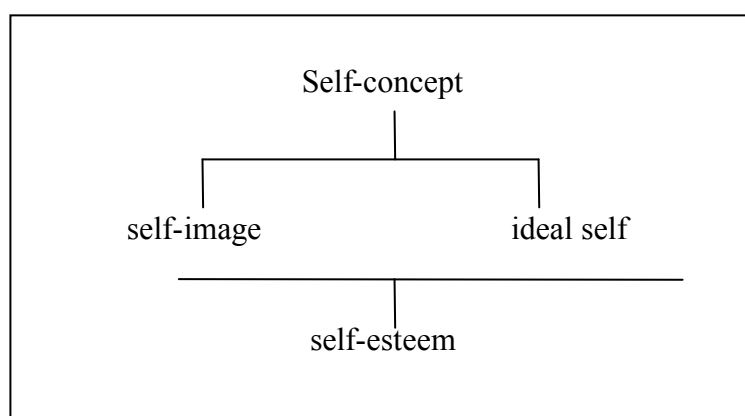
Figure 1: Self-concept as an umbrella term (Lawrence, 1988, p. 2).

As an area of scientific interest, studies of self-perceptions are described as embracing self-concept and self-esteem, are largely influenced by the environment, are hierarchical and multi-dimensional, and are subject to several processing devices as they search for consistency, maintenance, and enhancement (Beane & Lipka, 1984). Westen (1996) suggests that "the **self-concept** is the person's concept of himself; it is a concept like any other..., such as squirrel, tree, or hairdresser. **Self-esteem** refers to the degree to which the person likes, respects, or esteems the self" [bold in original] (p. 687). This concurs with the view put forward by Blascovich and Tomaka (1991) that

.

"self-esteem is usually thought to be the evaluative component of a broader representation of self, the self-concept, the latter being the more inclusive construct than self-esteem, one that contains cognitive and behavioral components as well as affective ones" (p. 115). Coopersmith (1967) concludes that "self-esteem is a *personal* judgment of worthiness that is expressed in the attitudes the individual holds toward himself. It is a subjective experience which the individual conveys to others by verbal reports and other overt expressive behaviour" (p. 5).

Dweck (2000) has put forward a model about the self which "does not portray the self as one monolithic thing. Instead it focuses on the self-beliefs and self-relevant goals that people develop, and these … can be domain-specific, situation sensitive and malleable over time" (p. 138). Dweck's view supports the idea of there being multiple ways in which we see ourselves depending on the sphere of activity or social context. The idea of self-concepts (plural) has evolved, and according to Hargreaves, Miell and MacDonald (2002), "*self-identity* is the overall view we have of ourselves in which these different self-concepts are integrated, although the ways in which individuals accomplish this remain a central and unresolved theoretical question" (p. 8).

Beane and Lipka (1984) put forward a diagram (see Figure 2) illustrating the process of self-perceiving which shows the individual at the centre engaging with the simultaneous processes of interacting with the environment, receiving and processing feedback, and responding to the impact of these processes on self-perceptions. The development of self-perception is a gradual process and "becomes more differentiated as [the individual] matures and interacts with significant others" (Battle, 1981, p. 14). The development of self-perception can be considered as a two-fold approach involving self and others. "The self-concept is a composite view of oneself that is presumed to be formed through direct experience and evaluations adopted from significant others" (Bandura, 1997, p. 10). According to Hargreaves, Miell and MacDonald (2002), "self-image develops by a process of monitoring our own behaviour, and making social comparisons" (p. 8). Shavelson and Bolus (1982) consider that self-perceptions are "formed through one's experience with and interpretations of one's environment and are influenced especially by reinforcements, evaluations by significant others, and one's attributions for one's own behaviour" (p. 3), while Beane and Lipka (1984) suggest that those persons who are perceived as most significant, have a more powerful role in

.

forming self-perceptions. For children of primary school age, significant others are most likely to be parents and teachers, while in later childhood and early adolescence the peer group begins to take on greater significance, sometimes resulting in conflicts because of differing values between the peer group, as opposed to parents and teachers (Beane & Lipka, 1984). Thus, self-concept embraces both the image of one's self and the evaluative aspect of self-esteem, and there is an ongoing process of interaction with the various environmental factors, and the resulting feedback which in turn affects self-perceptions.

Affects Self-Perceptions

Adapts, Changes, Refines,
Experiences,
Modifies, Stabilizes,
Enhances, Debilitates

Interacts with the environment

Significant Others, New
Information, Use of Skills,
Attitudes, Ideas

THE
INDIVIDUAL
Self-Concept
Self-Esteem
Values

Processes Feedback

Organizes, Scans, Screens,
Alters, Chooses, Reflects,
Motivates, Judges

Receives Feedback

Verbal, Nonverbal,
Praise, Criticism,
Rewards

Figure 2: The process of self-perceiving (Beane & Lipka, 1984, p. 17).

2.2 Self-esteem

Self-esteem, as mentioned previously, involves the feelings associated with discrepancies between self-image and the ideal self, can be considered as a part of self-

.

concept, and can be clearly differentiated from both self-image and self-concept. According to Wells and Marwell (1976), "every definition of self-esteem in the literature considers it a subset (sub-process or property) of self-conception" (p. 38). As indicated by Blascovich and Tomaka (1991), "the concept of self-esteem goes by a variety of names (e.g. self-worth, self-regard, self-respect, self-acceptance) all of which are compatible with the dictionary definition of 'esteem' ascribed to the self" (p. 115). Wylie (1974) uses "*the words 'self-regard' or 'self-regarding attitudes' as generic terms to include self-satisfaction, self-acceptance, self-esteem, self-favorability, congruence between self and ideal self, and discrepancies between self and ideal self*" [her italic] (p. 128). Self-esteem also "refers to a person's feelings toward the self" (Westen, 1996, p. 691) and the feelings that one has about the perceived differences between the actual and ideal self. However, self-esteem refers to more than the differences between the actual and ideal self. Hargreaves, Miell and MacDonald (2002) suggest that "self-esteem is the evaluative component of the self, and has both cognitive and emotional aspects: how worthy we think, and feel we are" (p. 8). Bruner (1996) suggests that self-esteem "combines our sense of what we believe ourselves to be (or even hope to be) capable of and what we fear is beyond us" (p. 37). Dweck (2000) proposes that, rather than being seen as something fixed, self-esteem be depicted in process terms, "as something that people seek, and something they strive to attain and maintain" (p. 138).

One of the difficulties with the term self-esteem is its use in popular, day-to-day usage, as well its use as a psychological construct (Blaskovich & Tomaka, 1991; Appleyard, 2002). Swann (1996) highlights how 'self-esteem' unfortunately became the focus for attention in solving problems in society, for example, as illustrated in the final report of the California Task Force to Promote Self-Esteem and Personal and State Responsibility (*Toward a State of Esteem*, 1990) which defined self-esteem as: "appreciating my own worth and importance and having the character to be accountable for myself and to act responsibly toward others". While this definition may include highly desirable social goals, it nevertheless adds an extra dimension to self-esteem, namely accountability, to the more usual descriptions of the self-esteem concept. Swann (1996) has been scathing about the California Task Force which he believes "was predicated on the assumption that raising self-esteem could help to remedy virtually all of the [social and psychological] problems … *plus* welfare dependency,

teenage pregnancy, academic failure, and recidivism" (p. 6). While the development of a positive self-esteem is important for each individual, Swann (1996) reminds us that "real social problems cannot be reduced simply to personal psychopathology" (p. 8). Swann (1996) goes on to say that the pursuit of "high self-esteem has become part of the American Dream" (p. 7) resulting in a 'self-esteem movement' which has become prominent in education, and other areas such as television talk shows. The outcomes from this popular attention to self-esteem blithely and naively promoted the idea that teachers should encourage students to recite hollow affirmations or give them easy problems to build their self-esteem, so that everything else (such as academic achievement and social responsibility) would therefore fall into place, rather than providing curricula that foster a sense of competence by encouraging children to overcome suitable challenges (Swann, 1996). Dweck (2000) states that self-esteem "is not an internal quality that is fed by easy successes and diminished by failures. It is a positive way of experiencing yourself when you are fully engaged and are using your abilities to the utmost in the pursuit of something you value" (p. 4).

In exploring the aspect of self-esteem, it is relevant to consider its role in human behaviour. In developing a theory of human motivation, Maslow (1954) proposed that the basic human needs are organized into a hierarchy which can be summarised, in ascending order, as follows: the physiological needs; the safety needs; the belongingness and love needs; the esteem needs; the self-actualization needs. In addition to these basic needs, Maslow (1954) suggested there is a related hierarchy of cognitive needs (the desires to know and to understand), as well as a hierarchy of aesthetic needs. With regard to the esteem needs category which appears in the basic needs hierarchy, Maslow goes on to say that:

> All people in our society (with a few pathological exceptions) have a
> need or desire for a stable, firmly based, usually high evaluation of
> themselves, for self-respect or self-esteem, and for the esteem of
> others. . . . Satisfaction of the self-esteem need leads to feelings of
> self-confidence, worth, strength, capability, and adequacy, of being
> useful and necessary in the world. But thwarting of these needs
> produces feelings of inferiority, of weakness, and of helplessness.
> These feelings in turn give rise to either basic discouragement or else
> compensatory or neurotic trends. (Maslow, 1954, p. 21)

Maslow's description of the esteem needs in the hierarchy of basic human needs highlights the importance of self-esteem, for which "there is widespread acceptance of

[its] psychological importance" (Blascovich & Tomaka, 1991, p. 116). James (1890, p. 310) put forward a formula for defining self-esteem as follows:

$$\text{self-esteem} = \frac{\text{success}}{\text{pretensions}}$$

This ratio is dependent upon the level of our aspirations (pretensions); if we do not aspire to something, then lack of success in that area will not impact upon our self-esteem. However, if we do have a high aspiration and little success there, then it may affect the level of self-esteem. Campbell (1984) illustrates this with an anecdote about his golf score of 94, which compared to his usual score of 104, made him feel elated. His companion, however, who usually achieved scores in the 70's or low 80's, was enraged to get 92. Thus, "almost identical golf scores had brought joy to me and frustration to him because his self-concept as a golfer was so much higher than mine" (Campbell, 1984, pp. 3-4). How one views one's abilities or aspirations may therefore affect one's self-esteem. If there is psychological distress experienced by discrepancies between self-image and ideal self, this may result in feelings of lowered self-esteem (Hargreaves, Miell & MacDonald, 2002). Blascovich and Tomaka (1991) suggest that:

> cognitions about the self (contained in the self-concept) may or may not influence self-esteem. For example, believing one is a terrible singer may be a part of one's self-concept but may not bear any relation to one's feelings of self-worth. Feeling mildly or severely depressed because one cannot sing, however, is a matter of self-esteem, as is the behavioral consequence of jumping off the roof of an 18-story building to end one's humiliation over this deficiency.
> (p. 115)

Self-esteem may therefore be considered to relate to values which an individual develops along with their self-concept. Westen (1996) reports that "research with Western subjects suggests that self-esteem is hierarchically organized. …Thus, nested below a general level of self-esteem, people have feelings about themselves along specific dimensions, such as their morality, physical appearance, and competence" (p. 691).

The development of self-esteem is a complex process that largely evolves through childhood and adolescence. "The factors that influence self-esteem and its

.

development have been studied extensively, and one of the key findings is the importance of the influence that other people can have on an individual's sense of worth" (Hargreaves, Miell & MacDonald, 2002, p. 8). According to Battle (1981), "perception of self-worth, once established, tends to be fairly stable and resistant to change" (p. 14). Lawrence (1988) refers to global self-esteem as "an individual's overall feeling of self-worth [which is] relatively stable and consistent over time" (p. 8). In addition to this overall, or global, self-esteem there may be specific situations which give rise to feelings of worth or unworthiness. Lawrence (1988) goes on to describe how "if we regularly participate in . . . activities which make us feel inadequate … [and] if we continue to fail in areas which are valued by the significant people in our lives then our overall self-esteem is affected" (p. 8). It is clear that the development of a positive self-esteem, which can be influenced by significant others, is central to individual contentment.

According to Kalandyk (1997), "self-esteem is found to be a powerful mediator of human behaviour - strongly associated with effective functioning and personal satisfaction" (p. 31). Dweck (2000) reminds us that self-esteem "is not something we *give* to people by telling them about their high intelligence. It is something we equip them to get for themselves – by teaching them to value learning over the appearance of smartness, to relish challenge and effort, and to use errors as routes to mastery" (p. 4). As mentioned earlier, Maslow (1954) described the likely outcome of satisfying the self-esteem need as being associated with feelings of competence, which is equated here to the notion of positive self-esteem. Maslow (1954) also suggested, on the other hand, that not satisfying the self-esteem need was likely to be associated with feelings of inferiority and helplessness, which is equated here to low self-esteem. A similar view, referring to 'high' and 'low' self-esteem, is presented by Rosenberg (1965) who wrote:

> When we speak of high self-esteem, then, we shall simply mean that the individual respects himself, considers himself worthy; he does not necessarily consider himself better than others, but he definitely does not consider himself worse; he does not feel that he is the ultimate in perfection but, on the contrary, recognizes his limitations and expects to grow and improve. Low self-esteem, on the other hand, implies self-rejection, self-dissatisfaction, self-contempt. The individual lacks respect for the self he observes. The self-picture is disagreeable, and he wishes it were otherwise. (p. 31)

.

The pursuit of 'high' self-esteem, as described here by Rosenberg, is generally equated with positive self-esteem as a universally desirable goal. Reasoner (1982) suggests that "individuals with high self-esteem demonstrate a high degree of acceptance of self and of others" (p. 1). High self-esteem is likely to develop from successful experiences in areas which are valued by the individual. According to Greenberg (1970) "people learn that they are able, not from failure, but from success. … A positive view of self is the direct result of successful experience and accomplishment" (p. 58). In order to develop and maintain a high level of self-esteem, Westen (1996) suggests that people generally give "greater emotional weight to areas in which they are more successful" (p. 692). Lawrence (1988) points out how "unrealistic demands may result in low self-esteem, but no demands at all may result in no achievement. …[It] is not failure to achieve which produces low self-esteem, it is the way the significant people in the child's life react to the failure" (p. 5). Campbell (1990) uses the term 'self-concept clarity' to indicate "certainty of the knowledge structure: the extent to which the contents or self-beliefs are clearly and confidently defined" (p. 539), and she suggests that "people lower in self-esteem have self-knowledge structures that are less clearly defined" Campbell (1990, p. 547).

Lorr and Wunderlich (1986) suggest that "self-esteem is a function of: (a) perceived appraisals of significant others, or (b) the individual's feelings of efficacy and competence" (p. 18). While the views of significant others are important in the development of self-esteem, the individual's sense of accomplishment can also contribute to self-esteem which in turn can be a key factor in motivation to learn. Liebkind (1992) describes the self-esteem motive as a pervasive, universal motive to maintain a positive conception of oneself, and which can be based on a sense of competence or effective performance. When considering the notion of competence in relation to self-esteem, the importance of experiencing 'success' is apparent, as this may in turn affect attitudes to learning. Overall, there is a basic human need for self-esteem which derives from feelings about the differences between self-image and the ideal self. Self-esteem is the evaluative aspect within self-concept and feelings about competence and feelings about the views of peers, parents and teachers can contribute to one's self-esteem.

.

2.3 Self-efficacy and self-regulation

In simple terms, self-efficacy refers to one's belief in one's ability to carry out a task successfully, while self-regulation refers to the processes or strategies which one uses to ensure success at the task, as illustrated in Figure 3. The constructs of self-efficacy and self-regulation have emerged over the last two decades as aspects of self-perception which are more readily observable and more receptive to development than self-esteem, and which are more likely to be predictors of achievement. The notion of self-efficacy is quite separate from self-esteem, the latter being concerned with valuing of oneself, whereas self-efficacy is perceived performance on a particular task. "Self-efficacy and self-concepts involve beliefs or expectations about oneself rather than the self-relevant feelings that lie at the heart of self-esteem" (Leary, 2004, p. 379). This view is supported by Bandura who states that "there is no fixed relationship between beliefs about one's capabilities and whether one likes or dislikes oneself" (Bandura, 1997, p. 11).
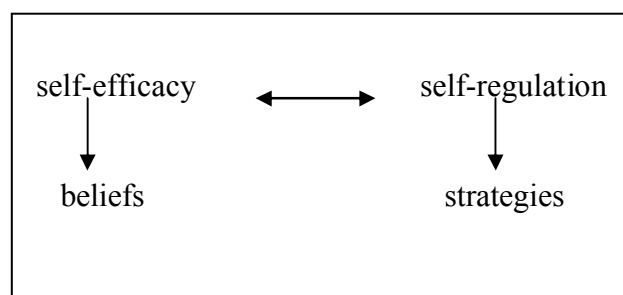
Figure 3: Diagram of self-efficacy and self-regulation parameters.

There appears to be no clear relationship between self-esteem and achievement, as "self-esteem affects neither personal goals nor performance" (Bandura, 1997, p. 11). On the other hand, perceived personal efficacy predicts the goals people set for themselves and their performance attainments (Bandura, 1997). It may also be possible to achieve well in an area in which one does not particularly value oneself and vice versa (Zimmerman, 2000). "Individuals may judge themselves hopelessly inefficacious in a given activity without suffering any loss of self-esteem whatsoever, because they do not invest their self-worth in that activity" (Bandura, 1997, p. 11).

.

Whilst self-concept is a more general term that embraces both how we view ourselves (self-knowledge) and how we value ourselves (self-esteem), self-efficacy involves our beliefs about our ability to achieve specific tasks. The constructs of self-efficacy and self-concept are closely related (Austin, Renwick & McPherson, 2006; Zimmerman, 2000) and "self-concept largely reflects people's beliefs in their personal efficacy" (Bandura, 1997, p. 11). Bong and Clark (1999), in commenting on the difference between self-concept and self-efficacy, suggest that "self-concept is judged to be more inclusive … because it embraces a broader range of descriptive and evaluative inferences, with ensuing affective reactions. Self-efficacy emerges as a relatively unidimensional construct that largely embodies one's cognitive perceptions of competence in a given domain" (p. 142). However, Bong and Clark (1999) also note that

> the distinction between self-concept and self-efficacy often becomes blurred. This is because, although the conceptual definitions of academic self-concept often include both cognitive and affective components, its measures tend to concentrate on one's perception of competence over other self-relevant information. This renders academic self-concept (as measured) and self-efficacy more analogous than theoretical analysis suggests". (p. 141)

The research of Multon, Brown and Lent (1991) investigated the relation of self-efficacy beliefs to academic outcomes, as put forward in "Bandura's (1977, 1982, 1986) theoretical framework … [which suggests that] … behaviour changes … are in part the result of creating or strengthening one's efficacy expectations" (p. 30). Multon et al. (1991) were investigating the hypothesis that self-efficacy could "influence choice of behavioral activities, effort expenditure, persistence in the face of obstacles, and task performance" (p. 30) and they found that "self-efficacy beliefs are generally related to academic behaviors" (p. 36).

In particular, self-efficacy is defined as "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (Bandura, 1986, p. 391). While self-perception also involves judgments about oneself, self-efficacy is geared towards specific actions and beliefs about how well these actions can be carried out by oneself, as put forward in Bandura's social-cognitive model of behaviour (Bandura, 1986; Maehr, Pintrich & Linnenbrink, 2002, p.

.

357). Self-efficacy beliefs have a strong impact on aspects of human behaviour, including learning. According to Bandura (1997),

> efficacy beliefs affect thought processes, the level and persistency of motivation, and affective states, all of which are important contributors to the types of performances that are realised. … [B]eliefs of personal efficacy are active contributors to, rather than mere inert predictors of, human attainments. (p. 39)

A comparison of the likely outcomes based on efficacy beliefs as outlined by Bandura (1997) is shown in Table 1. This comparison highlights the potential impact of efficacy beliefs on outcomes, with compelling implications for education.

Table 1: Comparison of likely outcomes based on efficacy beliefs (adapted from Bandura, 1997, p. 39).

NOTE: This table is included on page 21 in the print copy of the thesis held in the University of Adelaide Library.

Zimmerman further supports the importance of self-efficacy beliefs in learning and suggests that self-efficacy beliefs play a causal role in students' achievement and are predictive of students' effort and persistence (Zimmerman, 2000). McCormick and McPherson (2003) also found that there is "a strong association between self-efficacy and actual performance and the former's clear superiority as a predictor of actual performance" (p. 48). It is widely recognized that effort and persistence are significant

factors in achievement, and Zimmerman (2000) proposes that there are benefits for education if there is a "focus on fostering a positive sense of personal efficacy rather than merely diminishing scholastic anxiety" (p. 87). Bandura (1997) asserts that "perceived self-efficacy contributes to performance accomplishments over and above the effects of skill development" (p.102), thus highlighting the importance of self-efficacy beliefs within the learning process. In reviewing research into self-efficacy, Zimmerman (2000) concludes that

> when studied as a mediating variable in training studies, self-efficacy has proven to be responsive to improvements in students' methods of learning (especially those involving greater self-regulation) and predictive of achievement outcomes. This empirical evidence of its role as a potent mediator of students' learning and motivation confirms the historic wisdom of educators that students' self-beliefs about academic capabilities do play an essential role in their motivation to achieve. (p. 89)

Given the importance of self-efficacy beliefs in predicting achievement, the question of whether such beliefs are receptive to development is an important one. "Self-efficacy is malleable to the effects of positive and negative performance feedback: the implication being that performance can be improved via positive performance feedback that raised efficacy expectations" (Lane & Lane, 2001, p. 692). It would appear that students' self-efficacy beliefs are receptive to being nurtured and fostered, and Lane and Lane (2001) report on research into "intervention strategies designed to raise self-efficacy to bring about improved performance" (p. 688). There is a range of factors which can affect how much self-efficacy expectations may change, including preconceived ideas about one's ability, task difficulty, amount of effort required, assistance available, the environment, previous experiences, and the way these experiences are cognitively arranged and reconstructed in memory (Bandura, 1997).

Self-regulation refers to the selected processes or strategies which one uses to achieve a particular task. Self-regulatory behaviour in order to achieve the task can often be observed, and self-regulation can be thought of as the practical manifestation of self-efficacy. Baumeister and Vohs (2004) define self-regulation as "the ability to change oneself and exert control over one's inner processes" (p. ix). Bresler (2002) suggests that "self-regulation involves paying attention, using feedback, problem solving in a curricular context, self-initiating, asking questions, taking risks,

.

cooperating, persevering, being prepared, [and] setting goals" (p. 1076). Zimmerman and Kitsantas (2005) identify a rich variety of self-regulatory processes: goal setting, task strategies, imagery, time management, self-monitoring, self-evaluation, environmental structuring, and help seeking. Baum, Owen and Oreck (1997) describe the practical aspects of academic self-regulation as including "such processes as choosing practice techniques, using memory aids, finding suitable places to work, asking relevant questions, and setting interim goals" (p. 32). The use of self-regulatory techniques implies that the individual is able to draw on a range of processes which can be developed and refined and which enables the individual to be in control and responsible for his or her performance or behaviour. These techniques can impact upon achievement such as through the setting of challenging goals, monitoring working time, and being more persistent. There is "widespread recognition of the central importance of self-regulation, both to the practicalities of everyday life and to the advancement of psychological theories about self and identity" (Baumeister & Vohs, 2004, p. ix).

These self-regulatory processes are not a fixed characteristic of individuals (McPherson & Zimmerman, 2002), but can be learned and acquired. Baum et al. (1997) agree that "these processes can also be developed and refined by the external environment" (p. 32). According to McPherson and Zimmerman (2002), "the available evidence suggests … that the acquisition of self-regulatory processes starts early, and then becomes integrated into cycles with increasing age and experience" (p. 343). Baum et al. (1997) lament that

> self-regulation skills to improve achievement are rarely taught in classrooms. Teachers often mistakenly view student failures or learning difficulties as evidence of limited academic ability and thus lower their achievement expectations for those students. In truth, many difficulties are spawned by students' failures to self-regulate. As a result, low achievers may become inattentive and display a variety of behavior problems, compelling the teacher to focus on behavior management and classroom control. But keeping students calm and passive does not teach self-regulation; on the contrary, such practices can cause students to become less actively engaged in their learning, especially as expectations for their success are lowered. Under these circumstances students will remain novices at self-regulation, when the goal of the school should be to help them acquire and master these skills. (p. 32).

.

Zimmerman and Kitsantas (2005) report that "there is compelling research evidence that self-regulated learning processes are predictive of both enhanced motivation and superior academic and athletic performance outcomes" (p. 514). According to Bandura (1997), "a crucial predictor of self-development is the self-regulatory capability to mobilize and sustain the perseverant effort needed to convert potential to behavioral fulfillment" (p. 104).   Zimmerman and Campillo's (2003) figure of phases and sub-phases of self-regulation (see Figure 4), cited in Zimmerman and Kitsantas (2005, p. 515), identifies three cyclical self-regulatory phases: forethought, performance and self-reflection. In the forethought phase, there are two categories, namely, task analysis and self-motivation beliefs, the latter including self-efficacy. Zimmerman and Kitsantas (2005) suggest that individuals who display high levels of self-regulation are able to analyse the task, break it into component parts, set learning goals according to a logical hierarchy, and plan appropriate strategies which enable them to work effectively by themselves for long periods of time. For those who are poor self-regulators, they "perceive little efficacy, have low academic outcome expectations, are performance-oriented, and have little intrinsic interest in academic learning tasks" (Zimmerman & Kitsantas, 2005, p. 516).

Performance Phase
Self-control
Self-instruction
Imagery
Attention focusing
Task strategies
Self-Observation
Metacognitive monitoring
Self-recording

Forethought Phase
Task Analysis
Goal setting
Strategic planning

Self-motivation beliefs
Self-efficacy
Outcome expectations
Task interest/value
Goal orientation

Self-reflection Phase
Self-judgment
Self-evaluation
Causal Attribution

Self-Reaction
Self-satisfaction/affect
Adaptive/defensive

Figure 4. Phases and sub-phases of self-regulation, Zimmerman and Campillo (2003). Cited in Zimmerman and Kitsantas (2005, p. 515).

.

In summary, self-efficacy (beliefs) and self-regulation (processes) are strong factors that can impact upon how individuals choose tasks, persist, and achieve outcomes. Self-efficacy beliefs and self-regulation processes are both responsive to development. Zimmerman and Kitsantas (2005) note that "students who use self-regulatory processes frequently enjoy greater success and are more motivated" (p. 512). Specific self-regulation techniques, which can be effective in improving outcomes, can be learned and implemented by individuals.

2.4 Self-concept development

While the family and home environment play a most important role in children's development, schooling also plays a major part, not only in the acquisition of skills and knowledge in diverse subject areas, but in the development of self-concept. Teachers are in a position to be able to develop classroom conditions that lend themselves to developing in students their senses of security, self-concept, belonging, purpose and personal competence (Reasoner, 1982). According to Fontana (1995), there are two major areas in education, namely 'knowing' and 'being'. Fontana (1995) says that schooling concentrates almost exclusively on the knowing area, to the virtual exclusion of the being area which is described as:

> the area of the self, of feelings, and . . . the area that primarily leads to psychological health. . . . Without the necessary development of their 'being', individuals cannot acquire as they grow through life the balance, the personal adjustment, the creative independence and the rewarding relationships with others that make up psychological health and that lead to a proper understanding and acceptance of the self.
> (p. 279)

In considering the development of the self-concept, it is helpful to consider the idea of self-identity put forward by Hargreaves, Miell and MacDonald (2002) that "the *self-system* is made up of a number of *self-concepts*, or *self-images*, which are the different ways in which we see ourselves…. *Self-identity* is the overall view that we have of ourselves in which these different self-concepts are integrated" (pp. 7-8). The process of self-identity development involves two main areas, namely, monitoring one's own behaviour and making comparisons with others (Lamont, 2002a; Hargreaves, Miell & MacDonald, 2002). It appears that children's ability-related beliefs and values

.

become more negative as they get older, while at the same time they are better able to understand feedback and to engage in more social comparison with their peers (Eccles & Wigfield, 1995). It would appear that self-observations tend to predominate in the younger years but that social comparisons become increasingly influential throughout childhood and are particularly so in adolescence (Dweck, 2000; Lamont, 2002a).

The relationship between academic self-concept and academic achievement, in particular, whether self-concept influences achievement or whether achievement influences self-concept, has been a topic of interest (Caslyn & Kenny, 1977; Eccles, 1983b; Shavelson & Bolus, 1982). According to Marsh (2000), "the causal ordering of academic self-concept and academic achievement is, perhaps, the most vexing question in academic self-concept research" (p. 7). The self-enhancement theory, where there are interventions aimed at improving children's self-concepts, suggests that "children with positive self-concepts are more motivated to work hard and more capable of coping with difficult learning, and therefore achieve at a high level" (Song & Hattie, 1984, cited in Austin, Renwick & McPherson, 2006, p. 221). The skill development theory advocates "enhancing children's learning strategies as a precursor to improved performance, greater achievement, and more positive self-concepts" (Austin et al., 2006, p. 221). Recent research suggests that there is a two-way or reciprocal interaction between academic self-concept and academic achievement, so that increased self-concept is not only an outcome of achievement but that academic self-concept also influences future achievement and other desirable educational aspects (Self-Concept Enhancement and Learning Facilitation Research Centre, 2001).

In considering the development of self-concept, it is relevant to review Dweck's (2000) entity and incremental theory of intelligence. In the entity theory, "people believe [that] their intelligence is a fixed trait" (Dweck, 2000, p. 2), and "believe that their abilities are innate and relatively fixed, such that there is little that can be done to change them" (Hargreaves and Marshall, 2003, p. 265). For students who hold entity beliefs, they are "more likely to develop an overconcern with proving their competence, avoid challenges, and show an inability to cope with failure or difficulty" (O'Neill & McPherson, 2002, p. 39). Such students are also likely to "show low persistence and performance deterioration in the face of failure" (O'Neill, 2002, p. 81), which is similar

.

to the likely outcomes when individuals have low efficacy beliefs about their capabilities in particular domains (see Table 1).

> An entity theory creates a meaning system focused on the goal of measuring and validating competence, and is thus associated with ability-oriented performance goals, ability attributions for setbacks, and the belief that effort indicates low ability. These goals and beliefs lead, in turn, to helpless or defensive reactions to difficulty and to lowered self-esteem, intrinsic motivation, and learning in the face of difficulty. (Dweck & Molden, 2005, p. 137)

The contrasting incremental theory, however, "creates a meaning system built around the acquisition of competence and is thus linked to learning goals, effort and strategy attributions for setbacks, and the belief that effort increases ability. These goals and beliefs then promote mastery-oriented strategies in the face of challenge, which lead to enhanced self-esteem, intrinsic motivation and learning" (Dweck & Molden, 2005, p. 137). Therefore, students who "possess incremental beliefs thrive on challenges and view performance opportunities as providing chances to learn new things rather than merely [to] display their ability" (O'Neill & McPherson, 2002, p. 39). In the incremental theory, "intelligence is not a fixed trait that they simply possess, but something that they can cultivate through learning… [and that] can be increased through one's efforts" (Dweck, 2000, p. 3). An individual may hold different beliefs in different spheres, for example, "a child might hold an entity theory in relation to musical activities and an incremental theory toward sports activities" (O'Neill, 2002, p. 80).

Following on from Fontana's (1995) criticism that schooling concentrates much more on 'knowing' than 'being', it is desirable to incorporate within education an increase in individuals' awareness and understanding of the various facets of self-concept and how these can interact with achievement. In particular, providing guidance in developing and acquiring self-regulatory skills could increase persistence and effort and thereby influence achievement. As previously discussed, self-efficacy beliefs have a strong effect on achievement (Bandura, 1997; Lane & Lane, 2001; Multon et al., 1991; Zimmerman, 2000). Encouraging students to develop an incremental view of their abilities is also likely to result in behaviour that resembles effective use of self-regulatory skills and high self-efficacy beliefs.

.

2.5 Indicators of motivation

Motivation has long been an area of investigation, with explanations of motivation providing cues to understanding human behaviour that are of great interest across many different fields. Motivation, which refers to "the process whereby goal-directed behaviour is instigated and sustained" (Schunk, 1990, p. 3), continues to be one of the central concerns for teachers because of the perceived effects of motivation as a key component of learning and achievement (Stipek, 2002). According to Maehr et al. (2002), there are behavioural indicators of motivation that can be observed. Firstly, the indicator of choice and preference refers to how much attention students pay to various tasks. Secondly, there is the indicator of intensity, which refers to the extent of their involvement in the task. The third indicator, persistence, signifies that motivation for the task is being sustained, while the fourth indicator, quality of engagement, signifies that higher level strategies are being used to complete the task (Maehr et al., 2002). Whilst these are observable behaviours, in a sense, they are the 'tip of the iceberg', because the affective and cognitive indicators of motivation, that is, "how people *feel* and *think* about something is also important in inferring the level and depth of motivation" (Maehr et al., 2002, p.350).

Drawing upon Dweck's (2000) model of entity and incremental theory belief systems (see earlier in Section 2.4) can assist in explaining some aspects of motivation in learning. Students with an entity or fixed view of their attributes are "likely to be highly concerned with measuring those attributes, often to the detriment of their learning, … [and] to interpret setbacks as a reflection of their underlying competence and to show defensive or ineffective strategies in the face of threat" (Dweck & Molden, 2005, p. 124). Students who have an entity view are likely to exhibit "maladaptive 'helpless' patterns … [and they] will avoid challenges, and show low persistence and performance deterioration in the face of failure" (O'Neill, 2002, p. 81). Thus, students with an entity view are likely to have low levels of motivation towards learning tasks. On the other hand, students with an incremental view of their attributes tend to display "adaptive 'mastery-oriented' patterns [and] tend to remain high in their persistence following failure and appear to enjoy exerting effort in the pursuit of task mastery" (O'Neill, 2002, p. 81), which reflects higher levels of motivation. This observation of incremental view students resonates with Dweck's (2000) description of those who have

.

achieved success: "the hallmark of successful individuals is that they love learning, they seek challenges, they value effort, and they persist in the face of obstacles" (p. 4). In discussing these entity and incremental views, O'Neill (2002) remarks that, "what is especially interesting about these two motivational patterns, is that helpless children often are initially equal in ability to mastery-oriented children. Indeed, some of the brightest, most skilled children exhibit helpless behavior" (p. 81). Dweck (2000) reports that "important conceptions about the self are operative in early childhood… [and] beliefs about the self … play a central role in their motivation" (pp. 142-3). Dweck (2000) suggests that these beliefs may be formed by feedback from others, that with increasing age the peer group becomes increasingly important, and that beliefs may be malleable, but she also notes that there are many questions about how such beliefs may be formed and changed and what role they play in adaptive functioning.

Ryan and Deci (2000) describe intrinsic motivation as "the inherent tendency to seek out novelty and challenges, to extend and exercise one's capacities, to explore, and to learn" (p. 70). Intrinsic motivation is more likely to flourish when students experience feelings of competence in combination with autonomy. Feelings about competence are based on feedback about tasks, whether from teachers, peers or parents, while "choice, acknowledgement of feelings, and opportunities for self-direction were found to enhance intrinsic motivation because they allow people a greater feeling of autonomy" (Ryan and Deci, 2000, p. 70). It was also found that "teachers who are autonomy supportive (in contrast to controlling) catalyze in their students greater intrinsic motivation, curiosity, and desire for challenge" (Ryan and Deci, 2000, p. 71), and "that students are more likely to be actively engaged in academic tasks" (Stipek, 2002, p. 314). When such learning conditions are created, it is likely that

> children's intrinsic motivation tends to be directed toward, and that children develop preferences for, activities that are optimally challenging, that are available in their environment and engaged in by significant adults, that leave them feeling competent, and that they are able to undertake in a relatively self-determined manner. (Deci & Ryan, 1992, p. 32)

Therefore, learning environments which are likely to promote higher levels of motivation are those in which students are encouraged to develop incremental beliefs about ability, where they have some independence and sense of control over what they are doing, and where they are likely to experience feelings of success ("I can do this").

.

2.6 Social cognitive theories/models of motivation

Social cognitive theories of motivation focus on cognitions and affects, that is, thinking and feeling. "Motivation is thought to be derived from expectations, values, interest, one's sense of self, attributions about success or failure, and goals or purposes, all of which originate primarily within the individual" (Maehr et al., 2002, p. 351). According to O'Neill (2002), the social cognitive approach has "provided valuable insights into the central role of identity and self-perceptions in motivation and development and the ways in which self-theories mediate and regulate behaviour" (pp. 84-85). Austin et al. (2006) put forward a view of motivation as "a dynamic process involving the *self-system* (perceptions, thoughts, beliefs, emotions), the *social system* (e.g., teachers, peers, parents and siblings), *actions* (motivated behaviours including learning investment and regulation), and *outcomes* (learning, achievement)" (p. 213). Maehr et al. (2002) discuss five theories in their review of social cognitive models of motivation, namely: expectancy-value theory; self-efficacy theory; attribution theory; achievement goal theory; and intrinsic motivation theory, and these will now be discussed.

Expectancy-value theory

In the expectancy-value theory, which has been developed by Eccles (1983b), there are two main components: the expectancy component which refers to students' beliefs about their ability to perform the task, and the value component which refers to students' beliefs about the importance and value of the task. Both components have a direct influence on motivation. The expectancy component incorporates two aspects, namely, students' expectations or beliefs about how well they will be able to complete tasks, and students' perceptions about their ability or competence (Maehr et al., 2002). "Children who perceive themselves as highly competent are more likely to engage in learning tasks, utilize the skills and strategies they possess, persist when they confront difficulties, and achieve success" (Austin et al., 2006, p. 220). The expectancy component therefore embraces self-efficacy beliefs, with higher beliefs more likely to result in these mastery-oriented outcomes.

The value component involves four aspects, namely, importance, utility, interest and cost (Eccles, 1983b). The importance, or attainment value, embraces personal

.

beliefs about the relative importance of doing well on the task, which may therefore impact upon one's self-identity or self-concept. The utility aspect refers to the perceived usefulness of the task to one's personal goals, and the interest aspect involves how much the task is personally enjoyable or interesting, which O'Neill and McPherson (2002) refer to as "intrinsic motivation" (p. 32). The cost aspect relates to how much personal investment of time may be needed or whether pursuing the task means having to give up time being with friends. These aspects are distinct from each other as well as being distinct within different domains (Maehr et al., 2002). "Children's interest in and beliefs about the relative value or importance of learning opportunities are major determinants of task engagement (initiation and continuation) and achievement striving" (Austin et al., 2006, p. 227).

The aspects of the value component are likely to change over time, with younger children having a natural, spontaneous interest, then increasing with age, the aspects of importance, utility and cost are likely to become stronger considerations. "Value-related beliefs become more differentiated and domain-specific with age" (Austin et al., 2006, p. 227). In general, it has been shown that expectancy and value components are both likely to decrease from early childhood to adolescence (Austin et al., 2006; Maehr et al., 2002). For areas which are liked and are perceived to be areas of strength, however, there tend to be strong correlations between expectancy and value components which become stronger as children get older.

> We tend to like and value those activities that we are good at and vice versa, although it is not clear which develops first. Most likely, there is a reciprocal relation between expectancy and value… whereby children become interested in an activity and spend more time doing this activity, thereby developing actual skills and accompanying competence beliefs. In the same manner, as they believe they are competent at the activity, they will come to do it more and develop more interest in the activity. (Maehr et al., 2002, p. 356)

Hallam's (2006a) description of expectancy-value theory refers to the components in the plural (i.e. value components, expectancy components) and also outlines a third area, namely, affective components which involve students' feelings about themselves or their emotional responses to the task. The affective component is also included in Cole and Chan's (1994) description of expectancy-value theory. Hallam emphasises that there are complex interactions between the components in the expectancy-value theory. Hallam has put forward a framework (see Figure 5) outlining

.

the interactions between the individual and the environmental factors in determining motivation. In the framework, the environment (which includes social and physical elements) and the individual interact at every level and in both the long and short term.

The framework

> recognises the importance of cognitive factors and self-determination in behaviour…. When a learner has completed a learning task successfully, this will have an impact on self-esteem and motivation that will be carried forward to subsequent learning tasks. Conversely, when learning outcomes are negative, motivation is often impaired.
> (Hallam, 2006a, p. 144)

NOTE: This figure is included on page 32 in the print copy of the thesis held in the University of Adelaide Library.

Figure 5. Interactions between individual and environmental factors in determining motivation (Hallam, 2006a, p. 143).

Thus, based on the expectancy-value theory, students are likely to complete tasks if they believe they will experience some degree of success (competence) and that the tasks are worthwhile. "**Students are highly motivated by success and will normally strive to repeat school experiences that have led to worthwhile achievements in the past.** Success [sic] experiences produce satisfaction and high

perceived competence" (Cole & Chan, 1994, p. 369; bold in original). The adage 'success breeds success' is relevant here, in that success is likely to contribute to positive self-concept which can then have a transfer effect to other areas. In schools, teachers are in a position to be able to develop classroom conditions that lend themselves to developing in students their senses of security, self-concept, belonging, purpose and personal competence (Reasoner, 1982). On the other hand, a negative self-image can stifle potential for success, and can be brought about by repeated failures, continual negative evaluation and destructive criticism (Kohut, 1985). The role of the family, particularly parents, is another important source for promoting positive self-concept and affecting success at school. "If parents express high aspirations and provide a setting in which supportive educational capital is developed, then an environment is created for possible school success" (Marjoribanks, 2002, p. 166). Perceived self-competence is influenced by one's experiences and the appraisals of significant others, and can therefore have a large effect on one's motivation to learn (and indeed, motivation to undertake any tasks in life).

Self-Efficacy Theory

Because self-efficacy theory is concerned with beliefs and expectations about one's competence, there are some similarities with expectancy-value theory (Maehr et al., 2002). The differences arise due to the more specific and situational nature of self-efficacy in which the view of perceived competence includes "the behavioural actions or cognitive skills that are necessary for competent performance" (Maehr et al., 2002, p. 357) on specific tasks. Another difference involves outcome expectations (e.g. social recognition, or award) which, in self-efficacy theory, are dependent on behaviour.

> Individuals with strong efficacy beliefs are more likely to exert effort
> in the face of difficulty and persist at a task when they have the
> requisite skills. Individuals who have weaker perceptions of efficacy
> are likely to be plagued by self-doubts and to give up easily when
> confronted with difficulties. (Maehr et al., 2002, p. 358)

Attribution Theory

Weiner's (1986) model of attribution theory involves assigning causes for success and failure, based on environmental factors as well as personal factors, with the causes being identified as ability, effort, task difficulty and luck. These causes can then

.

be categorised according to three dimensions: stability, locus and control. The particular causes for success and failure are not the key motivational factors in attribution theory; rather, it is the causal dimension into which these causes can be classified that predicts psychological and behavioural outcomes (Maehr et al., 2002, p. 358), as shown in Figure 6.

Dimension of cause:	Psychological consequence:	Behavioural consequence:
• stability (how stable cause is) • locus (internal or external) • control (whether cause can be controlled)	• expectancy • self-efficacy • affect	• choice • persistence • effort • achievement
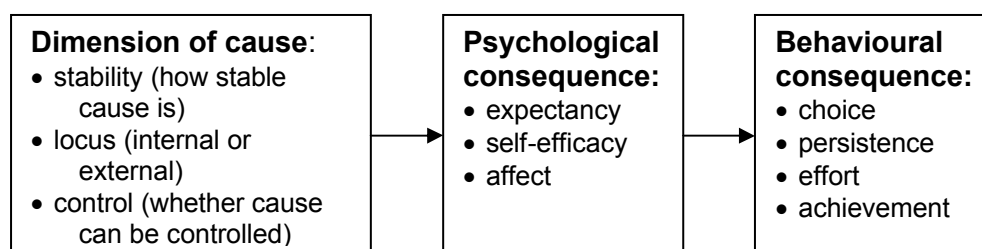
Figure 6. Consequences of attributions (based on description by Maehr et al., 2002, p. 358).

In their discussion of attribution theory, Austin et al. (2006) categorize the causal attributions along two dimensions, namely stability and locus (see Figure 7). It would appear that the dimension of control has been subsumed into stability here. Within the attributional causes, 'effort' is considered to be internal and unstable because effort can be increased or decreased; 'ability' is internal and stable (similar to Dweck's entity view of ability idea); 'task difficulty' is external and stable; and 'luck' is external and unstable.

It is generally agreed that if students attribute success to effort, rather than innate ability, then they are more likely to persist with tasks. As students mature, they tend to place more emphasis on ability attributions and less emphasis on effort attributions (Austin & Vispoel, 1998). This is particularly evident in early adolescence, which is around the transition time from primary to high school. Early adolescents begin to see ability as being stable or fixed, and have changing beliefs about the nature of ability and the role that ability and other factors play in explaining successes and failures (Austin & Vispoel, 1998; Boal-Palheiros & Hargreaves, 2001). Such a tendency in early adolescence may account for decreased persistence, and likely decrease in interest. It is suggested by Austin and Vispoel (1998) that other attributions, such as, use of learning strategies, influence of other individuals, and interest, can play an important role in

.

understanding achievement motivation, where the process of increasing effort, modifying strategies and reviewing performance will typically lead to improved performance. Therefore, if effort attributions are encouraged, rather than ability attributions, students are more likely to persist in their learning.
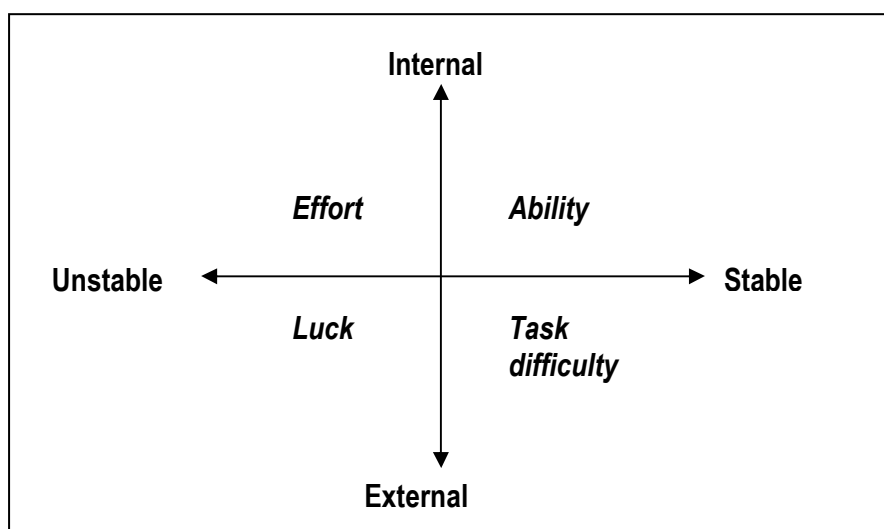
Figure 7. Basic types of attributions to explain success or failure (Austin, Renwick & McPherson, 2006, p. 228).

Achievement Goal Theory

There are different ways of describing achievement goal theories for achievement behaviour, however, there tend to be two types of goals which characterise the goal orientations of the various achievement goal theories (Maehr et al., 2002). These are summarised in Table 2. The two types of goals are categorised as learning (or mastery) goals and performance goals, which relate to Dweck's incremental and entity beliefs about ability respectively. Pintrich (2000) extends the idea of mastery and performance goals further by looking at how the task is either approached or avoided in both types of orientations, that is mastery or performance orientations (see Table 3). These combinations of approach and avoidance states with either mastery or performance goal orientations may show differences with regard to associated attributions, efficacy, self-regulation, persistence and choice (Pintrich, 2000).

.

Table 2. Summary of learning goals as opposed to performance goals (based on description by Maehr et al., 2002, p. 360).

Learning goals	Performance goals
Task-involved	Ego-involved
Mastery	Performance
Focus on learning	Focus on relative ability, how judged
- master new skills, improve competence, challenged	Seek public recognition
Incremental view of ability	Entity view of ability
Positive, adaptive pattern of attribution	Maladaptive, helpless pattern of attribution
Use effort attribution for outcomes	Use ability attribution for outcomes
Link effort with ability, i.e. more effort leads to more ability	Link effort with less ability, leading to avoiding effort to protect self-worth

Table 3: Two goal orientations and their approach and avoidance states (Pintrich, 2000, p. 100).

	Approach state	Avoidance state
Mastery orientation	Focus on mastering task, learning, understanding	Focus on avoiding misunderstanding, avoiding not learning or not mastering task
	Use of standards of self-improvement, progress, deep understanding of task	Use of standards of not being wrong, not doing it incorrectly relative to task
Performance orientation	Focus on being superior, besting others, being the smartest, best at task in comparison to others	Focus on avoiding inferiority, not looking stupid or dumb in comparison to others
	Use of normative standards such as getting best or highest grades, being top or grades, best performer in class	Use of normative standards of not getting the worst being lowest performer in class

Intrinsic Motivation Theory

According to Maehr et al. (2002), Deci and Ryan are the most well-known researchers in the area of intrinsic motivation. As mentioned earlier (see 2.5), Deci and Ryan (1985) have put forward a self-determination theory which proposes that individuals seek to satisfy their needs for competence, autonomy and relatedness. "When the environment affords the satisfaction of these needs, individuals are generally more intrinsically motivated and experience greater satisfaction and general well-being" (Maehr et al., 2002, p. 361). When dealing with tasks which are not necessarily

.

intrinsically interesting, Ryan and Deci (2000) have also identified that extrinsic motivation is an important area to consider.

> The real question concerning nonintrinsically motivated practices is how individuals acquire the motivation to carry them out and how this motivation affects ongoing persistence, behavioural quality, and well-being…. These different motivations reflect differing degrees to which the value and regulation of the requested behaviour have been internalized and integrated. Internalization refers to people's 'taking in' a value or regulation, and integration refers to the further transformation of that regulation into their own so that, subsequently, it will emanate from their sense of self. (Ryan & Deci, 2000, p. 71)

Another type of theory related to intrinsic motivation theory is 'flow' theory (Csikszentmihalyi, 1990), which is based on observations of individuals engaged in intrinsically motivating activities and who had experiences that reflected complete involvement with the activities. This involvement is referred to as 'flow', and when experiencing flow individuals may lose sense of time and space, and pursue the flow experience for itself rather than for any anticipated rewards. An important aspect of 'flow' is that there is an optimal level of challenge and capability. Elliott (1995) states that "it is this matching increase in the level of challenge and know-how that propels the self to higher levels of complexity, that results in self-growth, and that participants experience as an exhilarating and absorbing sense of 'flow'" (p. 116). The matching of challenge to skill level is fundamental to learning, and the outcomes of matching and mis-matching are expressed simply in Elliott's graph (see Figure 8) within the context of musical challenge and musicianship. The inherent principle in Elliott's graph can be applied in general terms, that is, when the skill level is high (expert) and the challenge is low, boredom is the likely result, whilst when the skill level is low (novice) and the challenge is too high, anxiety or frustration is likely. When the challenge is matched to the level of skill, then self-growth and enjoyment are the likely outcomes.

.
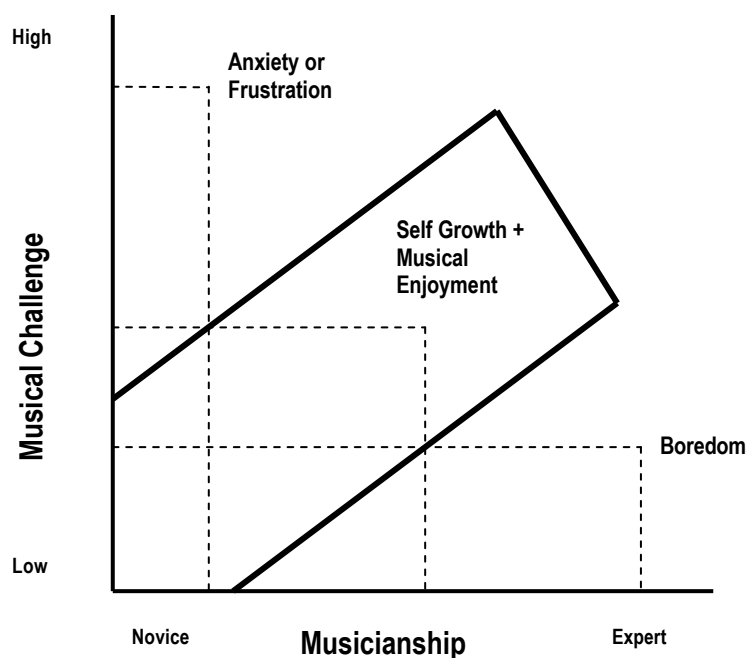
Figure 8. Musicianship x Musical Challenge = Musical Values (Elliott, 1995, p. 122).

The consideration of social-cognitive theories of motivation is relevant to education, and in particular, how these may influence the opportunities which are created by teachers for students in their professional planning and practice, such as the learning activities and assessment tasks they use, and the ways of communicating which can foster students' self-beliefs. Maehr et al. (2002) suggest that teachers need to be mindful "how various structures may impact students' motivation, thus influencing their engagement in learning" (p. 366).

2.7 Impact of self-perceptions on engagement, learning and achievement

When considering academic achievement, it is evident that there is a wide range of relevant factors which can impact upon motivation, engagement and learning, and thereby influence achievement. These factors include the self-beliefs associated with the complex self-system which affect goals and aspirations, the cognitive processes involved in developing competence, the social support and interactions with family, peers and teachers, and the physical learning environment itself. Gardner (1983) suggests that "even if one's cognitive mechanisms are in order, educational progress

will not necessarily result" (p. 373). Having a positive view of one's self appears to have a major role in achieving desirable outcomes in learning, psychological well-being and ultimately to success in life (Self-Concept Enhancement and Learning Facilitation Research Centre, 2001; VanderArk, 1989; Walsh & Banaji, 1997). The attainment of a positive, academic self-concept "also positively affects academic achievement, school retention, academic aspirations, and choices such as going on to university" (Self-Concept Enhancement and Learning Facilitation Research Centre, 2001, p. 9). The converse can be noted with regard to a negative academic self-concept, and "the literature supports the relationship between academic failure and juvenile delinquency" (Grande, 1988, p. 217).

Students' beliefs or attributions about the reasons for their success (that is, achievement) in school subjects and other activities can provide some insights into student attitudes and feelings about how much they are likely to be motivated to invest effort and to persist with tasks. If students are engaged in or "turned on to" learning activities, they are more likely to be doing well, that is, experiencing a sense of achievement. Engagement implies that a degree of willing commitment, concentration, focus and effort are being applied. According to Skinner, Wellborn and Connell (1990), engagement in learning activities embraces students' "initiation of action, effort, and persistence on schoolwork, as well as their ambient emotional states during learning activities" (p. 24).

The interaction between self-concept, motivation and achievement is a continuous cycle and can help to explain why students may or may not be engaged or persist with various tasks, for example, learning to play a musical instrument. In simple terms, the interaction between self-concept, motivation and achievement can be described as being cyclic. Within self-concept are the three main components: expectancy (perception of ability, competence); feeling (task value, interest, enjoyment); and thinking (self-efficacy, self-regulation, feedback, attributions for success). During learning experiences, the expectancy, feeling and thinking components of the self-concept are involved and these will affect motivation to apply effort as seen through engagement, and hence influence the likely outcomes as demonstrated through achievement. The outcomes experienced in turn affect the various components of the self-concept and so the cycle continues (see Figure 9).

.
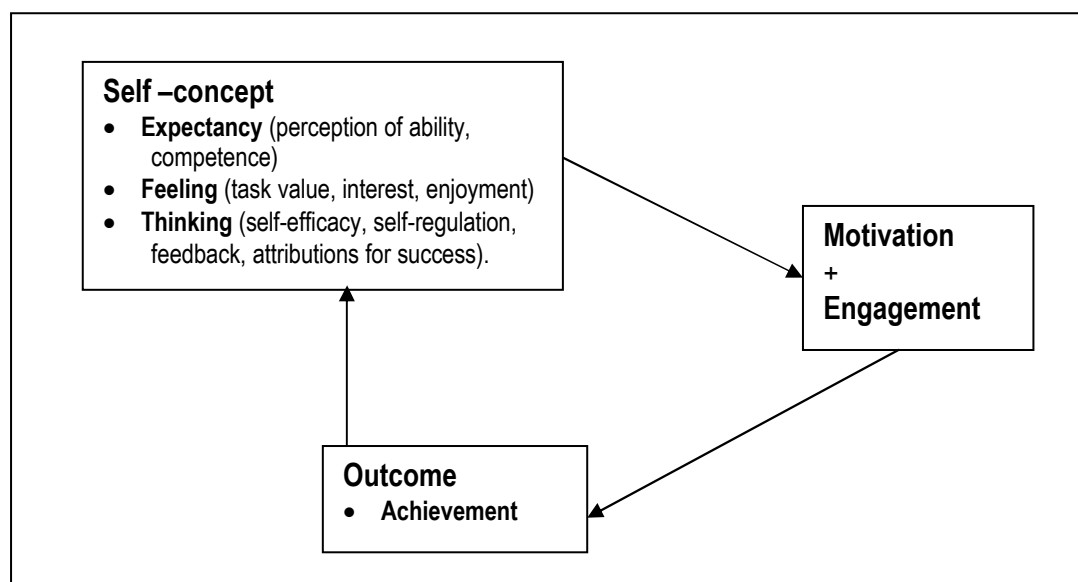
Figure 9. Cycle of interaction between self-concept, motivation and outcome (Rosevear, 2005).

Self-efficacy, which is the belief in one's ability to complete a task successfully, seems to have a pivotal role. Bandura (1997) suggests that perceived self-efficacy contributes to performance accomplishments over and above the effects of skill development, and that self-efficacy beliefs are constructed from four main sources: experiences; comparisons with others (vicarious); social influence; and physiological and affective reasons. Schunk (1990) suggests that "a sense of efficacy for performing well in school may lead students to expend effort and persist at tasks, which promotes learning. As students perceive their learning progress, their initial sense of efficacy is substantiated, which sustains motivation" (p. 3). According to research by Lane and Lane (2001), self-efficacy predicted subsequent academic performance, and several different strategies were suggested to enhance self-efficacy toward intellectual ability. This view is further supported by McCormick and McPherson (2003), who, in the context of students taking graded music performance examinations, also found "a strong association between self-efficacy and actual performance and the former's clear superiority as a predictor of actual performance" (p.48).

Whether or not self-efficacy beliefs can be altered depends upon many factors, however "experiences that are inconsistent with one's self-beliefs tend to be minimized,

discounted or forgotten in reconstructed memory. …Mastery of difficult tasks, however, conveys new efficacy information for raising belief in one's capabilities" (Bandura, 1997, p. 82). Self-views may not necessarily match up with experiences, because "once people have incorporated a characteristic into their self-definition, they will have difficulty relinquishing that characteristic, *even if it brings them intense psychological or physical pain"* (Swann, 1996, p. 51). If students believe their ability is low, then even successful experiences are likely to be ignored as these do not match their perception of low ability. On the other hand, the sense of achievement experienced through successful completion of a task which is valued and challenging can have a positive influence on the self-concept components, in particular the enjoyment or satisfaction that accompanies the sense of achievement. According to Elliott (1995) "enjoyment arises only from unusual investments of our conscious powers" (p.115).

Following on from the needs for competence, relatedness and autonomy as outlined in Deci and Ryan's (1985) self-determination theory, Deci and Ryan (1992) suggest that humans are innately active, curious and seek challenges, and in children this is reflected in that they tend to direct energy towards, and therefore prefer, activities that have optimal challenge (that is, challenge matches ability, thus relating to competence), are available and engaged in by significant others (relatedness), and which they can undertake in a self-directed manner (autonomy). Thus they tend to differentiate away from activities in which they feel pressured or controlled. When students exert some degree of control over their future achievement, which relates to autonomy, then they are more likely to apply effort attributions (Austin & Vispoel, 1998).

Students' beliefs about task value, such as the importance, utility, interest and cost of the task (Eccles, 1983a; Eccles, 1983b), are also likely to influence engagement and motivation. The aspect of task interest, which also embraces enjoyment (O'Neill, 2002), is one that lies at the heart of learning. Austin et al. (2006) suggest that

> interest may be viewed as *individual* or *situational*. Individual interest reflects a child's more enduring personal disposition for learning in certain domains or about certain topics, whereas situational interest is generated by specific aspects of the learning environment (e.g. novelty, vividness, relevance, intensity, or choice associated with teacher presentations, class work, and assignments) and represents more immediate affective reactions that may or may not last….When

.

> situational interest is sustained and transformed into individual interest, children exhibit more enjoyment of learning, work harder, persist for longer periods of time, and attain higher levels of cognitive functioning and academic performance (O'Sullivan, 1997). (Austin et al., 2006, p. 224)

When interested, students are more likely to display mastery-oriented approaches to learning, which implies that they tend to maintain "persistence following failure and appear to enjoy exerting effort in the pursuit of task mastery" (O'Neill, 2002, p. 81).

.

Chapter 3
REVIEW OF LITERATURE ON LEARNING AND MUSIC

This chapter aims to present an overview of basic principles of learning as found in various learning theories that are central to western educational practices. It will then explore the application of these theories to common approaches found in various types of music learning, such as literacy, singing, playing a musical instrument, and the growing area of music technology. The role of informal learning and its relevance to music education, along with the role of music in self-concept development, will be considered. The relationship between music learning and academic achievement will be reviewed. The chapter will conclude with an overview of the factors affecting motivation and engagement in music learning.

3.1 Basic principles of learning

Some of the learning principles which evolved during the twentieth century arose from seeds that were sown in much earlier times. For example, the development of education was influenced by the extensive writings of the philosopher Rousseau (1712 – 1778) who believed that one learns through doing, that is, through direct experiences. In his book *Émile*, Rousseau outlines his views on education, suggesting that "what a child is capable of learning" (Rousseau, 1963, p. 1) should be central to formulating an educational philosophy. He puts forward views about the impact of the environment and the role of experiences in a child's education. Rousseau wrote: "we are affected in various ways by our environment" (p. 7), "we begin to learn when we begin to live" (p. 9), children should be taught "to live rather than to avoid death" (p. 10) and "should be taught by experience alone" (p. 56). In the 1963 edition of *Émile* (translated by Barbara Foxley), the Introduction, written by André Boutet de Monvel in 1955, states that:

> *Émile* has been the inspirational source of every great educational reformer since the eighteenth century. Pestalozzi, Froebel, and Madame Montessori are its offspring, and it may safely be said that at the present time there is scarcely an educational theory or method which cannot in some way be traced to the author of *Emile*. (p. ix)

The Swiss educator, Pestalozzi (1746-1827), has been another significant figure in the development of educational theories. Pestalozzi's views, which became popular

.

in the United States of America having been introduced by Joseph H. Naef (McPherson & Gabrielsson, 2002) and also picked up by Lowell Mason in Boston in the 1830s, revolved around "the development of the whole person rather than the mastery of individual skills, learning facilitated by the inductive method, [and that] learning occurs by moving from the known to the unknown" (Schleuter, 1997, p. 21). Pestalozzi's ideas also promote a child-centred view of the curriculum (Goldberg & Scott-Kassner, 2002) and the idea that concepts be experienced before symbols are attached to them (Schleuter, 1997).

It is appropriate to categorise learning theories into two main types, behavioural and cognitive. Put simply, behavioural theories are based on the idea of a stimulus producing a response, that is, that learning is brought about by the environment. In cognitive theories, the emphasis is on the learner being actively involved and using prior knowledge and experiences to move from the known to the unknown. Kinchin (2007) proposes two main types of theories and uses the terms "conditioning theories (behaviourist family), and, interactionist theories (cognitive family)" (p. 34). Taetle and Cutietta (2002) describe three types of learning theories, namely behavioural, cognitive, and constructivist. Although this appears to be different to Kinchin's categories, there is much in common, as Kinchin's interactionist theories embrace both cognitive and constructivist theories. Wiggins (2001) consistently uses the hybrid term "cognitivist/constructionist", thereby indicating the close relationship between these two areas.

In behavioural learning theories, action is ultimately determined by the environment rather than coming from within the self. Within the area of behavioural learning theory, during the 1950s Skinner developed a theory of operant conditioning in which it is believed that reinforcements strengthen responses (Taetle & Cutietta, 2002), and are "necessary for changing behaviour – and learning" (Maehr et al., 2002, p. 351). Within this theory, it is believed that materials be presented sequentially so that students move step-by-step, having responses reinforced and moving systematically towards acquiring knowledge or skills (Maehr et al., 2002). According to Taetle and Cutietta (2002), "Skinner argued that the proper arrangement of reinforcement contingencies (presentation of appropriately broken-down and sequenced material, active student response, immediate and appropriate feedback, individual pacing) are central to student

.

learning" (p. 281). Within behavioural theories, the underlying view is that "human beings are passive and therefore react to stimuli" (Kinchin, 2007, p. 34), which implies that the learner is perceived as having a non-active role within the learning process.

Within cognitive and constructivist theories, however, the learner is seen as taking a much more active and interactive role within the learning process, whilst moving from the known to the unknown. "Cognitive theories focus on efforts to map an individual's learning processes as new information is integrated with already familiar knowledge" (Taetle & Cutietta, p. 282). Constructivist theories are based around the idea that individuals construct their own understanding in order to learn (Wiggins, 2001), and the connections with the environment and one's previous experiences are an important part of the process. The *South Australian Curriculum, Standards and Accountability Framework* [SACSA Framework] (Department of Education, Training and Employment, 2001) uses constructivism as the theoretical basis for the conception of learning, as outlined in the following:

> The central thesis of constructivism is that the learner is active in the process of taking in information and building knowledge and understanding; in other words, of constructing their own learning. Learning then is the active process of engaging in experience and its internalisation in terms of thinking. All forms of experience can be called upon here. Constructivism also has clear implications for the social situation or context in which learning happens, in so far as learners are more likely to engage in constructing their own understanding in a supportive social environment. (p. 10)

The full statement on Constructivism and the SACSA Framework (Department of Education, Training and Employment, 2001, pp. 10-12) is in Appendix A.

Falling within the area of cognitive learning theories, Piaget (1896-1980) played a leading role (Marsh, 2004). Piaget's developmental stages theory proposes that types of learning are identified according to the following stages: sensorimotor (ages 0 to 2), preoperational (transformation of sensorimotor to symbolic, ages 2 to 7), concrete operations (ability to classify, ages 7 to 11), and formal operations (typical adult thought processes, age 11 onwards) (Burton, 2005; Hargreaves, 1986b; Marsh, 2004; Taetle & Cutietta, 2002). Wickens (2007) suggests that "Piaget believed that students excel by actively building and constructing for themselves the specific knowledge they need, rather than having a teacher dictate numerous facts" (p. 114). According to Marsh

.

(2004), the term 'schema' was used by Piaget to demonstrate how children actively construct their world. Schema theory has become a significant part of constructivist theories of learning.

Another prominent figure in the cognitive field is Bruner (1966), who, influenced by Piaget, proposed that

> any domain of knowledge can be represented in three ways: by a set of actions appropriate for achieving a certain result (enactive representation); by a set of summary images or graphics that stand for a concept without defining it fully (iconic representation); and by a set of symbolic or logical propositions drawn from a symbolic system that is governed by rules or laws for forming and transforming propositions (symbolic representation). (pp. 44-45)

Thus the enactive mode involves doing or 'hands on' experiences, the iconic mode involves visual or mental pictures, and the symbolic mode refers to notational systems such as in language, mathematics or music. The usual developmental process moves from enactive through iconic to symbolic, which suggests that the learning sequence would progress in the same way (Bruner, 1966). Individuals might use enactive, iconic or symbolic modes of learning at any time and even at the same time (Marsh, 2004), rather than these being tied to specific age groups. Bruner (1963) also put forward the notion of the spiral curriculum in which concepts are re-visited with increasing levels of complexity. In later writings, Bruner highlighted "the importance of discovery learning in terms of understanding the structure of a subject being studied, the need for active learning to make personal discoveries and the value of inductive reasoning" (Marsh, 2004, p. 24). Bruner developed the notion of 'scaffolding', which is where experts provide support for novices, through active dialogue, in a learning environment (Burton, 2005; Wiggins, 2001). There is an expectation that the teacher is able "to sense when the scaffolding is not needed, and to gradually remove it until the student is functioning independently" (Wiggins, 2001, p. 14). It is believed that "part of providing scaffolding is helping students develop *metacognitive* skills (understanding how one learns, developing strategies for problem solving)" (Wiggins, 2001, p. 16). It is recognised that students often provide scaffolding for each another, as seen in collaborative and group learning activities.

.

Within the cognitivist/constructionist view, Wiggins (2001) suggests two related theories, namely, schema theory and social constructivist theory. As mentioned earlier, schema theory arises from Piaget's ideas, "where the basic building blocks of cognition are *schemes*, or *schemata*" (Hargreaves, 1986b, p. 33). The schema theory provides a straightforward way of describing how we develop and retain concepts and, therefore, understanding, which in turn influences how we operate. "A schema for something we know consists of everything we know and understand about an idea – or all the concepts we hold about the idea" (Wiggins, 2001, p. 4). Schemata arise from our experiences with our environment, as we assimilate new objects and events and we accommodate to them by changing our ways of thinking about them (Hargreaves, 1986b). Our experiences through life contribute to our schemas, which "have the capacity to *accept new information…to direct our actions…*[and] *to direct the plan* of how new learning and understanding will take place" (Wiggins, 2001, p. 6). The principle of going from the known to the unknown has particular relevance in schema theory, as "when we encounter new information, we attempt to relate it to something we already know" (Wiggins, 2001, p. 7). Thus, we are more likely to become involved in a learning process, when we can relate to what is occurring, that is, when we have a context in which to base any new ideas.

Social constructivist theory refers to how an individual learns, that is, constructs networks of understanding, through interactions with others. The work of Russian psychologist Vygotsky (1896 – 1934) arises from the 1920s, but was suppressed in Soviet Russia until the 1970s (Burton, 2005), when it was translated and has since been used in the United States of America and beyond. In Vygotsky's view, "*all knowledge is socially constructed*, [therefore] social interaction is an essential ingredient of the learning process" (Wiggins, 2001, p. 12). Vygotsky believed that language and ways of thinking are learned from others, and that children transform what they have learned through dialogue with others into their own personal schemas (Marsh, 2004). An implication of this theory is that there are novice and expert learners, however, the distinction between novice and expert is based on their experiences and not their ages. "When two parties interact, teaching and learning occur as they work together and structure their communication such that the novice is brought into the expert's more mature understanding of the problem" (Wiggins, 2001, p. 12).

.

Another aspect of Vygotsky's theory is the zone of proximal development [ZPD], which is where children encounter ideas that do not fit into their existing schema thus causing an imbalance which requires assistance from adults or others to return to a state of balance (Marsh, 2004; Rieber, 1998). The idea of a zone of proximal development resonates with the flow theory of motivation and Elliott's (1995) matching of challenge with ability (see Chapter 2, Figure 8), although the social assistance aspect does not appear in Elliott's diagram. According to Rogoff (1990), the zone of proximal development is "a dynamic region of sensitivity to learning the skills of culture, in which children develop through participation in problem solving with more experienced members of the culture" (p. 14), which also fits the description of scaffolding put forward by Bruner.

Within the constructivist view there is "the assumption that learning is most successful in the context of apprenticeships and 'communities of practice'" (Taetle & Cutietta, 2002, p. 285). The apprenticeship model which involves learning within a naturally occurring context, is referred to as "contextualised learning" by Gardner (1991b, p. 172) and is consistent with constructivist learning theories. The idea of apprenticeship is closely related to scaffolding, in that, teachers work alongside students in helping them to develop problem solving strategies. A view of teaching and learning based on the idea of a 'cognitive apprenticeship' comprises the following six characteristics: real life problem-solving situations; holistic learning situations; students interact directly with subject matter; students have an active role in their own learning; students have opportunities to work on their own, with peers, and with teacher support when needed; students need to be aware of the goals of the learning situation and their own progress towards these goals (Wiggins, 2001). The benefits of the cognitive apprenticeship approach are summarised as follows:

> Learning is self-motivational. Children who have an understanding of where they are headed, and why, do not need to be 'tricked' into learning by some new gimmick. Learning itself is exciting when an individual understands what and why he or she is learning. *The outcome of a cognitive apprenticeship is understanding – conceptual understanding and the ability to apply those concepts to a variety of situations. The ultimate outcome is independence of the learner*". (Wiggins, 2001, p. 22; italic in original)

.

Of relevance to the discussion of learning principles is Gardner's (1983) theory of multiple intelligences. According to Gardner (1983), his "seven 'core' forms of intelligence are an effort to lay out seven intellectual regions in which most human beings have the potential for solid advancement… A lengthy educational process is necessary before the raw intellectual potential…can be realized in the form of a mature cultural role" (p. 372). The seven intelligences originally proposed by Gardner (1983) are linguistic, logical-mathematical, spatial, musical, bodily-kinaesthetic, interpersonal, and intrapersonal. Further development of Gardner's theory has seen the identification of two additional intelligences, namely, naturalist and spiritual/existential (Gardner 1999, cited in Hallam, 2006b, p. 96). Gardner's theory of multiple intelligences has challenged traditional views of intelligence as a single entity, as measured by IQ tests. According to Gardner (1991a) "people do learn, represent, and utilize knowledge in many different ways…[and] these differences challenge an educational system that assumes that everyone can learn the same materials in the same way and that a uniform measure suffices to test student learning" (p. 12). Gardner's theory has had a major impact on educational practices, and complements and harmonises with constructivist theories of learning. Wiggins (2001) suggests that Gardner's ideas "enable all ways of thinking to be valued in the educational process" (p. 7). The theory of multiple intelligences suggests that everyone possesses these intelligences or "ways of understanding the world" (Wiggins, 2001, p. 7). It can help teachers to determine the special abilities and strengths of students, and to design classroom activities that enable students to work in these different areas of intelligence (Marsh, 2004). The identification of musical intelligence as a distinct and separate form of intelligence has strengthened the importance of music in education and has given "credence to the notion of musical thinking as a unique way of knowing the world" (Wiggins, 2001, p. 7). At the same time, developing musical intelligence and musical expertise means that the other intelligences are involved as well. Examples of each intelligence being used in conjunction with musical intelligence as used by expert musicians is illustrated by Hallam (1998a) in Table 4.

.

Table 4: Gardner's intelligences applied to music (Hallam, 1998a, p. 35).

	Ways that the separate intelligences might be utilized by expert musicians
logical-mathematical	Performance of rhythm, sight reading of rhythm, analysis of music, composition
spatial	Reading of notation, identifying and understanding the structure of works
bodily-kinaesthetic	Technical skills, movement involved in the communication of interpretation
intrapersonal	Understanding emotions, composing, developing interpretation
interpersonal	Communication with an audience, teaching, working with other musicians
linguistic	Reading music, critical analysis of music and performance, understanding the historical and cultural contexts of music

3.2 Principles of music learning

The general principles of learning may be readily applied to music learning, taking into account that sound is the medium of activity. All the intelligences can be involved, and the constructivist ideas, such as the active and social nature of learning, are directly relevant. "Learning music is a complex and interwoven matrix of skills, knowledge, affect and beliefs" (Taetle & Cutietta, 2002, p. 292). Thinking in sound, that is, musical thinking, underpins music learning, and affects all areas of musical activity, whether performing (playing and/or singing) creating or listening. Beginning from the womb, where it is recognised that the foetus "during the third trimester … can hear, process, and remember musical patterns of sound, and associate them with emotions" (Parncutt, 2006, p. 17), individuals gradually develop their music schemas. During babyhood and through early childhood, music plays a central part in everyday life which means that, not only are individuals developing musically, but music is also contributing to their overall development, such as

> their thinking processes, language development, control and co-ordination of body movements, orientation to the space around them, their ability to relate to others, and development of self-control and self-esteem. In addition, music provides children with the emotional satisfaction that comes from aesthetic experiences (no matter how simple) and with opportunities for self-expression. Probably no other

.

single pursuit has the potential to do so much for a child. (Bridges, 1994, p. 14)

Even in these early years, music learning is taking place. "It is never too early to start to develop and build upon a student's intellectual and imaginative engagement with music. When we watch a young child at play with musical – or sound-making – materials, we can see that this engagement comes naturally" (Mills, 2005, p. 67). Babies can listen and respond joyfully to music, they can imitate, recognise and recall previously heard sounds, rhymes, melodies, and they can be aware of basic musical elements such as volume, tempo, pitch and timbre (Bridges, 1994). In addition, they are able to "match their body movements to music's rhythm and character, and to show through movement what they perceive aurally" (Bridges, 1994, p. 15), thus developing basic concepts eventually to be linked with language. By the time children are going to school, it is desirable that they have already had a wide range of musical experiences and have some knowledge of the concept of music, that is, they have a music schema.

Because music is perceived through hearing, all musical activities "are dependent upon the ability to listen. Listening to music with its variety of detail is essential to its understanding" (Education Department of South Australian, 1982, p. 14). Developing the ability to hear in the mind, which is also known as inner hearing or Gordon's (1981) term of audiation, is an important part of development, with input not only to music, but to language and memory as well. In relation to physical listening, Swanwick (1979) uses the term 'audition' to encapsulate the idea of engaged listening where the focus is on the sound "to the virtual exclusion of all else" (p. 43). Whilst listening is a central and necessary component in any musical activity, the areas of creating (composing and improvising) and presenting (performing, that is, playing and singing) are also recognised as being key processes of learning (Education Department of South Australian, 1986). As supported by Wiggins (2001), "one's concepts of music are constructed through experience with music…[and] the only ways of experiencing music are through *performing, listening,* and *creating*" (p. 26). Within the *SACSA Framework* (Department of Education, Training and Employment, 2001), music falls within the Arts Learning Area, which identifies the following strands of learning: arts practice, arts analysis and response, and arts in contexts. These strands can be translated into music terms, where arts practice is reflected as performing and creating,

.

while listening is reflected through a combination of arts analysis and response, and arts in contexts.

The report of the Australian *National Review of School Music Education* [NRSME] (Department of Education, Science and Training, 2005) puts forward guidelines for student learning, which blend both content and outcomes, and which recognise that learning is developmental. It further suggests that:

> in broad terms, student learning in music is categorised under two headings:
>
> · *Music practice* (making music, exploring and developing music ideas, skills, processes, conventions, composing and performing music)
>
> · *Aesthetic understanding* (listening and responding to music, a understanding music's social, cultural and economic significance)   (Department of Education, Science and Training, 2005, p. 83)

This view of music learning is illustrated in the diagram (see Figure 10) based on the Chinese Taijitu symbol of 'yin and yang' which shows two different but complementary elements, with each containing a seed of the other. As applied to music education, the diagram reflects how music practice and aesthetic understanding are interconnected. In the description of music practice and aesthetic understanding outlined here, it is evident that there is an active approach to learning as supported by the constructivist family of learning theories. The area of music practice embraces 'performing' and 'creating', and 'aesthetic understanding' embraces 'listening'.

NOTE: This figure is included on page 52 in the print copy of the thesis held in the University of Adelaide Library.

Figure 10. Student learning in music. (Department of Education, Science and Training, 2005, *National Review of School Music Education*, p. 83).

Hoffer (2001) illustrates the content of music through the following diagram (Figure 11) which represents the activities and outcomes for music learning. Although

Hoffer's diagram is within the context of American music education and uses slightly different headings, it nevertheless portrays some similarities with the aspects within music practice and aesthetic understanding as outlined in the *National Review of School Music Education* from Australia. Across the activities and outcomes in Hoffer's diagram, the broad range of experiences embraced within music learning are evident. These experiences are inherent in the areas of music practice and aesthetic understanding as outlined in the NRSME's view of student learning in music.

NOTE: This figure is included on page 53 in the print copy of the thesis held in the University of Adelaide Library.

Figure 11. The various aspects of content in music (Hoffer, 2001, p. 40).

The model put forward by Swanwick (1979), as shown in Figure 12, provides a framework for generating potential musical experiences. Swanwick's (1979) model

was influential in the development of music curriculum models, such as the South Australian Education Department's *Time for Music* (1982) and *Secondary Music Guide* (1986). Swanwick's model is based on having listening (audition), composing and performing as central activities in music, with skill acquisition and literature studies being peripheral to the experience of music itself. This model results in the acronym of "C (L) A (S) P". Swanwick identifies technical work, ensemble playing, the development of aural perception, sight-reading abilities and fluency with notation as all being within the realm of skill acquisition, while literature studies includes not only the study of music itself through scores and performances but also the historical literature about music. The aspect of music notation is included within the Skill Acquisition aspect of Swanwick's model, and is implicit in both the NRSME description of student learning in music and in Hoffer's diagram (Figure 11). The area of musical notation and developing musical literacy will be discussed in Section 3.5.

NOTE: This figure is included on page 54 in the print copy of the thesis held in the University of Adelaide Library.

Figure 12. The parameters of music education (Swanwick, 1979, p. 45).

In later writings, Swanwick (1999) emphasises the expressive qualities of music, and views music as "a form of discourse impregnated with metaphor" (p. 43). Swanwick (1999) proposes three principles of music education, which are: care for music as discourse, care for the musical discourse of students, and fluency first and last. The first principle, care for music as discourse, emphasises that for music to be meaningful then the smallest unit that enables a sense of discourse (or musical conversation) is the phrase. The second principle highlights the experiences students have before they even come to school as well as outside of school. "Each student brings a realm of understanding into our educational institutions" (Swanwick, 1999, p. 53). The third principle refers to having aural and practical experiences before working with

written music, that is, "musical fluency takes precedence over musical literacy" (Swanwick, 1999, p. 56). He suggests that when taken together, the three principles help to keep music teaching 'musical'. This can be summed up in the following:

> Running alongside any system or way of working will be the ultimate question – is this really *musical*? Is there a feeling for expressive character and a sense of structure in what is done or said? To watch an effective music teacher at work (rather than 'trainer' or 'instructor') is to observe this strong sense of musical intention linked to educational purposes: skills are used for musical ends, factual knowledge informs musical understanding. (Swanwick, 1999, p. 45)

In describing music learning as developmental, the NRSME report outlines how participation in music develops across different levels, not according to fixed steps, but according to types of participation, with participation being dependent upon the quality of the music education in schools. The relationships between different levels of music participation are represented diagrammatically as shown in Figure 13. "The focus of teaching and learning is different for each of these different phases of the continuum. Participation, enjoyment and engagement are necessary for students to reach the high end of this spectrum of quality" (NRSME, 2005, p. 79).

NOTE: This figure is included on page 55 in the print copy of the thesis held in the University of Adelaide Library.

Figure 13. Relationships between different levels of music participation (Department of Education, Science and Training, 2005, *National Review of School Music Education*, p. 79).

Music learning readily lends itself to the characteristics of the cognitive-apprenticeship model. When involved in the various aspects of music practice (making music, exploring and developing music ideas, skills, processes, conventions, composing and performing music) and aesthetic understanding (listening and responding to music, and understanding music's social, cultural and economic significance) as outlined in the NRSME report, then there is wide scope for learning to occur within the cognitive-apprenticeship model. Music making and creating abounds with problem-solving situations, and performing and listening need to incorporate holistic learning situations, "starting with the big picture and working down to the detail, [and] setting every detail back into its larger musical context" (Wiggins, 2001, pp. 42-43). Students interact directly with music through these aspects, and there is scope for students to have an active role in their own learning as well as opportunities to work on their own, with peers, and with teacher support when needed. Within music learning, if students are aware of the goals and their own progress towards these goals, "they will be able to construct their own understanding and grow in independence as musicians and musical learners" (Wiggins, 2001, p. 43).

Learning music at school provides opportunities for growth and development in terms of both specific musical development and in wider ranging benefits. According to the Australian Society for Music Education (1999), "music education brings joy and satisfaction, fosters creative expression, challenges thinking, and stimulates the imagination" (p. 6). Reimer (1999) states that:

> Various musical involvements provide opportunities to operate at the highest levels of cognition that humans are capable of – to understand, to create, and to share meanings as only music allows people to do and to exercise the intelligence particular to and dependent on each musical role. We have learned that musical doing, thinking, and feeling are essential ways in which humans make contact with, internalize, express, critique, and influence their cultural contexts. (p. 43)

Within the English and Welsh music curriculum, there is acknowledgement and recognition of the unique and diverse ways in which music can influence students across various domains and realms of experience.

> Music is a powerful, unique form of communication that can change the way pupils feel, think and act. It brings together intellect and feeling and enables personal expression, reflection and emotional development. As an integral part of culture, past and present, it helps

pupils to understand themselves and relate to others, forging
important links between the home, school and the wider world.
(Qualifications and Curriculum Authority, n.d.)

Music education provides diverse opportunities for successful participation, with the development of musical skills bringing a sense of accomplishment and competence. Deci and Ryan's (1985) self-determination theory puts forward an approach based on people's inherent growth tendencies and innate psychological needs, with the identification of the needs for competence, relatedness and autonomy being required to facilitate "optional functioning of the natural propensities for growth and integration, as well as for constructive social development and personal well-being" (Ryan & Deci, 2000, p. 68). There are many aspects within music education that, because of their very nature, lend themselves to satisfying these needs. This is because of the wide range of musical experiences such as listening, playing, singing, improvising, and composing that can be included within music education. There are varying degrees or levels of difficulty that are naturally inherent in music allowing all students to achieve competence. The nature of ensemble playing or singing and performing music involves relating to others in the ensemble and to the audience. The potential for 'owning' one's music-making, whether through playing or singing, or through creating music, contributes to autonomy.

3.3 Learning to play a musical instrument

Although music learning includes various facets, such as listening, responding, improvising, composing, singing and playing, the aspect of learning to play a musical instrument is often equated with learning music. Even though learning in music can occur without necessarily requiring the development of skills in playing an instrument, the process of learning to play an instrument is nevertheless a fundamental part of music education and an area which has received a great deal of attention in the literature. It is important to note that learning to play a musical instrument is often an optional, additional area to classroom music, and requires an extra investment of time by the student. Access to instrumental lessons requires extra financial support from the family (usually) and/or the school, and due to availability, there may be some form of selection process to determine who is able to access such lessons.

.

Learning to play a musical instrument requires the development of a complex and diverse range of skills. According to Hallam (1998a), "playing an instrument or singing involves the development of aural, cognitive, technical, musicianship and performance skills…. [and] learning skills are also acquired, i.e., how to practise effectively, how to learn a new piece of music" (p. 116). Learning to play a musical instrument involves the development of highly specialised knowledge and skills. Pitts, Davidson, and McPherson (2000) refer to "the complexity of musical instrument learning, with motivation, practice strategies, environment, and personality acting in proportions that are difficult to separate and quantify" (p. 66). Hallam puts forward a model of instrumental learning (see Figure 14) which encapsulates the complexities involving the learner, the environment, the task, the learning process and the outcomes.

Presage	Process	Product

Learner characteristics
Level of expertise
Learning styles
Approaches to practice
Motivation
Self-esteem
Personality

Direct effects (ability)

Feedback: efficacy beliefs

Meta-learning

Pupil/teacher perceptions

Task requirements
Nature of the task
Repertoire of the instrument
Characteristics of the instrument
Assessment/performance requirements

Process of learning
Task oriented strategies
Person oriented strategies

Learning outcomes
Quality of performance
Level of expertise
Musicianship
Affective outcomes

Meta-learning (self-teaching)

The learning environment
Teacher characteristics
Teaching interventions, strategies and methods
School/college ethos
Home environment
Parental support

Direct effects (time)

Feedback: efficacy beliefs about teaching

Figure 14. Model of instrumental learning (Hallam, 1998a, p. 129).

.

McPherson (1995) suggests that "learning an instrument is most efficient when the sound is emphasized before the sign, and that an ability to 'think in sound' is essential in all higher forms of musical performance" (p. 58). McPherson (1993, 1994, 1995) identifies five aspects of musical performance which are important in a comprehensive and balanced approach to learning to play a musical instrument, namely, sight-reading, performing rehearsed music, playing from memory, playing by ear, and improvising. Further, these five aspects can be grouped according to whether they have a visual, aural or creative orientation (see Figure 15). McPherson (1994) advocates that

> a balance between these visual, aural and creative aspects of performance is essential for students to reach their full potential as musicians, and to develop the aural, kinaesthetic and expressive skills necessary to perform in a wide variety of styles and idioms….Aural and creative activities such as playing music by ear and improvising should be encouraged from the earliest stages of musical development. (p. 154)

NOTE: This figure is included on page 59 in the print copy of the thesis held in the University of Adelaide Library.

Figure 15. Defining five aspects of musical performance (McPherson, 1995, p. 59).

While instruments can be organised into specific families (such as strings, woodwind, brass etc.), with the method of sound production being common within each family, each individual instrument has its own particular characteristics. There may be broad musical concepts, such as rhythm, pitch, and dynamics that apply to all instruments, but the specific details such as fingering, embouchure and other physical aspects are unique to each instrument. Kohut (1985) uses the term 'perceptual-motor

learning' to refer to what occurs in instrumental/vocal development. Similar to the approach taken by Suzuki, Kohut emphasises the role of the "Natural Learning Process" [NLP] in which "children learn to walk, talk and even ride a bicycle by watching and listening to others and then trying to imitate them. They also accomplish these complex tasks without any need for formalized instruction" (Kohut, 1985, p. 16). The NLP involves the use of mental imagery, imitation, trial-and-error practice and body feedback for detection and correction of performance errors (Kohut, 1985). Kohut suggests a process for teaching instruments through imitation (see Figure 16), as based on the idea of NLP. Trial and error is "the *only* means through which we are able to acquire direct, personal experience" (Kohut, 1985, p. 17), which relates strongly to the cognitive/constructionist approach to learning in which experiences contribute to our schemas (Wiggins, 2001).
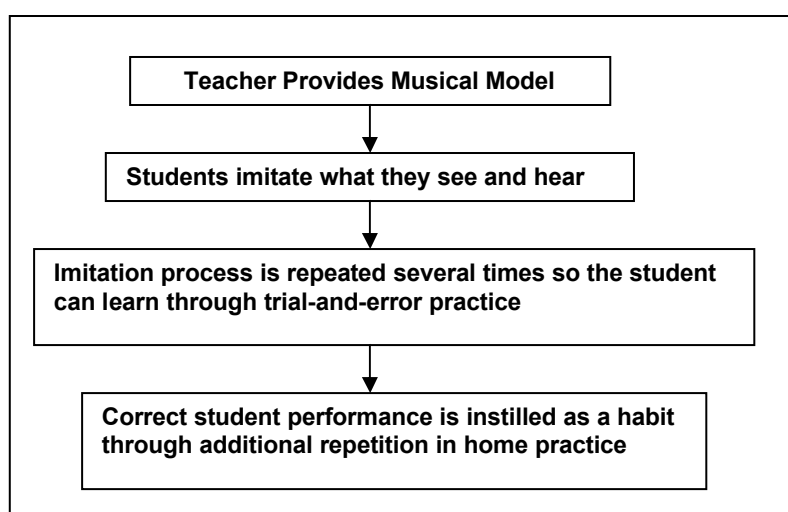
Figure 16. Teaching via imitation. (Kohut, 1985, p. 15)

Hallam (1998a; also 2006a) outlines the three stages that are generally recognised as being involved in the acquisition of skills:

- the cognitive-verbal-motor stage. At this stage learning is largely under cognitive, conscious control. The learner has to understand what is required to undertake the task and carries it out while consciously instructing him or herself
- the associative stage. The learner begins to put together a sequence of responses to produce a desired outcome. This becomes more fluent over time

- the autonomous stage. Here the skill becomes automated and appears to be carried out without conscious effort. (Hallam, 1998a, p. 119; also 2006a, p. 93)

Hallam (2006a) also suggests that the different stages may concurrently be in use as new skills are constantly being acquired. "As mastery of more advanced skills is acquired, skills learnt earlier are continuously practised so they achieve greater automaticity. As one set of skills is becoming increasingly automated, others will be at the cognitive and associative stages" (Hallam, 2006a, p. 94). The notion of stages of skill acquisition relates well to human information processing which describes humans as having working (short term) memory and long-term memory. It is believed that "short term memory can only hold seven (plus or minus two) chunks of information (Miller (1956), cited in Taetle & Cutietta, 2002, p. 283). The processing of information and the likely impact upon memory and learning are outlined in the following description:

> When too much information is presented at once or when the processing demands are too great, the working memory becomes swamped, confusion results, and the material being read is not processed (Tobias, 1982). This is why, when teaching new or difficult material, a teacher should teach only a small amount and arrange for student practice after each part. In this way, the amount taught at any time is manageable for working memory. Further, a teacher can help students by reviewing relevant learning and by providing an outline that helps the students to focus on major points. Second, we have to process new material in order to transfer it from our working memory into our long-term memory. That is, we have to elaborate on, review, rehearse or summarize the material….When prior learning is automatic, space is left free in our working memory to be used for application and higher level thinking. (Rosenshine, Froehlich & Fakhouri, 2002, p. 302)

Therefore, when learning to play a musical instrument, as various skills and knowledge gradually become more autonomous, then new skills can be introduced and developed.

The acquisition of skills to play a musical instrument is a complex process that involves repetition, or practice, and is ideally situated within the context of music-making and self-expression. According to Barry and Hallam (2002), "the old adage *practice makes perfect* may not necessarily be true, because repetition of ineffective practice strategies can yield disappointing results" (p. 151). Students need to develop an understanding of how to practise so that they can optimise their progress, rather than reinforcing errors or incorrect techniques through repetition. "The start of formal

.

instruction usually entails the teaching and practising of basic technical skills, and students are encouraged to continue at home what they have experienced during the lesson" (Lehmann, 1997, p. 169). Practice can take various forms, and it is widely recognised that "efficient and effective practice is central to the development of musical expertise" (Barry & Hallam, 2002, p. 160). When children first start instrumental lessons, they may bring preconceived ideas about how they will go on the instrument and about how much they value learning the instrument. "This does not mean, however, that children's initial motivations are fixed and that positive attitudes cannot emerge and evolve over time" (McPherson & Davidson, 2006, p. 337). We are reminded by Pitts, Davidson and McPherson (2000) that "ultimately, the most important factor in children's musical instrument learning is their own enjoyment and satisfaction" (p. 54), and Hallam (2006a) proposes that "the aims of instrumental/vocal teaching should therefore be to make music fun while still providing challenge and intellectual stimulation" (p. 115). Mills (2005) recommends that children's ability to focus intently as they experiment with sounds, reflects their "natural engagement with music [which can be] drawn into education, and developed through composing, listening, and musical approaches to performing. Instrumental teaching that is no more than repetitive drill or that consists, in effect, of a list of instructions to follow, switches it off" (p. 67).

The expectancy-value theory of motivation (Eccles, 1983b; Wigfield & Eccles, 2000), which is based on students' beliefs about their ability to perform tasks (expectancy) and their beliefs about the value of the task, is particularly relevant in the discussion of learning to play an instrument. McPherson and Davidson (2006) outline how aspects of learning to play a musical instrument can relate to the expectancy-value theory of motivation, although beliefs about 'difficulty' of the task and about sense of 'confidence' have been added to the original theory. McPherson and Davidson's (2006) summary of the six most relevant aspects underpinning children's beliefs about learning to play a musical instrument are as follows:

- *interest*: the personal satisfaction gained when playing and practising alone and with others, plus the love for the repertoire learned;
- *importance*: the degree to which learning the instrument fits with personal goals about what the child hopes to be good at;
- *usefulness*: whether learning the instrument is constructive and functional for what the child wishes to do, both now and in the future;

.

- *difficulty*: whether the learning process created obstacles or is perceived as being more difficult than other activities with which the child is engaged;

plus also whether the child believes that learning and participation will lead to a sense of:

- *competence*: for which playing and performing become activities in which the child would like to succeed; and

- *confidence*: the empowerment felt for developing the skills necessary to master challenges associated with learning and performing on the instrument, such as whether the learning process is fraught with pressures and anxieties which diminish confidence and a sense of self-worth. (pp. 335-336)

These aspects highlight the practical manifestations about learning to play a musical instrument which are drawn together from theories about expectancy-value, attribution and self-efficacy.

The term 'deliberate practice' is used by Lehmann (1997) to describe the process required to develop expert performance. Such practice requires conscious effort and is congruent with Deci & Ryan's (1985) self-determination theory (see earlier, Chapter 2.5), which outlines the need for competence, relatedness and autonomy. Hallam (2006a) concludes that "the most important attitudinal predictor of practising was the individual's own self-determination" (p. 137). Lehmann (1997) describes deliberate practice as "not inherently enjoyable, requires effort, and its goal is to improve performance" (p. 168). However, deliberate practice may be balanced by 'informal practice' such as playing through previously learned pieces or improvising. "While practice is often associated with solitary confinement and the playing of scales, this is not necessarily so, and some domain-related activities, such as accompanying, can gain quasi-practice character by providing adequate challenges along with the opportunity for evaluation" (Lehmann, 1997, p. 176). Likewise, group activities can provide opportunities for increasing automaticity through the application and use of skills, as well as provide additional motivation through their social nature (Hallam, 2006a).

There are many differences in the amount and quality of practice that is done by children when learning to play a musical instrument, with some children making rapid progress while others have difficulties or avoid practice altogether (McPherson & Davidson, 2006). It has also been noted that children who focus on work set by the

teacher before going on to pieces they could already play or enjoy playing, tended to make better progress than those who practised in a session by firstly playing for enjoyment and playing for improvement later (McPherson & Davidson, 2006). To continue learning a musical instrument requires not only persistence, commitment and self-regulatory behaviour, but support and encouragement from parents and teachers. However, as Mills (2005) suggests, "having hobbies, and exchanging them for new hobbies, is part of growing up. Children should be able to give up instrumental lessons, with dignity, simply because their interests have changed" (p. 81). Mills (2005) describes how students who give up lessons are often viewed in a negative light as having wasted time and opportunity. She goes on to say that

> certainly, it is a waste when students decide to give up instrumental lessons because the lessons that they have had were unsatisfactory in some way, perhaps because the teacher was not very well organized, or was not sensitive to students' interests, and styles of learning. However, 'wastage' was usually viewed as the students' fault, and considerable efforts were made to select instrumental students who were thought to have 'stickability'. Some instrumental teachers believe that students who are not making good progress should be 'counselled out' of continuing instrumental lessons….The sheer fact that a student is enjoying the lessons may be a good enough reason for them to continue with them. We do not suggest that a young person stops taking tennis coaching when it is clear that they are not going to make Wimbledon….Why should instrumental lessons be any different? (Mills, 2005, pp. 80-81)

Students who have an incremental view of their ability (Dweck, 2000) are likely to demonstrate mastery oriented behaviour and to persist in the face of difficulties. More motivated and successful students are "able to sustain their interest in musical instrument learning even when temporary distractions or setbacks reduced their actual practice, whereas the less motivated children were easily deterred by negative influences and effects" (Pitts et al., 2000, p. 66). There are likely to be variations in levels of motivation and persistence over time, subject to the particular challenges being faced. According to Pitts et al. (2000),

> even the most motivated children experience periods of self-doubt and reduced interest that require parent and teacher support if they are to be survived and … those who lose motivation lack the self-efficacy or external support to do this, being more easily swayed by negative influences of whatever kind. A clear difference in the quality of practice done by the more successful children has also emerged, with less motivated learners more dependent on adult interventions, and

.

        unduly concerned with quantity of practice, rather than effective use

        of that time. (p. 67)

Each student's need for autonomy can be addressed to a certain extent by allowing them to have some choice in the pieces to be learned and encouraging involvement in group musical activities. McPherson and Davidson (2006) suggest that "when students are always learning pieces that are selected by their teachers they may start to feel that they are learning the pieces to satisfy their teacher, rather than because they want to learn them" (p. 343), whereas enabling students to have some choice in the pieces to be learned can bring about improvements in their intrinsic motivation and their inherent interest in learning. Hallam (2006a) agrees that "intrinsic motivation will be enhanced if [students] have control over the repertoire that they learn" (p. 153). Support from teachers and parents can also assist in times of lower motivation, especially with encouragement and sincere, realistic praise. Extrinsic factors, such as rewards or penalties regarding practice, have inconsistent results, while "intrinsic motivation and a genuine desire to learn and progress [is] associated much more strongly with effective and successful learning" (Pitts et al., 2000, p. 66).

The quality of practice influences how effective the time spent practising is likely to be in ensuring progress on the instrument. "Time invested in practice and the quality of that practice impact on the level of musical expertise developed" (Hallam, 2006a, p. 140). Students need to learn how to practise, so that practice is more productive, challenging and enjoyable (Hallam, 2006a). If students are able to pay careful attention to increasing their ability to learn how to learn this will have a bearing on the approach to practice and therefore the level of progress (Barry and Hallam, 2002). According to Lehmann (1997), "given optimal levels of energy and motivation, … there are many factors that influence the efficiency of practice. Foremost are the setting of goals and the subsequent or concurrent evaluation of the performance with regard to these goals" (p. 176).

The type of practice needed in order to make progress and sustain learning on a musical instrument requires ongoing and persistent effort, and therefore lends itself to the development of self-regulated habits. McPherson and Zimmerman (2002) and McPherson and Davidson (2006) outline the key self-regulatory processes involved in

.

musical practice as including motive, method, time, behaviour, physical environment and social support (see Table 5). If children are able to develop these self-regulatory processes then they will have a high degree of autonomy. They will be setting their own goals, developing effective practice methods, planning and organising their own practice time and environment, monitoring their progress, and initiating and independently seeking support as needed.

Table 5. Self-regulatory processes for effective music practice (adapted from McPherson and Davidson, 2006, p. 342).

Self-regulatory process	Description
Motive	Vicarious or direct reinforcement by others leads to children being able to establish their own personal goals, reinforce their own learning and develop a sense of purpose and confidence in their own ability to perform.
Method	The strategies that children are taught or observe from others lead to them developing a repertoire of ways for dealing with problems in their playing and also the ability to self-initiate ways of practising that will enhance their development.
Time	Children's use of time is socially planned and managed through suggestions and reminders from others (such as parents and teachers) leading to them eventually being able to take responsibility for, plan and manage the amount of time they devote to their practice.
Behaviour	Performance is socially monitored and evaluated before children are able to self-monitor and evaluate their own progress.
Physical environment	The physical environment in which practice occurs (e.g., lounge/bedroom, use of music stand) is often structured by parents as a foundation for the child to eventually be able to control and shape the physical conditions in which they feel most comfortable practising.
Social	Support for practice is provided by significant others such as parents, teachers, and peers who provide emotional and psychological support leading to the child being able to directly seek help by themselves.

The practical implications arising from these self-regulatory strategies, designed to facilitate more effective practice, are evident in the following suggestions put forward by Barry and Hallam (2002) and Hallam (2006a). Students benefit from being encouraged to think about their learning (metacognition) and to be systematic in their practice. Time spent in mentally rehearsing (hearing in the mind) and in studying musical scores can enhance practice, which needs to be consciously planned by the individual in relation to both time and space. Students will also benefit if they are encouraged to develop effort attributions, that is, "acknowledge the relationship between time spent practicing [sic] and achievement and set out to invest the time necessary" (Barry & Hallam, 2002, p. 161). Awareness of factors affecting personal

.

motivation, such as identifying clear goals and seeking out feedback from others, can support students in sustaining instrumental practice. Listening to recordings of pieces being learned and participating in music-making with others (for example, ensemble playing) can contribute to more effective practice.

Overall, there are many aspects to be considered with regard to learning how to play a musical instrument. "Learning to play an instrument requires considerable time and effort, and motivation is crucial" (Hallam, 2006a, p. 115). As such, being given some choice about what instrument to learn, based on liking the sound or other qualities of the instrument may be important, more so than any personal physical attributes which have historically often been used as the basis for instrument selection. Intrinsic motivation may be enhanced if students have some autonomy in the selection of repertoire. According to O'Neill and McPherson (2002,) it is "important to encourage students to identify their own goals and aspirations by allowing them some choice in the works they are to learn and the pieces they are to prepare for their performance" (p. 42). Austin et al. (2006) indicate that students "will be inclined to continue learning only if they feel competent and believe that their learning is useful or important to what they plan to do in the future" (p. 232). The support and encouragement provided by family, peers and teachers can help to sustain learners in their efforts, which can lead to personal satisfaction, through opportunities for self-expression and achievement.

3.4 Singing, listening, creating and music technology

Singing

The voice is a most important facet of each individual's growth and development. According to Welch and Sundberg (2002), the "voice is an essential element of self-identity. It helps to define who we are and how other people experience us" (p. 265). The use of the voice through singing is widely regarded as a universal activity of musical cultures (Campbell & Scott-Kassner, 1995; Durrant & Welch, 1995; Odam, 2002; Welch & Sundberg, 2002). The activity of singing in groups occurs in many cultures, to the extent that "collective singing appears to be a basic human need, … a musical and social phenomenon [which suggests] that there is every reason to encourage collective singing in an educational context, in schools, churches and the

.

wider community" (Durrant, 2000, p. 40). Singing begins and is nurtured in childhood (Campbell & Scott-Kassner, 1995), and "everyone has the potential to learn to sing" (Welch, 2006, p. 325). Babies imitate sounds with their voices, as well as experimenting with sounds and using vocal sounds to express their feelings (Bridges, 1994), thus sowing the seeds for language, singing and musical development. In addition to supporting language development, singing play songs or nursery rhymes which include actions, can support the development of physical coordination (Hallam, 2006a). Young children sing spontaneously and respond enthusiastically to singing, and they are naturally able to memorise songs and imitate singing with little difficulty.

Children can be involved in a wide range of singing activities which do not require specific musical skill, "but musical skills and musical knowing can develop through engaging in the activity and wanting to get better at it" (Durrant & Welch, 1995, p. 61). As an area of learning within music education, singing occupies various roles, such as being a class ensemble performing activity, being an area of individual study (in the same way that an instrument is pursued as an individual study), or being a vehicle for developing various musicianship skills. According to Bannan (2002) "everyone … has a potentially expressive singing voice the development of which can yield pleasure in its own right while also providing a powerful underpinning to other aspects of musical learning" (p. 106). Singing can provide a useful supporting role when beginning to learn to play an instrument, by encouraging beginners to sing and then to play simple, familiar pieces on their instruments.

> Singing (either mentally or out aloud) is useful because it helps to establish a correct mental model that can guide children as they translate what has been memorized into the instrumental fingerings needed to perform it on an instrument. Singing should be a common and natural part of all early lessons. (McPherson & Gabrielsson, 2002, p. 110)

Sight-singing is an advanced skill "which demands the utmost ability to link sound with symbol, … is an essential part of general musicianship [and] which is important to all musicians regardless of their speciality" (Thackray, 1978, p. 149). The expressiveness of the human voice underpins the concept of musical expressiveness in general, and is the quality that instrumentalists are often exhorted to achieve by their teachers – 'let the phrase sing'.

.

As adolescence approaches, interest in participation in singing may decline, for reasons that pertain to vocal changes due to the onset of puberty which are usually more challenging for boys, and due to peer group pressures relating to musical taste and preferences. Bannan (2002) suggests that "physical growth brings about physical change which can undermine progress … and peer-consciousness and adolescent attitudes to matters of repertoire and style can stifle creativity and inhibit the development of performing skills" (p. 107). There are many factors which can impact upon students' perceptions about singing. According to Welch (2006),

> at any age, development can be supported or hindered by a number of factors, such as the appropriateness of a given singing task set by an adult in relation to current singing capabilities, the expectations of peers and/or the value placed on singing (and certain types of singing behaviour) within the immediate culture. Opportunities to engage in vocal play and exploration, to share in singing games with peers and 'experts', as well as to improvise and compose their own songs are essential features of musical cultures that foster singing development. (p. 325)

Thus, singing has a special place in early childhood development and contributes to many facets of cultural, musical and personal development throughout schooling.

Listening

In everyday life, music is everywhere. The proliferation of music in shops, workplaces, public places, on radio and television, and on telephone hold systems and mobile phones, continues to grow due to rapid developments in technology which have enabled the unprecedented availability of access to listening to music. "Never before in the history of humanity have so many different kinds of music been so easily available to so many people" (Hallam, 2006a, p. 179). The way in which music is perceived can range from passive listening to more active participation, with estimates showing approximately 40-50% of most people's everyday lives involves music in some way (Hargreaves, North & Tarrant, 2006; North, Hargreaves & Hargreaves, 2004). The extent to which people engage with music in the developed world is reflected in the size of the music industry worldwide (Hallam, 2006a). Personal listening devices with individual headphones (for example, MP3 players such as iPods) have added a further dimension, as these tend to promote individual rather than shared experiences, and they allow for immense personal choice. Such devices tend to inhibit interactions with others (for example, on public transport), and warnings about possible hearing damage,

.

due to extended use of such devices at loud volume through headphones, have become common.

Listening to music can take on many forms and involve many levels of awareness. As an area of learning in music, listening has a central role, both as an area of activity itself and as a necessary part of other music learning activities. "One cannot experience [music] without listening. … All people … interact with, experience, and enjoy music through its essential behavior – listening" (Reimer, 1989, p. 168). Hallam (1998a) describes the difference between hearing and listening, where "hearing is essentially passive, a form of reception, while listening involves concentration, focus or activity on the part of the listener" (p. 181). Various types of listening (including passive hearing) can be included within music learning. According to Hallam (2006a), "music educators sometimes underestimate the importance of the incidental learning that can occur from just hearing music, believing that only active music consciously undertaken, where some form of cognitive evaluation is undertaken, is of value" (p. 57). Increasing familiarity with music through passive hearing can be a first step towards more active listening. Campbell and Scott-Kassner (1995) suggest that the "key to the development of listening skills is the ability to perceive sounds and to form thoughts about those sounds" (p. 159).   There needs to be recognition that by the time most children reach school they already

> have well-developed listening skills due to exposure to music in their
> everyday lives, and that those who are not receiving specialist music
> training have listening skills that are in most ways as well developed
> as the skills of those who are [receiving specialist music training].
> (Hallam, 2006a, p. 67).

As a learning activity, listening is not overtly identifiable, therefore combining listening with other physical, observable aspects, such as movement, performing (for example, singing, playing along with recording), or doing written/visual activities such as reading the score or other visual tasks related to what is heard (Campbell & Scott-Kassner, 1995), enables the teacher to ascertain the level of active listening. More sophisticated listening skills, such as identifying musical structures, will be developed by encouraging students to focus on similarities and differences (Hallam, 2006a), "patterns that repeat and contrast, the use of tone colors or the shaping of the music through dynamic change" (Campbell & Scott-Kassner, 1995, p.159). An approach to

.

teaching listening is outlined by Campbell (2004, 2005) in which there are three stages: attentive listening, engaged listening and enactive listening. Attentive listening is a teacher-directed approach, engaged listening involves some sort of active participation whilst listening, and enactive listening involves the goal of performing the music through repeated listening to it (Campbell, 2004, 2005). There is a need to include a wide variety of music of various styles, cultures, and genres in order for listening to be a vital and relevant aspect of music education (Campbell & Scott-Kassner, 1995; Hallam 2006a; Wiggins, 2001). Mills (2005) suggests that "it is never too early to start widening the range of music to which children listen.… Children can appreciate music intuitively on its own terms" (p. 63). It is also helpful to have repeated listening to pieces of music as this can increase understanding (Hallam, 2006a).

In addition to the increased possibilities for listening through the use of personal listening devices (MP3 players such as iPods), the field of listening is broadening to include cross-media approaches which involve music and visual images, readily available on the internet. Webb (2007) suggests that "video sharing sites such as YouTube … are a source for the stimulation of creative and artistic activity from which music education can benefit. … Cross-media listening takes into account students' screen engagement and increasing screen literacy" (p. 147). Webb (2007) cautions that this type of visual listening should build on and be in addition to, rather than replace, more traditional forms of music listening. A framework based on Campbell's (2004, 2005) three stages of listening (attentive, engaged and enactive) is put forward by Webb and clearly shows how this is an area which has the potential to relate to students and to build deeper understandings of music. Webb (2007) suggests that "by drawing on the non-formal ways in which students listen and respond to music, cross-media listening can assist in making classroom music analysis a more multidimensional, imaginative and vital educational experience" (p. 159).

Within the area of listening in music education, historically the field of aural perception and the development of aural skills such as melodic and rhythmic dictation have received much attention in curriculum or syllabus content and in research. Priest (2002) attributes "the dissection of aural acuity in music into rhythm, pitch, amplitude and so on, in the 1930s" (p. 97) as the reason for the widespread practice of the testing of these separate components since then. Reimer (1989) describes the situation thus:

.

> A sequenced program focused entirely on developing aural skill in the narrow sense of dictation–interval recognition–sight singing–chord identification can be very effective in and of itself and very easy to accomplish because it consists of pure training…. Because of the ease by which such skills can be inculcated using rote-drill-modelling methodologies, and because results can be quick and dramatic, and because it makes so few demands on the musicianship and pedagogical skills and general understandings of teachers, it is seductive in the extreme to build a general music program entirely or primarily on such a base. (p. 159)

It would appear that the testing of aural skills has largely dictated the content of aural courses. Pratt (1990) suggests that "much aural training is directed towards testing of what is right or wrong, and the most convenient material for this is the pitch and duration of notes" (p. 1). An undue emphasis on "narrow aural training programmes, far from increasing aural awareness, may actually close ears and minds" (Pratt, 1990, p. 2). A more holistic approach which involves listening to a wide variety of music, and considering aspects such as timbres, textures, dynamics, articulations in addition to rhythm and pitch, is therefore to be encouraged.

Music listening, especially to contemporary popular music, is reported as increasing dramatically in adolescence (Larson, 1995; Santrock, 2001), being one of young people's main leisure activities (Boal-Palheiros & Hargreaves, 2001; Ivaldi & O'Neill, 2002; North, Hargreaves & O'Neill, 2000), if not *the* most preferred leisure activity for many adolescents (Fitzgerald et al., 1995; Hargreaves & Marshall, 2003). In their study entitled *Kids and media in America*, Roberts and Foehr (2004) found that young people's audio use increases steadily from ages 8 to 18 years, and that

> audio exposure increases to levels that exceed those for TV exposure. … The steady increase in exposure to audio media occurs largely because they function primarily as a source of music, and for adolescents music is arguably the most important type of media content. (pp. 86-87)

Zillman & Gan (1997) highlight "the enormity of adolescents' consumption of, and apparent fascination with, various forms of music" (p. 161) and "the enormity of music's role in adolescent development" (p. 182), which is the period of transition between childhood and adulthood (Santrock, 2001). Adolescence has often been viewed as a problematic phase, "beginning with Stanley G. Hall's portrayal of adolescence as a period of storm and stress, … but … a large majority of adolescents are not nearly as troubled as the popular stereotype of adolescence suggests" (Santrock,

.

2001, p. 10). As a period of development, adolescence is "characterized by biological, cognitive, emotional, and social *reorganization* with the aim of adapting cultural expectations of becoming an adult" (Susman & Rogol, 2004, p. 16). During adolescence, it can be expected that young people will place greater emphasis and value on their peer group rather than authority figures, such as parents and teachers. It is in the area of social redefinition during adolescence where the most significant effect on development occurs (Steinberg, 2002), which helps to explain why music is so important to adolescents.

Music can be used as a way of formulating and expressing individual identities and various aspects of identities (MacDonald, Hargreaves, & Miell, 2002; MacDonald, Miell & Hargreaves, 2002). Music has been strongly linked to the process of identity formation during this time, as it can act as a 'badge' of identification with peers (Frith, 1981) and can express personal issues confronting adolescents (Larson, 1995). During adolescence, teenagers tend to develop more distance and space from their parents, and seek to spend time alone during which music listening often becomes an important element, addressing the important personal and social needs of "mood control and silence filling" (Santrock, 2001, p. 285). In relation to heavy metal music, Arnett (1991) suggests that this music is "abrasive and offensive to adults … [which] is precisely what makes it so attractive to (some) adolescents" (p. 589). Music listening helps adolescents to create a context for cultivation of the private self (Larson, 1995) and although music is not the only means in the process of identity development it can play a prominent role (Tarrant, North & Hargreaves, 2002).

> The irony or puzzle is that adolescents' quest for a more secure and authentic self involves use of a public, shared medium. Rather than seeking truly unique experiences in their solitude, adolescents reach out to packaged images provided by a commercial industry. One of the reasons is undoubtedly that music provides the security of identification with other like-minded peers. (Larson, 1995, p. 543)

Overall, the process of listening is a part of all music experiences, and listening to music plays an important role in identity development, especially during adolescence. Within music learning, specific listening tasks involving music from a wide range of styles and cultures is to be encouraged. Such tasks can involve different forms of listening (such as Campbell's (2004, 2005) attentive, engaged and enactive listening), and increasingly may include visual as well as aural dimensions.

.

Creating

Creating music embraces both improvising and composing music, and falls within the area of *Music practice* which includes making music, exploring and developing music ideas, skills, processes, conventions, composing and performing music, as outlined in the NRSME (Department of Education, Science and Training, 2005). Improvising implies a degree of spontaneity in music-making usually within existing musical structures and which is the result of prior experience and preparation.

> All improvisations are the result of purposeful, non-random movements to create musical sounds over time. … Musical sounds made while improvising form the resultant musical product, and it is not possible to go back and revise the product, as can be done while composing. … All improvisations allow the performer the freedom to choose pitches and rhythms within certain constraints. (Kratus, 1996, p. 27)

Grant and Kohut (1992) refer to improvisation as "spontaneous musical composition" (p. 36), and improvisation is often considered as an introduction to the process of composition. Within the United Kingdom National Curriculum for Music, there is a requirement that for Key Stages 1-3 (ages 5 to 14 years) students are involved in performing, composing and appraising. Odam (2002) carried out research to monitor composing in schools and identified a range of issues that have relevance to music education in general. The issues include: the use of keyboards, which, while being widely available, are under-used; the management of group work which is particularly challenging, with adequate facilities being needed if small group work is to proceed effectively; and the need to plan for more individual work, especially in later year levels such as in Key Stage 3[4] (equivalent to Years 10 to11).

Children are naturally drawn to experimenting with sounds, and they can be frequently observed to "focus intently as they experiment with … different ways of making different sounds, different ways of assembling sounds into patterns or motifs" (Mills, 2005, p. 67), which is the same as what occurs in the composition process. Singing can be a means of guiding "those composing fingers to the interesting places, following the lead of 'the songs in the head'" (Odam, 2002, p. 137). A range of composition activities can be devised to suit the needs of the students, such as adding a

---

[4] In the United Kingdom, the following age groups define the Key Stages:
Age 6-7: Key Stage 1; Age 8-11: Key Stage 2; Age 12-14: Key Stage 3; Age 15-16: Key Stage 4.

part to a given piece through to composing all the parts. "By using a range of composing activities, the teacher is able to focus clearly on designing meaningful musical encounters that enable pupils to learn through producing work both of value and of individual and relative originality" (Bunting, 2002, p. 171). Students are likely to be influenced by their musical experiences when undertaking composition activities. Stauffer (2002) found that there was plenty of evidence that the compositions of the students in her study were influenced by "sociocultural context. … Their interests not only in the music of television programs and movies but also in the sociopolitical themes they saw in media events appeared in the titles of their pieces" (p. 319).

In Odam's (2002) research, the number of pupils who voluntarily compose music outside of school was surprising, with around 35 per cent of pupils in the sample reporting that they composed on their own outside school for enjoyment. Stauffer (2002) also found that "children can and do already compose on their own at home, in school, and in other settings using computers or other tools available to them" (p. 320). According to Odam (2002), "composition is a powerful form of self-expression in the individual … [and] the ultimate aim of the composing curriculum must be to fire individual pupils' imaginations and motivate them to produce work of their own" (p. 138).

Composing, whether individually or in groups, can be considered as a type of problem-solving activity in which students have control over the sounds they are making and where there is an outlet for self-expression. Through composing their own music, students have the chance to create music that is "personally meaningful and satisfying to them" (Stauffer, 2002, p. 320). Creating music is a way of putting various musical concepts into creative and practical applications, making "tacit knowledge overt" (Wiggins, 1999/2000). The process of creating music has the potential to be a most rewarding and engaging area of music learning.

Music Technology

The impact of computer-based technologies in education has been rapidly growing since the 1980s.

>The new technologies provide opportunities for creating learning environments that extend the possibilities of "old" - but still useful –

.

technologies - books; blackboards; and linear, one-way
communication media, such as radio and television shows - as well as
offering new possibilities. Technologies do not guarantee effective
learning, however. Inappropriate uses of technology can hinder
learning - for example, if students spend most of their time picking
fonts and colors for multimedia reports instead of planning, writing,
and revising their ideas. And everyone knows how much time
students can waste surfing the Internet. (Commission on Behavioral
and Social Sciences and Education [CBASSE], 2000, p. 206)

New technologies can offer interactive environments, where "students can learn by doing, receive feedback, and continually refine their understanding and build new knowledge opportunities" (CBASSE, 2000, p. 206), which is compatible with a constructivist approach to learning. There are concerns that "the potential of information technology to transform K-12 education remains unrealized" (Pritchard, 2002, p. xiv). Students in the twenty-first century need to develop fluency with the use of computer technology as it has become, and will further intensify as, an integral part of all facets of society. There is recognition that technology can support and enhance learning, and that it "may best be used in addition to traditional teaching rather than as a substitute for it" (Hallam, 2006a, p. 175).

It is clear that music in society and music education have certainly embraced new technologies. Music technology has grown rapidly along with other computer technology. Webster and Hickey (2006) attribute the impetus for growth in music technology to a mixture of music production requirements (notation and recording), developments in hardware capabilities (faster micro-processing and laser disc technology) and the impact of the internet as a means of communication. Although computer assisted learning has been part of the history of music technology, the use and application of music technology in education has been a consequence of, rather than a motive for, advances in music technology. In music education, the main areas in which music technology is used are: notation; sequencing; digital recording; music theory and aural development; internet based materials for music teaching and learning. Early software for computer-assisted learning comprised a drill-and-practice approach for aural and theory work. Notation programs range from very simple, interactive game-like programs (such as *Music Ace*) to sophisticated programs (such as *Sibelius*), used by students as well as professionals. Sequencing and audio digital recording software programs enable the manipulation of sounds to create and produce music. Some

.

sequencing programs include the use of pre-existing or invented loops. Basic computer operations such as cut, copy and paste, are used in the creation and production of music in sequencing and digital recording. Again, these range from very simple (such as *Music Creator*, *Audacity, GarageBand* and *ACID Studio*) to professional programs (such as *Pro Tools*). There are many aural and theory software programs (such as *Auralia* and *Musition)* which can cater for beginners to advanced students. There are programs available to assist performance, such as by providing accompaniments for improvisation (such as *Band in a Box*) or opportunities to 'play-along' (such as *In the chair*).

A basic principle for all types of music technology is the ever-present opportunity to be working with actual sound, the medium of music. With music notation software programs, the sounds are usually heard for the symbols being addressed. There are some listening software programs that show the score while listening to high quality recordings, with the facility to highlight particular parts. The use of drill-and-practice aural programs can be tailored to suit individuals, and such programs can keep records of time spent and progress on the program by each student. Being able to create music through composition and improvisation is powerfully supported by computer technology (Webster & Hickey, 2006), which enables students to "realize their musical ideas in ways unparalleled in music history. They can hear their ideas, alter them, and save them for another day" (Webster, 1994, p. 149). It is evident that "the use of digital media can facilitate musical expression and creativity without the need for students to have highly developed technical musical skills" (Hallam, 2006a, p. 183), although "this 'instant' music making needs to be tempered with expert teaching to help challenge students to develop more sensitive and complex ways to think musically" (Webster & Hickey, 2006, p. 386). Learning can be seen to have more relevance for students by capitalising on the "generally positive attitudes of students toward the use of technology in learning" (Webster & Hickey, 2006, p. 386). The area of music technology itself, which embraces digital recording and sequencing, has become recognised as a discrete part of music study; for example, Music Technology is an area of specialisation in the Bachelor of Music Studies degree at the University of Adelaide, and Music Technology is now a subject which can be studied at year 12 level as part of the South Australian Certificate of Education.

.

3.5 Musical literacy

Music has its own symbol systems, with musical staff notation being the most widely used in western music. Music literacy, that is, reading and writing music, is important within music learning and there are many similarities between language learning and music learning. Schleuter (1997) points out that, whether learning language or music, both fields are

> dependent mainly on the ability to hear and discriminate sounds and then attach meaning to them….We do not expect children to learn to speak without first hearing speech. In addition, children gain vocabulary and verbal facility over a long time period through speech alone and without a symbol system. (pp. 43-35)

When learning to read music notation, Bridges (1984) warns that "unless there is aural comprehension as well – the ability to form mental images of the sounds represented by music notation – we cannot claim to be musically literate" (p. 56).

It follows that when learning music there needs to be experience with sounds first before introducing symbols. The principle in music learning - that sound should precede its associated symbol - is widely advocated (Bridges, 1984; Gardner, 1983; Gordon, 1981; Mills & McPherson, 2006; Rainbow, 1988; Schleuter, 1997; Swanwick, 1999; Wiggins, 2001). This can be seen as far back as Rousseau (1762/1963) who wrote that

> at first we can listen to them [songs] instead of reading them, and a song is better learnt by ear than by eye. Moreover, to learn music thoroughly we must make songs as well as sing them, and the two processes must be studied together, or we shall never have any real knowledge of music. (p. 114)

Hargreaves (1986) summarised Rousseau's ideas about music which were "that intuitive musical experience was an essential precursor of musical literacy; that children should create, as well as receive music; and that music should be enjoyable" (p. 214). Lowell Mason, in Boston in the 1830s, drew on Pestalozzian principles, and encouraged teachers as follows:

> 1. To teach sounds before signs and to make the child learn to sing before he learns the written notes or their names;
> 2. To lead him to observe by hearing and imitating sounds, their resemblances and differences, their agreeable and disagreeable effect,

.

instead of explaining these things to him – in a word, to make active
instead of passive in learning;
3. To teach but one thing at a time – rhythm, melody, and expression
to be taught and practiced separately, before the child is called to the
difficult task of attending to all at once;
4. In making him practice each step of each of these divisions, until
he is master of it, before passing to the next;
5. In giving the principles and theory after the practice, and as
induction from it;
6. In analyzing and practicing the elements of articulate sound in
order to apply them to music, and
7. In having the names of the notes correspond to those used in
instrumental music. (Monroe, 1907, p. 145, cited in Leonhard &
House, 1959, pp. 52-53)

In particular, Mason's first and fifth principles embrace the principle of 'sound before symbol'. During the first part of the 20th century, James Mursell put forward three basic tenets, which according to Schleuter (1997, p. 22) "remain current and valid: 1) technique should be an outgrowth of musical expression, 2) familiarity with musical sounds should precede music reading, and 3) music should be taught in a cyclical sequence".

The principle of 'sound before symbol' is evident in different ways in the work of the influential music educators Kodály, Orff, Dalcroze and Suzuki. The Hungarian composer and educator Zoltan Kodály (1882-1967) believed that all children have innate musicality and are capable of becoming musically literate (Choksy, Abramson, Gillespie & Woods, 1986). The Kodály method is singing-based and makes use of tonic solfa, hand signs and rhythm syllables. The Kodály method uses a child-developmental approach, beginning with 3-note songs based on *la, soh* and *me* (6th, 5th and 3rd degrees of a major scale). The method develops the sense of pitch and pitch relationships through the use of solfa and a movable *do*. The rhythm syllables, which are adapted from Chevé's French time names from the early 1800s, are helpful in developing an understanding of rhythmic notation. Choksy et al. (1986) note that the common Hungarian practice that children should sing absolute letter names (A, B, C and so on) as well as solfa syllables is not particularly evident in how the Kodály method is generally used in North America. Whilst Kodály believed that all children should become musically literate, this implied a deep understanding of music and not just notation, and was to be achieved through musically expressive singing approached in a developmental fashion.

.

The approach to music education based on the ideas of German composer and educator Carl Orff (1895-1982) emphasises the process of music-making, with any notation being introduced later and as needed. Music-making is often based on word rhythms and makes use of both tuned and untuned percussion instruments. Orff designed various xylophones and metallophones to be used in classrooms by children and these types of instruments are still in wide use, especially in primary schools. The use of ostinato, evident in many of Orff's own compositions (for example, *Carmina Burana)*, is often the basis for music-making, along with the use of the pentatonic scale. Choksy et al. (1986) summarise the major goals of the Orff method as being to develop: "1. a sense of community; 2. understanding of the organization of music; 3. comprehension of music as an art; 4. musical independence; 5. personal musical growth; 6. performance ability; 7. self-esteem". These goals convey the idea of ensuring that, through this process of music-making, students will gain a sense of competence, and that music is something they can do. Spruce (2002) highlights how effective the Orff approach was in establishing the principle of children experiencing music directly before becoming involved with its notation. However, the reliance on pentatonic melodies and ostinato rhythms has brought about "a kind of generic tonal music … [and] an autonomous classroom music culture allowing no connections with the child's social and musical world" (Spruce, 2002, pp. 14-15). Nevertheless, the principle and the approach, especially in the younger years, can provide an effective means for music making and can be developed to be applied to other instruments and involve music from children's worlds (Dunbar-Hall, 2000).

The Dalcroze method is based on the approach developed by Swiss educator and composer, Émile Jaques-Dalcroze (1895-1950). He originally devised the method "to develop the sense of rhythm in music students" (Haward, 1980, p. 554). It is based on the role of body movement in responding to sound, that is, the kinaesthetic sense, which is central to each of the three parts of the method, which are eurhythmics, solfege (using fixed *do*) and improvisation. The process, which is based on the combination of movement, feeling and sensing, is described as follows:

> Hearing could be linked to moving; movement could invoke feeling;
> and feeling could trigger kinaesthetic sensing to bring information
> directly to the brain and then back to the body via the nervous system.
> This brain connection would lead to the analytic process necessary to

.

improve, correct and perfect expressive performance and to read,
write, and improvise music. (Choksy et al., 1986, p. 33)

Thus, in the Dalcroze method, musical experiences, particularly involving responses through movement, precede notation.

The method of instrumental instruction developed by Shinichi Suzuki (1898-1998) in Japan, was initially for violin and later adapted for other instruments such as piano, flute, viola and cello. The method became widespread after the appearance in 1964 of Suzuki and his Japanese Tour Group at the Music Educators National Conference [MENC] in Philadelphia (Kendall, 1996). The method is based on the same approach as in learning a language, which is through the natural imitation of sounds from a very young age. In the Suzuki method, very young children learn on quarter and half size violins, and ideally, mothers play too in order to provide ongoing support at home. Repeated listening to recordings of pieces being learned is another feature of the method. Suzuki's ideas about learning extended beyond the violin, "as his main purpose was the development of character through music education" (Shibata, 1980, p. 387). The Suzuki method does introduce conventional musical notation, but, as with language reading and writing, it comes later, after a degree of proficiency on the instrument has been achieved (McPherson, 1995). Over the years, there is little research information about success, achievement, student drop-out rate, and attitudes to the Suzuki method (Kendall, 1996), or about the sight-reading ability of students who have learned via the Suzuki method. Anecdotally, the Suzuki method has developed a reputation that, whilst the students develop excellent aural perception and technical facility, they tend to be poor sight-readers, a view which is not supported by accredited Suzuki teachers. Nevertheless, the Suzuki method highlights "the enormous importance of early listening as fundamental to the development of musical sensitivity in children" (Kendall, 1996), and is another example of 'sound before symbol'.

Despite this long historical precedent of advocating the principle of sound before symbol, in practice this has not necessarily been applied generally in music education. Gordon (1981) believes that "after almost one hundred [and] fifty years these fundamental principles have not systematically taken root and flourished in the music education profession" (p. 64). Priest (2002) suggests that in music education, the learning of symbols has been "over-stressed" (p. 100). Swanwick (2002) states that "in

.

instrumental teaching in the western classical tradition, notational 'literacy' is thought to be essential and thus notation is often central to instruction and is frequently the starting point" (p. 203). When there is an emphasis on notation in the early stages of learning, this can lead to a decrease in aural sensitivity (McPherson & Gabrielsson, 2002).

The practice of putting symbols before sounds is contrary to good educational practice and creates problems; for example, "the insistence in many quarters on beginning with the score often makes many otherwise musically inclined children hostile to their music lessons" (Gardner, 1983, p. 377). It was noted by Schleuter (1997) that

> many problems occur in instrumental music instruction because of the common practice of beginning with the symbols rather than the sounds and omitting enough aural/oral practice and efficient verbal association of patterns. Students are mainly expected to learn the technical skills of instruments while associating fingerings with music notation. By skipping the musical readiness for notation, music symbols become visual cues for fingerings rather than for musical sounds. (p. 37)

In other words, although students may be participating in musical activities, it does not necessarily follow that there is meaningful musical thinking occurring too. Where the connections between sounds and symbols are not developed in robust and logical ways, the level of musical thinking is more likely to be superficial, as illustrated in the following description by Webster & Richardson (1994): "A student who can sight-read a trumpet part in tune with correct posture does not necessarily engage in musical thinking – he or she may just be pushing buttons and tightening the embouchure" (p. 11). Bridges (1956) refers to "students who can read music i.e., reproduce musical notation on an instrument and obtain high marks in theory examinations [but] may nevertheless be musically illiterate and unable to hear mentally a note they (read or) write" (p. 68). It is possible to bypass musical thinking altogether (see Figure 17), and go from the visual symbol to the fingering action required to produce the symbol without incorporating an aural image, that is, musical thinking. Odam (1995) explains this inherent problem with notation as being due to left brain processing of written symbols which triggers the body action and bypasses the right brain. Mason (1993) suggests that students need opportunities to play and experiment with sound in theoretical contexts to ensure that they are "making an aural-kinaesthetic connection

.

rather than a visual-kinaesthetic connection" (p. 157). McPherson (1995) also suggests that the level of progress students make in their music learning depends on the degree to which they "learn to coordinate both ear and hand, and to perform on their instruments the auditory images formed in their minds" (p. 61).
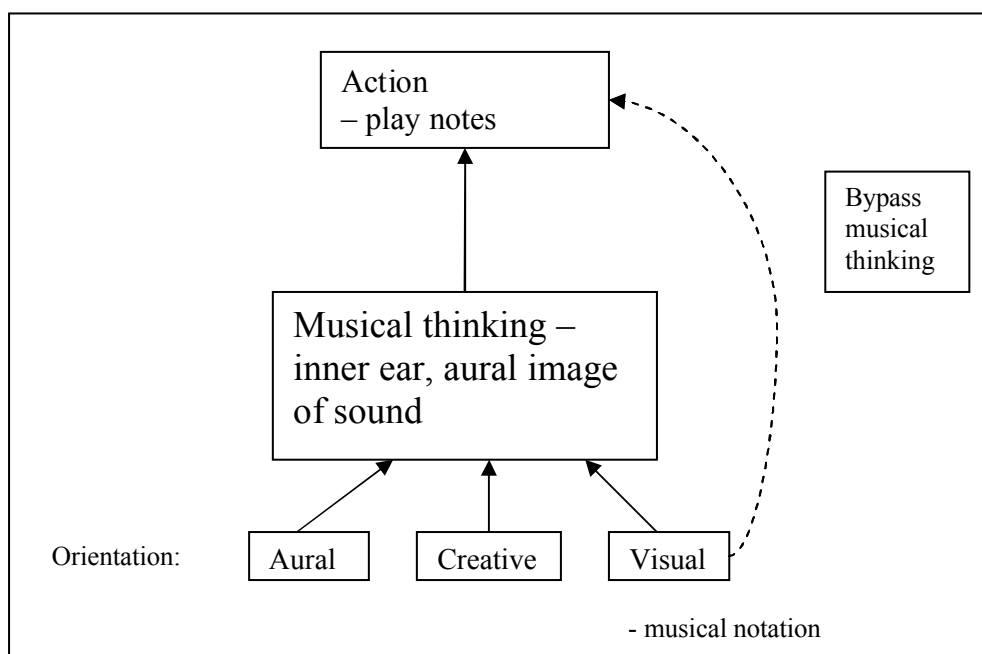

Figure 17. Bypassing musical thinking.

Whilst learning to read musical staff notation is an important aspect of music education, nevertheless, reading staff notation is not a prerequisite for successful engagement in music and undue emphasis on staff notation can lead to the atrophy of creative abilities, and the ability to memorise (Mills & McPherson, 2006). Reimer (1989) describes how learning staff notation "is not only perceived as the 'one true way' to record sounds but it becomes deified – it comes to be regarded as equivalent to that which it symbolizes" (pp. 173-174). Reimer (1989) suggests that teaching practices for over two centuries have been spending inordinate amounts of time on the teaching of notation skills with "humiliatingly poor results" (p. 173). Children need to have wide ranging and meaningful experiences with music making, listening and creating, before musical notation is introduced. According to Mills and McPherson (2006), "the process of reading music can be extremely slow and tortuous for children when the learning process introduces elements of music that are not immediately applied in the musical examples performed or studied by the children themselves" (p. 163). McPherson and

Gabrielsson (2002) " advocate a more integrated approach, where performing music by ear serves as preparation for literacy development in the beginning stages of musical involvement, and where performing with and without notation is encouraged during all subsequent levels of development" (p. 111). It is believed by McPherson and Gabrielsson (2002) that the role of playing by ear may be underestimated by teachers in terms of its benefits for developing literacy skills. McPherson and Gabrielsson (2002) propose six general principles for developing musical literacy, based on principles to develop language reading, and which are intended to guide teachers.

1. *Approach the reading of notation as a meaningful activity.*
2. *Take a broad perspective on literacy development.*
3. *Help young readers move toward automatic decoding.*
4. *Draw on children's domain and general knowledge.*
5. *Encourage children to develop their musical knowledge.*
6. *Expect children to vary widely in their progress toward fluent reading.* (pp. 111-112)

It is also suggested that by making connections with children's prior experiences, such as through using pieces that they already know, and by getting them to invent their own notations, children may be able to relate better to learning to read music (McPherson and Gabrielsson, 2002).

When students read individual notes as fingerings rather than going from the symbol (visual orientation) to the sound (aural image) to the action (fingering), then problems with developing musical literacy are likely to result, as described by Mills and McPherson (2006). This is evident when there is an emphasis on reading individual notes rather than patterns. Mills and McPherson (2006) illustrate this difficulty in the following (see Example 1), in which the three-note descending pattern is repeated, and can be considered as a meaningful whole. Individual notes, in isolation from each other (see Example 2), make little sense, while when seen as part of a pattern, they take on greater meaning.

Example 1. A meaningful whole. (Mills and McPherson, 2006, p.164)

.

Example 2. Individual notes. (Mills and McPherson, 2006, p.164)

Mills and McPherson (2006) suggest that there are probably two distinct ways in which a child can decode staff notation – firstly, looking at the individual notes and sounding them out individually before they are linked together (see Example 2, as in reading words, sounding individual letters without putting them into a word), or secondly, looking at the meaningful whole and then trying to decode this by breaking it down into its individual notes. The latter method uses the idea of having an aural image of the pattern, and being able to recognise the pattern from already knowing it through a well known tune such as *Three Blind Mice* (as in Example 1). Therefore the latter method is more likely to develop musical literacy as it is a more direct and musical approach which holistically connects what is seen with the sound of the pattern (Mills & McPherson, 2006). "Too early an emphasis on notation can therefore lead to a decreased aural sensitivity for the natural unified patterns that children spontaneously observe when listening to music" (Mills & McPherson, 2006, p. 165). Fluent music readers are able to look at larger groupings and recognise the inherent patterns, rather than fixating on each note. In fluent readers, "their fixations are directed across line and phrase boundaries" (Hallam, 2006a, p. 98).

Whilst staff notation is probably the most widely used form of musical notation, other forms of notation are also common. For more than 600 years, different forms of tablature notation, based on letters, numbers or other signs have been used as alternatives to conventional staff notation (Dart & Morehen, 1980). Tablature notation systems evolved in Germany, Italy, Spain and France, and were used for various instruments including guitar, lute, organ and recorder. Guitar tablature has been enduring and in recent years has become most prolific in contemporary popular music for guitar. Countless songs, freely available by downloading from the internet, are written with lyrics and guitar tablature [Tab]. Tab notation for guitar provides a way of more immediate playing, as compared with staff notation, analogous to, say, painting by numbers. However, guitar tab notation is very limited in indicating rhythm, and it does

.

not inherently promote any understanding for the system of the musical alphabet. Thus it does not provide a basis for understanding the most basic theoretical concepts such as rhythm, pitch, key or harmonic relationships. For students who begin with tab, it is very difficult to attempt to learn staff notation later on as the two systems are conceptually quite different. Tab notation provides a quick way of working out where to 'put the fingers', but it has limitations with regard to the development of general musical understanding. The tab system uses a completely different approach than traditional staff notation. In the guitar tab system, there is a 6-lined staff and numbers. The 6-lined staff represents, in ascending order, the 6 strings of the guitar in ascending order of pitch (low E, A, D, G, B, high E), and the numbers show which fret is to be used. In Example 3, a C major scale is shown in both staff notation and tab notation. On the guitar tab notation, the first note (C) therefore is played in the 3rd fret of the A (5th) string, the D is the D (4th) open string shown by 'O', E is the 2nd fret of the D string, and so on. By using the tab notation, it is possible to play the scale quite readily but without necessarily knowing any note names.

Example 3: A comparison of staff notation and tab notation.

As outlined in *Secondary Music Guide* (Education Department of South Australia, 1986), another simple form of notation which can be used as a springboard for music making in classes is grid notation. Each square of the grid can represent one beat (or bar), and can include symbols such as dots or crosses to represent sounds (see Example 4). Grid notation can be used with alphabet note names which could provide a harmonic accompaniment to singing, or simple melodies could be notated in a grid. There is scope for children to create their own grids, and grids can be read in different ways, such as left to right in single lines, right to left, downwards, upwards, left to right

.

with simultaneous lines (as in a full score), or like a canon. Example 5 shows a possible interpretation for playing the grid in Example 4. Grids can also be used as a way of introducing conventional rhythmic notation (see Example 6). Thus, grids are a very simple system of notation that can enable students to participate immediately in class music making.

Example 4: Grid notation using two different symbols.

Suggestion: ● = claves, **X** = tambourine

Example 5: An interpretation of the grid using two different symbols (from Example 4), written in traditional percussion staff notation.

.

Example 6: An example of grid notation converting to standard rhythmic notation.

Grid example: Converts to:

Musical notation is a written way of storing, remembering and transmitting music. Whatever the type of musical notation being used, it will only ever be an approximation to represent the sounds. Priest (2002) refers to the inadequacy of musical notation to convey anything beyond the "nuts and bolts" (p.100), and Mills (2005) suggests that "any system of notation, is at best, an incomplete record of the music that it represents" (Mills, 2005, p. 107). Irrespective of the form of notation being used, it needs to be emphasised that musical notation is merely a tool and "is perhaps best thought of as an *aide memoire*" (Mills, 2005, p. 108). The process of learning to de-code staff notation is similar to that in learning to read language, and McPherson and Gabrielsson (2002) suggest that "acquiring competence in reading and interpreting musical notation is best achieved via a three-way process of gaining fluency in playing music, then reading it, and then putting the two together" (p. 111).

3.6 Informal learning

Hargreaves, Marshall and North (2003) portray the opportunities available in music education through the 'globe' model shown in Figure 18. Although the model is designed for the British context, its basic principles can nevertheless be applied in Australia and other countries. There are three main dimensions in the model. Firstly,

.

between the northern and southern hemispheres, is the dimension relating to formal and informal provision, with the northern hemisphere containing the formal institutional aspects which lead to qualifications, whether these are at school (e.g. in the National Curriculum in the UK, or through the higher school certificates in the various states of Australia) or through music examining bodies (e.g. Associated Board in the UK or Australian Music Examinations Board in Australia). The second dimension is between west and east, with the western half containing what is available through schools (statutory in the UK) whether curricular or extra-curricular, and the eastern half pertaining to what is available outside of schools through private instrumental lessons, community organisations or self-directed pursuits. The third dimension refers to 'specialist-generalist' which pertains to Hargreaves' (1996) model of teaching methods in music education. Specialist music education is used describe the common practice where talented pupils are identified and undertake tuition and reach high levels of achievement, usually within the 'classical' tradition, while generalist music education is "based on the premise that music can be performed, appreciated, and enjoyed by pupils at all levels" (Hargreaves, 1996, p. 148). 'Specialist' activities are shown in the outer band in each of the four quadrants, and corresponding 'generalist' opportunities are shown in the inner band within each quadrant. The term 'third environment' in the south-eastern quadrant refers to social contexts in which generalist musical learning takes place such as in garages (e.g. 'garage bands'), youth clubs or other places without adult supervision, and 'specialist' levels, though without formal qualifications, through community organisations such as in local choirs, or in the brass bands of northern England. The 'globe' model of the opportunities available in music education (Hargreaves, Marshall & North, 2003) marks a growing recognition of the diverse ways that music learning can occur, and in particular the acknowledgement of the importance of informal music learning opportunities outside of schools and other educational institutions.

.
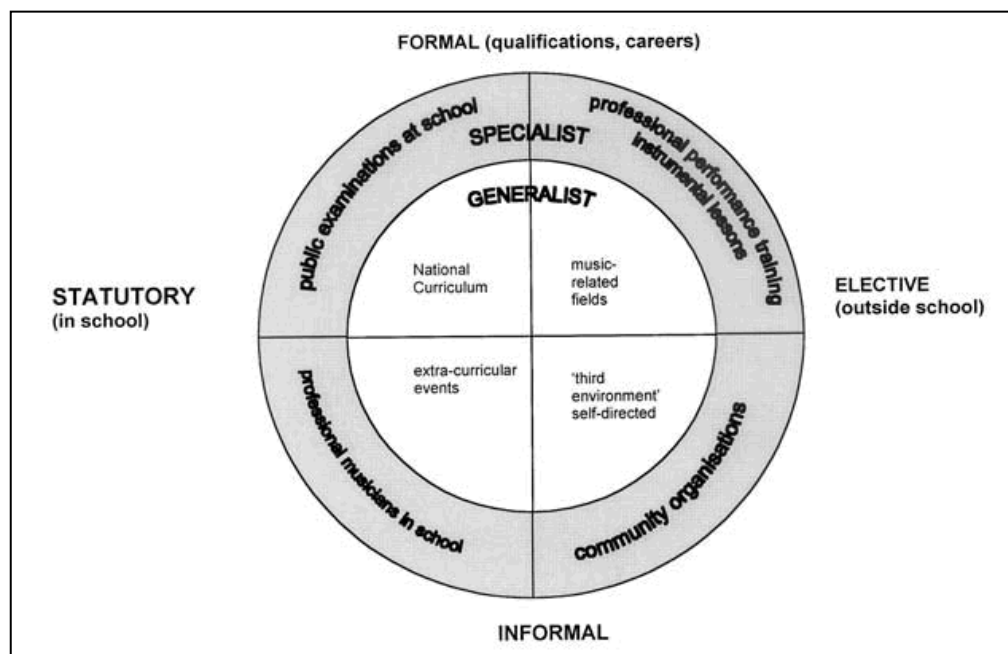
Figure 18. A 'globe' model of opportunities in music education (Hargreaves, Marshall & North, 2003, p. 158). Copyright 2003 by Cambridge University Press. Reprinted by permission. http://intranet1.cup.cam.ac.uk/enquiries/journals/journal_catalogue.asp?mnemonic=BME

Folkestad (1998, 2006) comments on the growing interest in the informal hemisphere, which is set within the context of a change in perspective between teaching and learning.

> This change in perspective can be summarised as a general shift in focus; from *teaching to learning*, and consequently from teacher to learner (pupil). Thus, it also implies a shift of focus, from 'how to teach' and the outcome of teaching in terms of results as seen from the perspective of the teacher, to 'what to learn', the content of learning and how to learn, the way of learning – in our case, how various musical phenomena are perceived, experienced and expressed in musical activities by the learner. The great majority of musical learning takes place outside schools, in situations where there is no teacher, and in which the intention of the activity is not to learn about music, but to play music, listen to music, dance to music, or be together with music. (Folkestad, 1998, p. 99)

In England, interest in the informal hemisphere is reflected through the establishment in 1999 of the charity *Youth Music*, which "works alongside the formal and community-based sectors to support music-making and training… by supporting activities held mainly outside of school hours and delivered by non-profit making organisations… Youth Music receives National Lottery funding through Arts Council England" (Youth Music, n.d.). Following on from the UK government pledge during the 2001 election campaign that "over time every primary school child who wants to should have the

.

opportunity to learn a musical instrument" (Department for Education and Skills [DfES], 2005, p. 13), the *Music Manifesto Campaign* was established in 2004. The *Music Manifesto Campaign* seeks to improve music education and to give every child the chance to make music and enjoy the immense benefits it brings (Department for Education and Skills [DfES], 2006). In the *Music Manifesto Report No. 1*, the various music education sectors are identified as:

- Formal: what takes place in statutory provisions or with statutory funding in schools, colleges, music services.
- Non-formal: what takes place outside formal education provision, but can include out-of-hours work in schools, supervised by adult professionals.
- Informal: what happens when young people organise and lead themselves without adult supervision. (DfES, 2005, p. 7).

The 'non-formal' and 'informal' components identified here relate to the southern hemisphere in the Hargreaves, Marshall & North (2003) globe model (Figure 18).

Green (2002a) has investigated the learning practices of popular musicians, which are largely informal, and compared these to common classroom music practices and traditional formal approaches to learning a musical instrument. Green found that, within popular music traditions, individuals "largely teach themselves or 'pick up' skills and knowledge, usually with the help or encouragement of their family or peers, by watching and imitating musicians around them and by making reference to recordings or performances or other live events involving their chosen music" (Green, 2002a, p. 5). This description resonates with aspects of the constructivist view of learning as outlined earlier by Wiggins (2001) in Chapter 2, that is, that "people engage in experiences and, from those experiences, put ideas together and 'figure things out for themselves'" (Wiggins, 2001, p. 4).

With regard to the formal arena, Green (2002a) suggests that "for a large portion of the twentieth century music education was almost exclusively concerned with classical instrumental tuition outside the classroom and classical music appreciation and singing inside the classroom" (p. 4) whilst since the 1960s, there has been the growing inclusion of popular music and jazz, and more recently, world music. Even though popular music has become common in music classrooms, Green (2006) suggests that the learning practices of popular musicians have not been similarly adopted, that is, "the

.

changes we have made in our curriculum content lacked any corresponding change in our teaching *strategies*" (p. 107). This is reflected by Green's (2006) example that "*analysis* of popular music is not likely to engage school pupils in the classroom; and in any case, analysis bears no resemblance to how popular musicians actually learn to produce the music themselves" (p. 106). Green (2002a) also found that, when many popular musicians became involved in formal teaching,

> even those who are by and large informally self-taught, tend to adopt teaching methods quite similar to traditional formal pedagogical conventions when they become teachers. Thus many of the central informal learning practices by which these musicians mainly acquired their own skills and knowledge, including purposive, attentive and distracted listening and copying, unconscious learning, peer-directed and group learning may be overlooked by much popular music instrumental tuition. (p. 180)

There are five main characteristics of informal music learning practices, identified by Green (2006) in her research into how popular musicians learn, namely: informal learners choose the music themselves; the main informal learning practice involves copying recordings by ear; the informal learner is self-taught and learning takes place in groups; informal learning involves the assimilation of skills and knowledge in personal, often haphazard ways according to preferences; and, there is an integration of listening, performing, improvising and composing, with an emphasis on creativity. These learning practices can also be categorised according to whether they are solitary or group practices, "both of which take place largely without adult supervision or guidance" (Green, 2005, p. 27). A summary comparing the learning practices used by popular musicians and those associated with formal music education are outlined by Green (2005) as follows. For popular musicians, the learning practices involve:

> * Learning based on personal choice, enjoyment, identification, and familiarity with the music, as distinct from being introduced to new and often unfamiliar music
> * Recorded music as the principal, aural means of musical transmission and skill acquisition, as distinct from notated or other written or verbal instructions and exercises
> * Self-teaching and peer-directed learning, as distinct from learning with adult supervision and guidance, curricula, syllabi, or external assessment
> * Assimilating skills and knowledge in haphazard ways according to musical preferences, rather than following a progression from simple to complex

.

> * Integration of listening, performing, improvising, and composing throughout the learning process, as distinct from their increasing differentiation. (Green, 2005, p. 28)

In comparing formal and informal learning practices, it should be noted that the two types are not mutually exclusive, rather, they are at either end of a continuous scale. Folkestad (2005) concluded that "*formal-informal* should not be regarded as a dichotomy, but rather as the two poles of a continuum, and that in most learning situations, both these aspects of learning are in various degrees present and interacting in the actual learning process" (p. 285). Folkestad's view is also shared by Green (2002a) who suggests that formal and informal music learning "can be conceived as extremes existing at two ends of a single pole, … [and that] many musicians who are mainly brought up in formal settings engage in some informal learning practices, such as teaching themselves to play an occasional popular song by ear and without any guidance" (p. 6). Green (2002a) also notes, however, that "listening attentively, let alone purposively to one or more recordings of the music being learnt has never been a part of the classical instrumental tradition" (p. 187). Within music education in general, listening to recordings of classical music may be a part of classroom music, but the frequent and repeated listening to pieces being learnt on a classical instrument is not necessarily a common practice.

Green (2006) advocates "the adaptation of some informal popular music learning experiences for classroom use [as these] can positively affect pupils' musical meanings and experiences" (p. 101). There appears to be an inherent contradiction in introducing informal learning practices into formal learning, in that, 'informal' implies "without adult supervision" (DfES, 2005, p. 7), whereas 'formal' learning suggests a teacher. Folkestad suggests that whilst learning can be both formal and informal, teaching is always formal. "As soon as someone teaches, as soon as somebody takes on the role of being a teacher, then it is a formal learning situation" (Folkestad, 2006, p. 142). However, Green (2002a, 2002b, 2005, 2006) is suggesting that teachers could encourage, and provide opportunities for, students to make use of strategies that are used in the learning practices of popular musicians, such as, students to have some choice in the music selected, and the use of recordings for aural learning through copying. Within classroom music, Green (2002a) advises that there is much that can be

.

done with preparatory rhythmic work so that students can play simple riffs, melodies or chords accurately in time with each other. She suggests that such a foundation in keeping a basic beat is helpful before attempting to work in small groups and copying a recording. For traditional instrumental learning, Green (2002a) suggests listening and copying tasks could be built more into the process, which is not unlike what happens in the Suzuki method.

The application of informal learning practices to classroom music is seen in the Paul Hamlyn Foundation's *Musical Futures* project which, according to the Music Manifesto Report No. 2 (DfES, 2006) is one of a range of innovative music-making programmes in England. "The *Musical Futures* project has devised new and imaginative ways to engage all 11-19 year olds in music activities. In Nottingham, it worked with schools to develop a new Key Stage 3 curriculum, designed and delivered by teachers, peripatetic music tutors, community musicians and young people themselves" (DfES, 2006, p. 22). The Musical Futures publication *Classroom Music Resources for Informal Music Learning at Key Stage 3,* written by Lucy Green with Abigail Walmsley, has adopted informal learning as a key strategy for classroom music, thus putting into practice the ideas put forward by Green (2002a) based on her research into how popular musicians learn. Green and Walmsley (n.d., p. 2) put forward the five key principles of informal learning which are at the centre of the approach, which are:

> Principle 1: Learning music that pupils choose, like and identify with
> Principle 2: Learning by listening and copying recordings
> Principle 3: Learning with friends
> Principle 4: Personal, often haphazard learning without structured
>   guidance
> Principle 5: Integration of listening, performing, improvising and
>   composing. Green and Walmsley (n.d., p. 2)

Green and Walmsley (n.d.) identify the aims of informal music learning in the classroom as being to "enhance pupil motivation, enjoyment and skill-acquisition in music lessons by tapping into the real-life learning practices of popular musicians" (p. 2). As well as the priority of motivating pupils, Green and Walmsley (n.d.) suggest that "teachers also want to make their lessons connect with the huge enjoyment that pupils get from music in their lives beyond the school" (p. 2). Green and Walmsley (n.d.) provide a summary of both formal and informal learning practices (see Table 6).

.

Table 6: Comparison of formal and informal learning practices (Green & Walmsley, n.d., p. 2)

Informal learning practices usually involve	Formal music education usually involves
Learning music which is personally chosen, familiar, and which the learners enjoy and strongly identify with.	Being introduced to music which is often new and unfamiliar, normally chosen by a teacher.
Learning by listening to recordings and copying them by ear.	Learning through notation or other written or verbal instructions.
Learning alongside friends through talking about music, peer-assessment, listening, watching and imitating each other, usually without adult supervision.	Learning through expert instruction, and receiving adult supervision.
Assimilating skills and knowledge in personal, often haphazard ways according to musical preferences, starting with 'whole', 'real-world' pieces of music.	Following a progression from simple to complex, often involving specially-composed music, a curriculum or a graded syllabus.
Maintaining a close integration of listening, performing, improvising and composing throughout the learning process.	Gradually specialising in and differentiating between listening, performing, improvising and composing skills; often tending to emphasise the reproductive more than the creative skills.

The proliferation of music technology and media "mean that listening to and creating music constitutes a major and integrated part of many young people's lives" (Folkestad, 2006, p. 136). The ubiquity of MP3 players (for example, iPods), access to a vast range of music via the internet (for example, YouTube, MySpace) and free music sequencing software (such as *Audacity* and *Acid* software, and *Garage Band* which is automatically provided on MAC computers) give unprecedented opportunities for many young people to listen to music and to make their own music. The use of freely available sequencing software provides another rich arena for the use of informal learning practices. It is therefore apparent that "when pupils come to school they all possess a rich and in some ways sophisticated musical knowledge" (Folkestad, 2006, p. 136), acquired from everyday encounters with music in informal situations outside school (Folkestad, 1998). There needs to be an increased recognition of these experiences within music education, as a way of creating relevance to music learning at school.

.

3.7 Music learning and academic achievement

Aside from the development of musical skills, knowledge, and understanding, music education may contribute positively to student learning across a range of curriculum areas, with research suggesting learning in music may contribute to academic achievement in mathematics, reading and language skills, as well as to the development of spatial ability, and personal and social development (Australian Society for Music Education, 1999). Anecdotal reports suggest that students who are good at music are often good in other subjects, whilst for some students who may be academically challenged, music may be the only subject in which they are able to participate effectively. Mills (2005) suggests that:

> we teach music primarily because we want children … to grow as musicians. But music, also, improves the mind. While it is hard to catch the results of this in a scientific experiment … no-one who has had the privilege of observing really good music teaching … can doubt that this is the case. It may be the raising of children's self-esteem through success in music making that helps them towards achievement more generally. It may be that enjoying music helps children to enjoy school more. It may be that chemical changes induced in the brain by music facilitate learning more generally. (pp.5-6)

In exploring the issue of any transfer effects of music learning to academic achievement, it is relevant to consider the following two slogans which have become commonplace in recent years, namely, the "Mozart effect", and "music makes you smarter". On October 14th, 1993, the scientific journal *Nature* published the report of a study entitled 'Music and spatial task performance' carried out by Rauscher, Shaw & Ky (1993) from the University of California at Irvine. The study involved college students listening to Mozart's Sonata for Two Pianos, K.448[5] and it reported that the students gained higher scores when taking a spatial reasoning test shortly afterwards. The *Nature* report immediately aroused media interest. According to Sloboda (2006), the report in *Nature* was quickly reported via wider media, with the first such newspaper report believed to be by Richard A. Knox, of the *Boston Globe,* also on October 14th, 1993 (see Appendix B). In this article by Knox, the term "Mozart effect" was used, even though the term was not used in the original *Nature* article. Bangerter

---

[5] The original report in *Nature* incorrectly listed K.488 instead of K.448.

.

and Heath (2004) investigated how the "Mozart effect" (ME) has become a scientific legend, and suggest that "originally based on controversial scientific results, it [ME] has enjoyed widespread popularity because it promises a potential solution to a perplexing social and parental concern: how to ensure the intellectual development and growth of children" (p. 616).

It would appear that the "Mozart effect" subsequently mutated to the idea that listening to classical music in general could develop intelligence in children, leading to the "music makes you smarter" saying. The mutation may have come about by mixing up the original study and a subsequent research project which involved pre-schoolers, keyboard instruction and improved spatial reasoning (Rauscher, Shaw, Levine, Wrights, Dennis & Newcomb, 1997). Illustrations of the flow-on effects from the notion of a "Mozart effect" include the governor of the US state of Georgia in 1998 requesting allocation of government funds to purchase recordings of classical music for babies in order to promote brain development (Demorest & Morrison, 2000), and in the state of Florida a bill being passed requiring state-funded day-care centres to play classical music every day (Bangerter and Heath, 2004). Whilst the term "Mozart effect" is particularly popular in the USA, it has spread further and appears in many countries around the world. The "Mozart effect" legend has developed, even though replication of the original findings has been problematic (e.g. Steele, Bass & Crook, 1999; Demorest & Morrison, 2000; Sloboda, 2006). The results have been distorted from the original study involving college students, to subsequently include babies and school children even though the original finding "that *listening* to classical music improves performance has never been tested on children" (Bangerter and Heath, 2004, p. 617). According to Sloboda (2006) "a major commercial enterprise built up around the Mozart Effect.... Spearheading this multi-million pound money-making enterprise is a series of misleading pseudoscientific books by self-styled 'expert' Don Campbell using the title of the 'Mozart Effect' (now copyrighted to him)" (p. 9).

The slogan "music makes you smarter" seems to have grown out of the "Mozart effect" but has not taken on the same large proportions of the hype surrounding the "Mozart effect". With the notion of "music makes you smarter", there is an implied assumption that 'smarter' means 'smarter at something else', however as suggested by Demorest and Morrison, (2000), "there is a wealth of research that demonstrates

.

without a doubt that music instruction makes students smarter in music" (p. 33), but not necessarily that it causes higher achievement in other areas. Demorest and Morrison, (2000) suggest that "students who participate in music and the other arts tend to be the most academically successful (music study as a characteristic of academic success)" (p. 38), which accounts for the higher Scholastic Assessment Test (SAT) scores for music and arts students, but doing music and arts does not necessarily cause these higher SAT scores. A similar conclusion is drawn by Harland et al. (2000).

An earlier version of "music makes you smarter" could be applied to the dissemination of the Kodály method which stemmed from the International Society for Music Education conference in Budapest in 1964. In discussion of the music primary schools in Hungary, Friss (1975) stated that "the academic record of children attending the music primary schools is much higher than that of children attending the ordinary primary schools, even where normal schools subjects are concerned" (p. 161). Friss (1975) described how writing, reading, speech, memory and arithmetic were facilitated through music education due to the inherent aural, rhythmic and aesthetic qualities of music, and other benefits that were described included increased facility for drawing, social adaptability and reasoning (pp. 163-164). In Australia, a Kodály based developmental music program for school children was developed by Deanna Hoermann in New South Wales during the 1960's and 1970's. In an evaluation report of the program, the role of the music program in developing reading skills was highlighted. "The recognition and recording of musical symbols is a decoding and encoding exercise which takes place naturally at the same time as the child is using letter symbols and learning to read. These procedures reinforce the early reading process" (Hoermann & Herbert, 1979, p.18).

There is a large amount of research (see Appendix C) which is built around the idea that musical instruction (but not specifically Mozart) can enhance spatial-temporal reasoning and may have desirable effects on other aspects of learning. However, a longitudinal study by Costa-Giomi (1999) provided contrasting evidence, finding that there were no differences in verbal or quantitative measures, and any gains in spatial skills were short-lived as after three years the control group had caught up in spatial scores. Nevertheless, the idea that "music makes you smarter" resonates in reports such as Deasy's (2002) *Critical Links: Learning in the Arts and Student Academic and Social*

.

Development, published by the Arts Education Partnership based in Washington DC. This report compiled research for each art form, with each study reportedly demonstrating a causal relationship between the art form and learning. In a concluding section of the *Critical Links* report, Catterall (2002) suggested that the report had identified a wide variety of academic and social developments to be valid results of learning in or engaging with the arts, that is, that arts learning caused improvement in other areas or there was evidence of transfer, whether cognitive (skill-based) transfer or affective (motivation-based) transfer. In the United Kingdom, the report of the National Foundation for Educational Research (Harland et al., 2000) entitled *Arts education in secondary schools: effects and effectiveness*, highlights the outcomes of arts education with the immediate effects of arts engagement being "personal enjoyment, fulfilment or an increased sense of well-being" (p. 26). An extract of the Harland et al. (2000) report pertaining to the enjoyment outcome is included in Appendix D. Unlike the *Critical Links* report, Harland et al. (2000) acknowledge that the direction of causality between enjoyment and other achievement is not evident.

3.8 Overview of music, self-concept and identity development in adolescence

Within schooling, there is generally a diverse range of subjects and experiences, all of which have the potential to contribute to the development of each student's self-concept. However, "some subjects are intrinsically self-enhancing, e.g. music, art, drama, creative writing" (Lawrence, 1988, p. 34). This is because these subjects are likely to involve varying degrees of active participation and engagement leading to tangible successful outcomes, and aesthetic experiences for self-expression, all of which may enhance the self-concept. Bresler (2002) suggests that "the arts environment can encourage qualities such as resilience, the ability to bounce back from adverse experiences, and self-regulation, the general habits of practice, focus, and discipline" (p. 1076). Such qualities are likely to contribute positively to self-concept development. When considering the role of music in society, the significance of music as a separate intelligence, and the intrinsic ability of music to enhance self-concept, it raises the question of whether music has a special potential to enhance self-concept development.

.

Hargreaves, Miell and MacDonald (2002) outline the central role of language in self-concept development and also how music is increasingly becoming a part of the process of self-concept or identity development. Hargreaves, Miell and MacDonald (2002) suggest that "[the self] is formed and developed continuously through conversation and interaction with others…[and] people have many identities, each of which is created in interaction with other people, rather than having a single, core identity" (p. 10). The plural form of 'identities' highlights the view of the fluid process of identity development. Hargreaves, Miell and MacDonald (2002) also point out that because "music is a fundamental channel of communication, … we argue that it can act as a medium through which people can construct new identities and shift existing ones in the same way as spoken language" (p. 10). In discussing the growing role of music in identity development, Hargreaves, Miell and MacDonald (2002) suggest that "music can be used increasingly as a means by which we formulate and express our individual identities… [and] it provides a means by which people can share emotions, intentions and meanings even though their spoken languages may be mutually incomprehensible" (p. 1). Hargreaves, Miell and MacDonald (2002) state that "children's identities, including musical identities, are constructed and reconstructed by making comparisons with other people, and this continues into adult life" (p. 15). Tarrant, North and Hargreaves (2002) suggest that "a major appeal of music to adolescents lies in its ability to help them form positive social identities" (p. 139).

Hargreaves, Marshall and North (2003) have put forward two conceptual models: firstly, a 'globe' model of the opportunities that are offered by music education in the twenty-first century (see earlier, Figure 18), and secondly, the potential outcomes that might be derived from music education. The first model embraces formal and informal aspects, as well as statutory (in school) and elective (outside school) elements. Of particular relevance to the discussion of music in self-concept development is the second model - the outcomes of music education (see Figure 19), where "self-identity might be seen as the ultimate outcome of music education" (Hargreaves, Marshall & North, 2003, p. 273). The outcomes model of music education puts forward three main areas of outcome, namely musical-artistic, personal, and social-cultural, and looks at how these areas overlap and interact, and how they all come together at the centre with self-identity. In other words, the various aspects of music education can contribute to each of the three fundamental components, that is, the art form itself, personal self-

.

development and broader social-cultural elements. The model highlights that music education is not just concerned with musical skills and knowledge, and that there are substantial and wide-ranging outcomes of music education leading to self-identity which underpin the rationale for music in schools.
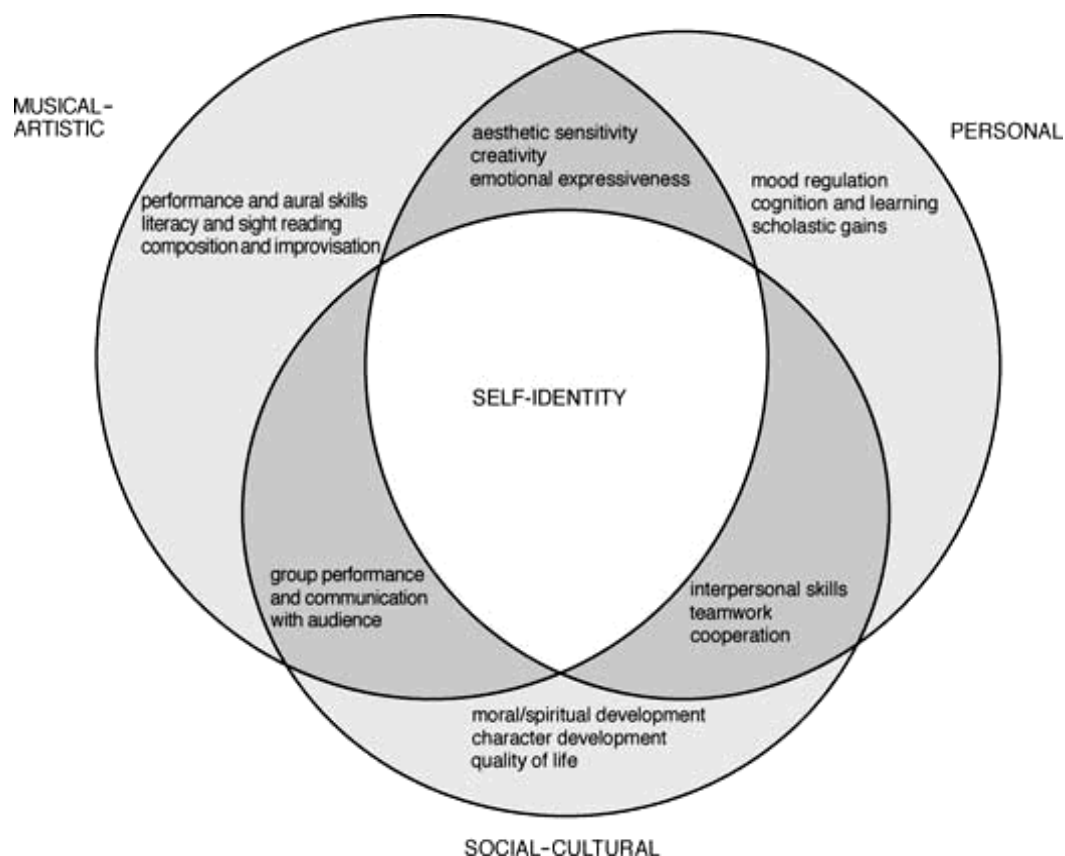
Figure 19. The potential outcomes of music education. (Hargreaves, Marshall & North, 2003, p. 160). Copyright 2003 by Cambridge University Press. Reprinted by permission. http://intranet1.cup.cam.ac.uk/enquiries/journals/journal_catalogue.asp?mnemonic=BME

Music plays an important role in identity development in general, and it must also be noted that music self-concept itself is another area for consideration. Hargreaves, Miell and MacDonald (2002) put forward a conceptual framework for musical identities in which there are two parts, 'Identities in music (IIM)' and 'Music in identities (MII)'. 'Identities in music (IIM)' refers to the ways in which people view themselves such as composer, performer, or even musician, or by more specialist terms related to genres (e.g. jazz or pop), or instrument played. 'Music in identities (MII)' refers to the ways in which music may form a part of other aspects of self-image depending on the extent of involvement in music. "Although musical tastes and

.

preferences form an important part of the lives and self-concepts of many people, they may nevertheless play a minor or insignificant role for others" (Hargreaves & Marshall, 2003, p. 264), with the level of expertise or professional training contributing to the likely importance of music in peoples' lives. It is suggested by Hargreaves, Miell and MacDonald (2002) that "the development of these identities [in music] in childhood, which typically emerge at around the age of 7 years, is based initially on specific activities within music" (p. 14). In relation to music in the United Kingdom, Lamont (2002a) describes the contradiction that appears to exist in practice, with the minority involvement in extra-curricular musical activities being seen as influencing views of musical identities, even though music is a compulsory part of the curriculum for ages 5 to 14 (Key Stages 1 to 3). As outlined by Lamont (2002a),

> the official curriculum … does not help every child develop a positive musical identity. Although all the children do play musical instruments as part of their school music lessons, only a small proportion of the children studied here say that they do….whilst the official school curriculum is in favour of inclusive musical activities, the hidden extended curriculum of extra-curricular activities seems to be more influential in shaping children's musical identities. (p. 55)

Lamont (2002a) also found that "younger children seem to be willing to describe themselves more positively in terms of music than older children" (p. 54).

Music teachers have a direct and influential effect on the development of students' self-concepts in music. Students are not likely to develop a positive musical self-concept if they have an entity (i.e. fixed) view of their musical ability, rather than an incremental view (Dweck, 2000). Teachers can encourage their students to have an incremental view of ability (Dweck, 2000) which is essential in relation to students' beliefs about musical ability and to encouraging students to 'have a go' in music. Students with an incremental view are likely to "display 'mastery-oriented' rather than 'helpless' behaviour, because they believe that the work they do *can* influence their abilities" (Hargreaves and Marshall, 2003, p. 265), that is, students with an incremental view are likely to develop an effort attribution.

> In essence, this means that whether or not children *think* they are any good at maths, languages, sport or indeed music may be just as, if not more important than their actual level of ability. This may be particularly important for pupils who have the idea that they are 'unmusical', perhaps because of an unwitting remark by a teacher, parent or another pupil: this perception could lead on to a downward spiral of not trying, therefore becoming less able, therefore trying

.

even less, and so on. In other words, children actively *construct* their own musical identities, and these can determine skill, confidence and achievement. (Hargreaves and Marshall, 2003, p. 265)

O'Neill and McPherson (2002, p. 39) state that "beliefs about ability influence both the goals students choose to pursue and their achievement behavior". O'Neill (2002) reports on research findings which "indicate that children's self-beliefs play a key role in their subsequent performance ability and evaluations of their performance ability over and above their actual ability" (p. 81). Hargreaves and Marshall (2003) suggest that

> it is in everyone's interest for educators to capitalise on the massive importance that music can have in young people's lives, and our analysis suggests that this is best accomplished by encouraging them to think of music as something within reach of all, rather than as a specialised activity: that everyone can be a 'musician' at some level". (p. 272)

In her discussion of the positive youth development approach, O'Neill (2006) suggests that attention should be given "to the development of musical strengths and competencies that are present within *all young people* in *all contexts* in which their development occurs" (p. 462).

Austin et al. (2006) report that "musical ability is often mistakenly seen as more innate than environmentally determined. …Children's perceptions of their own abilities have a major impact on their motivation to learn" (p. 220). The issue of musical ability being innate or learned has been an intense subject of debate (for example, Davies, 1994; Hargreaves, 1994; Sloboda, Davidson & Howe, 1994a & 1994b; Torff & Winner, 1994). Lamont (2002b) states that "…the music psychological literature helps to dispel some common myths about 'musical excellence' [and]… the research on musical training shows even more clearly that there is nothing mystical about musical ability in terms of performance" (p. 74). It is important to encourage students from the earliest stages to have positive beliefs about their musical ability, and to develop effort attributions.

Within music education, students should have every opportunity to develop a positive musical self-concept or musical identity. Lamont (2002a) suggests that

.

> children with a positive musical identity, …are those who show more
> positive attitudes towards school music and like their music
> teachers….This is also associated with a greater sense of
> identification with school in general. However, irrespective of
> whether positive musical identities are the cause or the result of
> increased involvement with music, it would be beneficial for children
> to develop positive musical identities. Having a strong musical
> identity is clearly an important step on the way to becoming a more
> sophisticated 'musician', whether this be in the realm of listening and
> understanding or in more active forms of music-making. (p. 56)

The development of a positive musical self-concept is largely dependent on experiences, whether at school or outside of school. Austin et al. (2006) note that undertaking instrumental lessons bears a strong influence on how students may view music's value. "Children who choose to pursue instrumental study within schools, … often exhibit a strong commitment to music learning (reflecting individual interest as well as more stable beliefs about the importance and value of music learning), and adopt clear achievement goals" (p. 227). Lamont's (2002a) research found that "girls are more likely to hold positive attitudes towards music and to develop more positive musical identities than boys" (p.54). It was also found that "children from homes where other people are involved in musical activities are also more likely to develop positive attitudes towards music" (Lamont, 2002a, p.54). According to Austin et al. (2006),

> children who feel they are competent musicians are likely to achieve
> at a higher level than children who have more negative views about
> their musical ability, and children who believe music learning is
> important or who find music interesting are more likely to continue
> participating in music than children who attach little or no value to
> music. (p. 225)

In terms of developing a high level of expertise in playing a musical instrument, there tends to be a cyclic effect, where a sense of satisfaction and achievement through playing an instrument leads to more effort with regard to practice. This in turn leads to more satisfaction and achievement. "As a result of increased practice the individual will become more competent and confident, which will lead to increased success and more enjoyment. Effort attribution will then contribute to further increased practice" (Hallam (1998a, p. 102). Learning a musical instrument at a higher level requires active involvement and engagement, as well as incorporating the identity of 'musician' as a part of one's self-concept. Hallam (2006a) gives a rich description of the process as follows:

.

Identifying oneself as a musician requires a commitment to music which in turn demands that engagement with music is enjoyable and active….Family, in the first instance, and later teachers, are key in determining the extent to which musical activities are enjoyable and set at an appropriate level to be both challenging and successful. Praise is crucial to the development of self-confidence, particularly early on. If failure occurs, it should be attributed to specific circumstances rather than to lack of ability. As students progress, their intrinsic motivation will be enhanced if they have control over the repertoire that they learn and the musical groups that they participate in. Where activities have a rewarding social dimension, motivation is likely to be further enhanced. (p. 153)

Hallam (2006a) also suggests that "intrinsic motivation is a crucial aspect of developing self-identity as a musician. However, not all musical activities may be intrinsically motivating" (p. 149). Students therefore need to develop self-regulatory strategies that will assist them to sustain and persist with their learning. The type of self-regulatory strategies to be used is likely to be proportional to the level of musical expertise, with beginners demonstrating little self-regulation and more advanced students displaying more complex learning and regulatory strategies (Austin et al., 2006). Metacognitive skills are an important part of self-regulation.   Metacognitive skills in instrumental practice are described by Barry and Hallam (2002) as being "concerned with the planning, monitoring, and evaluation of learning, including knowledge of personal strengths and weaknesses, available strategies…and domain knowledge" (p. 154).

3.9 Motivation and engagement in music learning

There are many factors that are likely to affect motivation and engagement in music learning, and these can be broadly categorised as involving the self system, social interactions, types of activities and the possible outcomes. Based on awareness of these factors, teachers and parents are able to support and encourage students, and to provide opportunities that are likely to promote music learning. Schmidt (2005) found that the types of motivation factors affecting instrumental students are not unlike those that influence general academic achievement. Austin et al. (2006) have put forward a systems profile for the optimally motivated music student (see Figure 20), which clearly

.

shows the interactions that occur between the self system, social system, actions and outcomes.
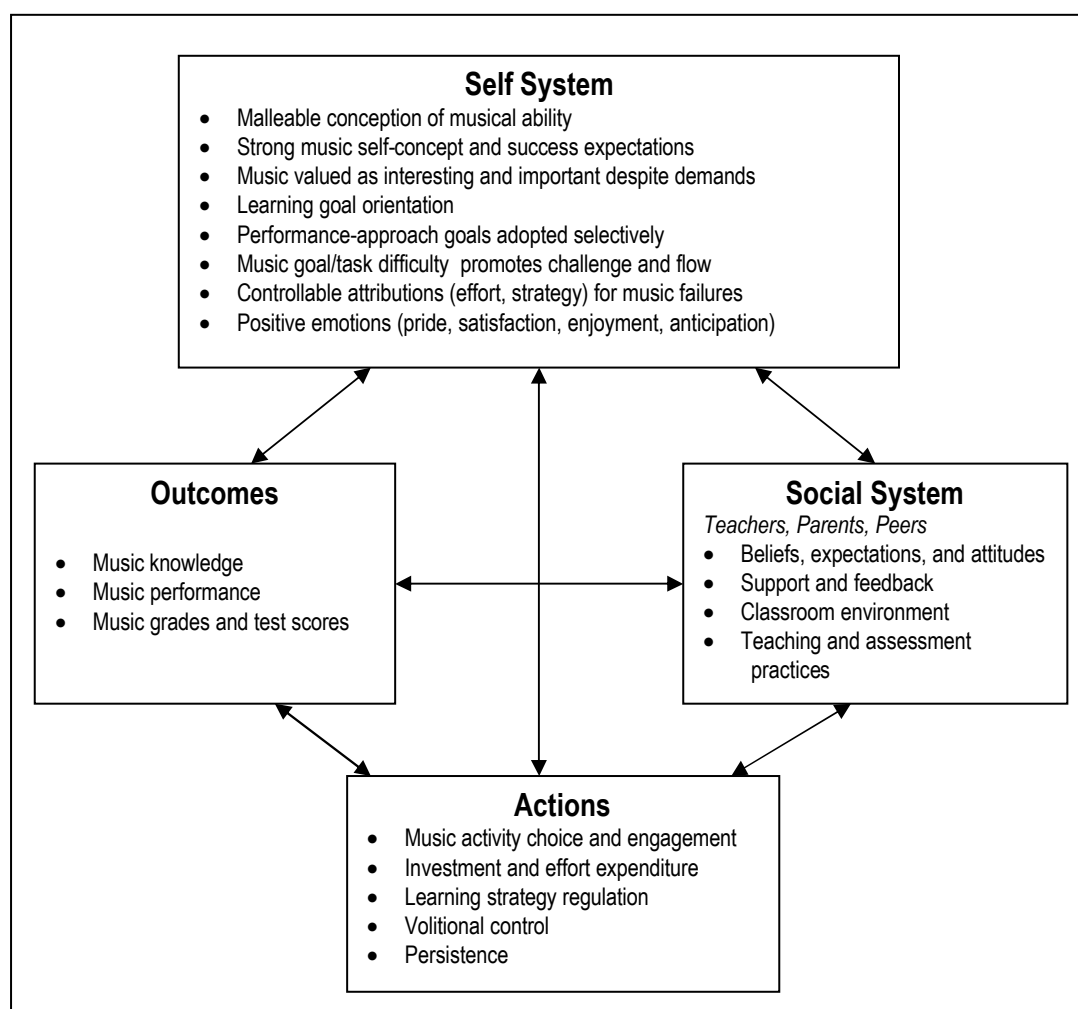
Figure 20. Systems profile for optimally motivated music student (Austin, Renwick & McPherson, 2006, p. 232)

The various factors influencing motivation are particularly relevant when developing advanced skills in playing a musical instrument. O'Neill and McPherson (2002) summarise the process as follows:

> understanding how students think about themselves, the task, and
> their performance is important if teachers are to establish and sustain
> a stimulating and challenging learning environment. Students need to
> feel that their involvement in learning to play an instrument provides
> them with a sense of personal choice and responsibility for reaching
> the goals that they set themselves….the challenge is for teachers to be
> receptive to each child's perspective on his or her own learning and to
> develop an understanding of the complex range of thoughts, feelings,

.

and actions that either sustain or hinder the children through the many
years that it takes to develop their musical skills. (p. 43)

Chaffin and Lemieux (2004) have put forward a model (see Figure 21) which outlines
the social antecedents of musical excellence. The model highlights the role of
motivation, achievement attribution and self-efficacy in contributing to effective
practice on an instrument.
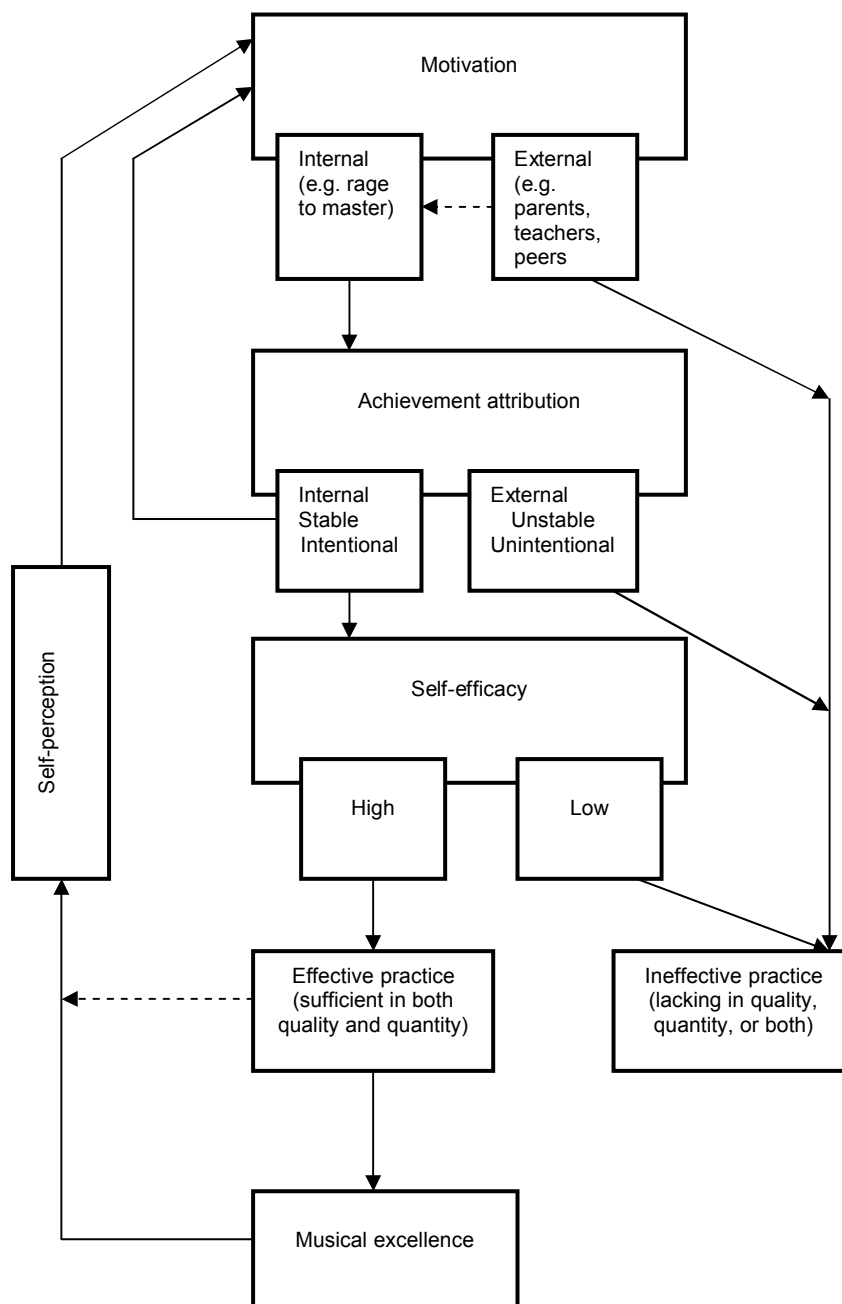
Figure 21: A conceptual model of the social antecedents of musical excellence (Chaffin
& Lemieux, 2004, p. 30).

.

Chaffin and Lemieux (2004) suggest that "there is ample evidence of the powerful contribution of the social environment to both the motivation to succeed and the development of musical excellence" (p. 29). There are three main areas identified by Chaffin and Lemieux (2004) as contributing to instrumental excellence: playing for self-satisfaction, having effort attributions, and having belief in one's capacity to improve. Although initial motivation to practice may come from parents, intrinsic motivation is needed to sustain effective practice strategies. Chaffin and Lemieux (2004) use the term 'rage to master' (which originated with Boston College psychologist Dr. Ellen Winner) as a way to describe the intense effort required to practice effectively, and they liken this to the concept of 'flow' (Csikszentmihalyi, 1988).

The importance of the self-system in influencing motivation and engagement in general, applies equally well when considering these aspects in relation to music education. Students are more likely to be motivated and engaged in music education, whether in classroom music or in instrumental lessons, when teachers give consideration to the many factors which can impact upon learning processes, in particular, students' self-beliefs in relation to competence, ability, task value and attributions for success. With regard to the basic needs identified in self-determination theory (Deci & Ryan, 1985), namely the needs for competence, autonomy and relatedness, music education offers many opportunities where these needs can be addressed to some extent. Music is inherently interesting, especially for younger children, and, by adolescence, listening to music is widely recognised as an extremely popular activity (Ivaldi & O'Neill, 2002; North, Hargreaves & O'Neill, 2000; Zillman & Gan, 1997). Music educators can therefore capitalise on music's intrinsic interest in order to provide suitably challenging learning experiences for their students, thereby promoting students' feelings of competence in music. Music education offers plenty of scope for self-expression and creativity through activities such as performing, improvising and composing which have the potential to give students a certain sense of autonomy. There is recognition of "the performing experience as the most engaging teaching activity in music" (Rosenshine, Froehlich & Fakhouri, 2002, p. 302). With regard to music, whether at school or outside of school, the main appeal for students is that they "develop the skills and confidence to 'do it for themselves': to gain ownership

.

of and autonomy in their own music-making" (Hargreaves and Marshall, 2003, p. 269).
Another vibrant aspect of music education is ensemble playing, which promotes
teamwork and co-operation, and therefore involves the relatedness need.

.

Chapter 4

RESEARCH DESIGN AND METHODOLOGY

4.1 Introduction

The overall purpose of this research was to increase the participation and engagement of high school students in Music, through an investigation of musical experiences, self-perceptions and academic achievement, and relationships may exist between these three areas. In order to explore these areas, a survey was developed which was aimed at Year 9 and Year 10 high school students comprising a mixture of students taking Music as a school subject and students not taking Music as a school subject. By including such a mixture of students, it was envisaged that data could be analysed according to whether or not Music was being taken as a school subject. In addition to data collected from the survey, information about participants' most recent school results was gathered from each school.

The survey was designed in order to address the following six research questions:

1. What is the extent of involvement in the musical activities of listening, playing and creating music by the participants in this study?

2. What are some of the attributions for success identified by the participants in this study?

3. To what extent do self-perceptions of the participants in this study relate to academic achievement?

4. To what extent do self-perceptions of the participants in this study relate to musical involvement?

5. What is the strength of the relationships between musical involvement, self-concept and academic achievement of the participants in this study?

6. What are the attitudes of participants in this study towards learning music?

.

4.2 Development of Survey

The survey instrument which was developed for data collection was titled *Survey of Musical Experiences and Self-Concept* (see Appendix E). The four sections comprising the 12-page *Survey of Musical Experiences and Self-Concept* were as follows:

Section A: Background Information
Section B: Musical Experiences
Section C: Self-Esteem
Section D: Perceived Competence

Sections A and B comprised researcher-designed questions. Section A was designed to ease participants into the Survey, starting with simple, background questions which included ticking boxes to indicate school subjects being studied from a list provided, with space allowed for writing in the names of any other subjects. The subjects listed were: English, Mathematics, Science, Society and Environment, Music, Drama, Dance, Art, P.E. (Physical Education), Home Economics, Technology, and Language other than English. Following the subject list were open-ended questions about reasons for being good at particular subjects or other activities. These questions were designed to encourage participants to think about their strengths, that is, their best school subjects, and what they may excel at in addition to any school subjects. The purpose of these open-ended questions was to ascertain participants' beliefs about their reasons for success, rather than to determine what the best subjects or best pursuits actually were. The section concluded with questions regarding family background, such as country of each parent's birth, any other languages spoken at home, as well as the highest education levels and occupations of parents. These questions attempted to gain some insight into the cultural and social background of each participant.

Section B aimed to gauge the extent of participants' musical experiences, both formal and informal. Given that the participants included a mixture of those doing Music at school and those not doing Music at school, some indication as to the depth and extent of diverse musical experiences was sought. Section B was subdivided into three sub-sections: (i) Listening to Music; (ii) Performing Music and (iii) Creating

.

Music. Questions in Section B contained a mixture of 'tick the box' type answers and open-ended questions. In the sub-section on Listening to Music, there were 11 questions about listening habits, such as frequency, media used for listening, favourite styles, knowledge of lyrics, money spent recently on buying recorded music and whether listening mostly occurred with others or alone. In the sub-section on Performing Music (that is, singing and playing music), the first question asked whether the participant had ever had lessons to learn to play a musical instrument/voice. If the answer was 'no', the participant was then directed to proceed to the next sub-section on Creating Music. If the answer was 'yes', participants were asked to list the names of instruments for lessons had been undertaken, including the length of time learning, and whether or not lessons were still continuing. The next questions were about what participants considered to be the most liked and the least liked aspects of learning an instrument, as well as practice habits and whether any music examinations (such as those conducted by the Australian Music Examinations Board or other bodies) had been undertaken. Other questions included the playing of instruments in general music classes, whether any instruments were self-taught or learned from friends, whether other family members played any instruments, and whether participants belonged to any ensembles or had been involved in the Primary Schools Music Festival. The last question in this sub-section enquired whether Music was being taken as a school subject. If the answer was 'yes', three short questions followed about attitudes to Music as a school subject. If the answer was 'no', participants were directed to the next sub-section on Creating Music, where participants were asked whether they ever made up their own music and if so, how they went about it, and whether they used a sequencer or computer program to make up their own music.

Sections C and D aimed to gather data relating to facets of self-concept, namely, self-esteem and perceived self-competence. Section C comprised Rosenberg's (1965) Self-Esteem Scale which comprises 10 statements for which responses are Strongly Agree, Agree, Disagree and Strongly Disagree. The Rosenberg Self-Esteem Scale was selected due to its relative simplicity, and because it appeared to be the most widely used measure of self-esteem. Wylie (1974, p. 184) describes the Rosenberg Self-Esteem Scale as "impressive [in] that such high reliability is attainable with only 10 items and that such a short scale has yielded relationships supporting its construct

.

validity". Blascovich and Tomaka (1991, p. 123) recommended the Rosenberg Self-Esteem Scale due to its "ease of administration, scoring and brevity".

Section D comprised Chan's (1993) Perceived Competence Scale which was published in the 2nd edition of Cole and Chan's (1994) *Teaching principles and practice.* Chan granted permission for her Perceived Competence Scale to be included in the *Survey of Musical Experiences and Self-Concept.* Chan's Perceived Competence Scale incorporates perceptions of self-competence in four areas or sub-scales, namely, cognitive, social, physical and general. The Perceived Competence Scale comprises 28 items, with seven items for each of the four sub-scales. The different types of sub-scale items were mixed throughout the 28 items, and were not identified as to which sub-scale they belonged. Each item is scored on a four-point scale (1, 2, 3, or 4). The scoring system therefore enables separate scores for each of the four sub-scales to be determined. Each item in the Perceived Competence Scale comprises two contrasting statements which requires one response only of either "really true for me" or "sort of true for me". The statements in each item are the opposite of each other, so the response aligns with either the positive or the negative statement, with a degree of either "really true for me" or "sort of true for me". There were two practice questions indicating the style and layout of each item (question) to assist participants in answering Section D. The first practice question had the sample answer indicated, and the second practice question was left blank. The two practice questions were as follows:

Practice Question 1: (an answer provided)

Really True For Me	*Sort of True For Me*				*Sort of True For Me*	*Really True For Me*
☐	☐	Some students hate vegetables	**but**	Other students like vegetables	☐	☑

Practice Question 2: (no answer provided)

Really True For Me	*Sort of True For Me*				*Sort of True For Me*	*Really True For Me*
☐	☐	Some students hate homework	**but**	Other students like homework	☐	☐

.

In developing the *Survey of Musical Experiences and Self-Concept*, a pilot study was carried out in two different schools with 24 students from either Year 9 or Year 10. These two schools were not used in the subsequent study. This trial of the Survey enabled refinement to the wording and layout of some questions in Sections A and B, and confirmed that around 30 minutes would need to be allocated to complete all of the sections in the Survey. Although all of the students in the pilot study were taking Music as a school subject, rather than a mixture of Music and non-Music students as was envisaged for the main study, the data collected from the pilot study enabled some of the methods for data analysis to be trialled.

The research proposal, which was seeking to have participants complete the Survey and for recent school results of participants to be made available to the researcher, was submitted to the South Australian Department for Education and Children's Services (DECS) and approval for the research was granted in the latter part of 2001. Although there was general approval from DECS for the Survey to be administered and for specific academic results to be collected, the research was subject to further negotiation with individual school principals.

Following the initial granting of approval from DECS to carry out the research project, the researcher became aware of the Self-Description Questionnaire II [SDQII] by Herbert Marsh (1999), and subsequently submitted a revised proposal seeking DECS permission to use the SDQII in the Survey instead of the Rosenberg Self-Esteem Scale and the Chan Perceived Competence Scale. The SDQII is a much more widely used instrument and embraces information about self-concept in a more detailed and robust way than the Rosenberg and the Chan measures. The SDQII contains 102 items, and involves 11 sub-scales, namely: physical ability, physical appearance, opposite sex relationships, same sex relationships, honesty/trustworthiness, parent relationships, emotional stability, self-esteem, verbal, math, and academic. However, the revised proposal was not accepted by DECS, as the SDQII was perceived by DECS as being much longer and therefore more time consuming, and as being rather 'too confronting' for students. Therefore, the revised proposal was subsequently withdrawn, thus reverting to the Rosenberg Self-Esteem Scale and Chan Perceived Competence Scale as in the original proposal.

.

4.3 Description of Method of Data Collection

In 2002, four DECS secondary school sites were approached by the researcher to participate in the study. The schools were selected based on their general reputation of having a successful Music program, and by meeting both of the following criteria: at least two music teachers were employed at the school, and Music was offered as a subject at year 12 level. In each case, the school principal agreed to have his/her school participate, and a contact teacher (usually a Year level coordinator) was nominated for further refinement of the arrangements for administering the Survey. After a specific date and time were arranged for administration of the Survey, copies of the preliminary information sheet and consent form (see Appendix E) were provided to the school about one week before the scheduled date. The contact teacher arranged distribution of the information sheet and consent forms to the students who were being invited to participate in the project. The potential participants were informed about the process of completing the Survey, including that it would be done at school while supervised by a teacher, that it would take approximately 30 minutes to complete the Survey, that responses were confidential and that no participant or school would be identified, and that the student could withdraw from completing the Survey at any time.

Sufficient copies of the Survey were provided to each school, where the nominated teachers and their colleagues collected consent forms and administered the surveys. The surveys were administered during 2002. The contact teacher arranged for a copy of the most recent school results of participating students to be provided by the school to the researcher.

At one school, although the Survey was administered as described here, the contact teacher did not cooperate with subsequently providing the relevant school results for the participating students. It was suggested by the contact teacher that teaching staff did not support the provision of school results to the researcher, although the process had been clearly outlined in the permission granted by DECS and agreed to by the school's principal. Although the completed Survey forms were collected from this school, no data collection and analysis were carried out on the Survey forms from the school, given that the relevant academic results were not available.

.

4.4 Organisation of Variables for Data Collection

The data collected from the Survey comprised a mixture of quantitative and qualitative information. The software *Statistical Package for the Social Sciences* [SPSS], version 11.5, was used to collate the data collected from the Survey. There were three quantitative variables, namely, academic achievement, self-esteem and perceived competence as shown in Table 7.

Table 7: List of quantitative variables from *Survey of Musical Experiences and Self-Concept* used in SPSS for data collation.

Name of Quantitative Variable	Description of scoring system used
Academic achievement	Achievement in the four school core subjects of English, Mathematics, Science, Society & Environment. Grades of A, B, C, D and U were converted to scores of 4, 3, 2, 1 and 0 respectively, and these were then converted to a percentage
Self-esteem score	Numerical value, minimum of 10, maximum of 40
Perceived competence sub-scales:	Each item has a score of 1, 2, 3 or 4. There are 7 items for each sub-scale, so each sub-scale has a numerical value, ranging from a minimum of 7, to a maximum of 28
Cognitive	7 to 28
Social	7 to 28
Physical	7 to 28
General	7 to 28

The scoring system for academic achievement was arrived at after considering the subjects being offered at the three schools involved in the research project. Each school offered a range of subjects, with English, Mathematics, Science, and Studies of Society and Environment, being common to each school. The term 'core subjects' is being used here for this group of four subjects. There were a large number of different subjects across the three schools comprising the elective subjects, such as Music, Drama, Art, and Technology. Each school used a grading system of A, B, C, D and U for results in these subjects. The school report which had been most recently issued to participants prior to the administration of the Survey was provided by each school for this research project. The school report showed the grades achieved by participants in the core subjects as well as each individual's elective subjects. In order to develop a

.

numerical score to indicate achievement in the core subjects, the grades were converted as follows: A = 4, B = 3, C = 2, D = 1, and U = 0, thereby giving a numerical score with a maximum of 16 for achieving four A grades, and a minimum of 0 for four U grades. These scores were then converted to percentages. The use of the results for the core subjects to determine each participant's academic achievement aimed to maximize consistency across the three schools and to reduce the variability brought about by having subjects not in common to each school. Using a similar process of converting grades to values as previously described, an overall achievement score could be determined by including all of the subjects (both core and elective subjects) being taken by each participant, however there may be less consistency due to the larger number of different subjects being included.

The scoring system for Rosenberg's Self-Esteem Scale involves awarding 1, 2, 3 or 4 according to whether the response 'strongly agree', 'agree', 'disagree' or 'strongly disagree' was indicated. The Rosenberg Self-Esteem Scale comprises 10 statements, with a mixture of positive and negative items being presented (see Table 8). Positive items were scored as 4, 3, 2 or 1 for 'strongly agree', 'agree', 'disagree' and 'strongly disagree' respectively, whilst the negative items were reverse-scored as 1, 2, 3 or 4 for 'strongly agree', 'agree', 'disagree' and 'strongly disagree' respectively. The total figure for the 10 items could therefore range from 10 to 40, with higher scores representing higher self-esteem (Blascovich & Tamaka, 1991).

Table 8: Positive and negative statements in Rosenberg's Self-Esteem Scale.

Positive items (scored as 4, 3, 2, 1)	Negative items (scored as 1, 2, 3, 4)
1) On the whole, I am satisfied with myself.	2) At times I think I am no good at all.
3) I feel that I have a number of good qualities.	5) I feel I do not have much to be proud of.
4) I am able to do things as well as most other people.	6) I certainly feel useless at times.
7) I feel that I am a person of worth, at least on an equal plane with others.	8) I wish I could have more respect for myself.
10) I take a positive attitude toward myself.	9) All in all, I am inclined to feel that I am a failure.

Note: The number next to each item refers to the order in which the statements appeared in Section C of the *Survey of Musical Experiences and Self-Concept*.

.

The scoring system as required by Chan's Perceived Competence Scale involved awarding a score of 1, 2, 3, or 4 for the following set of items, each of which had a statement that was 'negative' followed by its opposite, that is, a 'positive' statement. This set of items (with the negative statement followed by the positive statement) comprised Item numbers 1, 2, 4, 7, 9, 10, 12, 14, 16, 19, 20, 22, 24, 25 and 27, and had the scoring system shown as follows:

Really *True* *For Me*	*Sort of* *True* *For Me*		**but**		*Sort of* *True* *For Me*	*Really* *True* *For Me*
☐	☐	*(negative*	**but**	*(opposite*	☐	☐
Score: 1	2	*statement)*		*statement)*	3	4

For the remaining items in Chan's Perceived Competence Scale, the scores are reversed, that is, scores of 4, 3, 2, or 1 are given for Item numbers 3, 5, 6, 8, 11, 13, 15, 17, 18, 21, 23, 26 and 28. For this set, shown with an asterisk (*) in Table 8, the statement is 'positive', with its opposite therefore being 'negative'. Scoring for this set of items is as follows:

Really *True* *For Me*	*Sort of* *True* *For Me*		**but**		*Sort of* *True* *For Me*	*Really* *True* *For Me*
☐	☐	*(positive*	**but**	*(opposite*	☐	☐
Score: 4	3	*statement)*		*statement)*	2	1

The cognitive, social, physical, and general perceived competence sub-scales of Chan's Perceived Competence Scale are each derived from a particular combination of 7 items as shown in Table 9, where the Item Number indicates the order in which the items appeared in the Survey. In the social perceived competence sub-scale, it is interesting to note that there are no items which begin with a 'positive' statement, although no explanation is provided for this occurrence in the Perceived Competence Scale materials.

.

Table 9: Cognitive, social, physical, and general perceived competence sub-scales in Chan's Perceived Competence Scale.

	Item No.	Statement		Opposite statement
General	2	Some students have trouble understanding what they read	**but**	Other students can understand what they read easily
	6*	Some students are just as smart as their classmates	**but**	Other students are not as smart as their classmates
	8*	Some students like school and enjoy going there	**but**	Other students dislike school and hate having to go there
	11*	Some students are good at school-work	**but**	Other students are not good at school-work
	19	Some students have trouble finishing their schoolwork on time	**but**	Other students can always finish schoolwork quickly
	24	Some students have a lot of trouble figuring out answers	**but**	Other students can always figure out answers easily
	28*	Some students can remember things easily	**but**	Other students often forget what they learn
Social	1	Some students find it difficult to do things with their classmates	**but**	Other students find it easy to do things with their classmates
	4	Some students have trouble making friends	**but**	Other students find it easy to make new friends
	9	Some students have few friends	**but**	Other students have lots of friends
	12	Some students are not easy to like	**but**	Other students are easy to like
	14	Some students are disliked by most of their classmates	**but**	Other students are liked by most of their classmates
	16	Some students are not important to their classmates	**but**	Other students are important to their classmates
	20	Some students are not popular with their classmates	**but**	Other students are popular with their classmates
Physical	3*	Some students are always good at new games	**but**	Other students are never good at new games
	7	Some students cannot do well at any sport	**but**	Some students can do well at all sports
	15*	Some students prefer to play rather than watch sport	**but**	Other students prefer to watch sport rather than to play
	18*	Some students are good enough at sport	**but**	Other students are not good enough at sport
	22	Some students are not as good at sport as their classmates	**but**	Other students are better at sport than their classmates
	25	Some students always do badly at new activities	**but**	Other students always do well at new activities
	27	Some students are never chosen first for games	**but**	Other students are always chosen first for games
Cognitive	5*	Some students are happy the way they are	**but**	Other students are not happy the way they are
	10	Some students can never do things well	**but**	Other students can always do things well
	13*	Some students are good people	**but**	Other students are not good people
	17*	Some students are always sure they are doing the right thing	**but**	Other students are never sure if they are doing the right thing
	21*	Some students are always sure of themselves	**but**	Other students are never sure of themselves
	23*	Some students want to stay the way they are	**but**	Other students would like to change the way they are
	26*	Some students always feel good about the way they act	**but**	Other students always feel bad about the way they act

Note: *Reverse-scored items

.

A number of variables were derived from the various questions in the Survey, and these variables were coded and entered into SPSS for collation. There were 18 variables derived from the closed questions (see Table 10) which mostly involved a 'tick the box' type of response. There were eight variables derived from the open-ended questions (see Table 11) in the Survey.

Table 10: List of variables from closed questions in the *Survey of Musical Experiences and Self-Concept*.

Name of Variable	Description of categories from closed questions
Gender	Male, female
Language other than English at home	Yes or no
Parental occupations	Based on Australian Standard Classification of Occupations, (ASCO) Second Edition, (Australian Bureau of Statistics, 1997)
Level of parental education	High school, TAFE, university
Music	Whether or not Music is being taken as a school subject
Listening to music via MP3 files	Yes or no
Informal learning	Any instruments played that are self-taught or taught by a friend – yes, no
Any family members play an instrument	None, 1, or 2 or more family members
Money spent in last month on buying music (e.g. CD's)	None, less than $10, $10-$20, $20-$50, more than $50 dollars
Number of instruments for which have had lessons	0, 1, 2, 3, 4, or 5 instruments (or voice)
Practice frequency	More than 5 times per week, 3-4 times per week, 1-2 times per week, does not practise
Plays in an ensemble	At school, outside of school, no ensemble involvement
Create music	Yes or no
Use of sequencer or computer to make up music	Yes or no
How often listen to music	Very often, several times a day, once a day, a few times a week, rarely
Estimate of how many hours listening to music in a typical week	Less than 1 hour, 1-2 hours, 3-5 hours, 5-10 hours, 10-20 hours, more than 20 hours
While listening, whether doing other things at the same time	Usually, sometimes, occasionally, never
How well words of favourite songs are known	Very well, mostly, some, not at all

.

Table 11: List of variables from open-ended questions in the *Survey of Musical Experiences and Self-Concept.*

Name of Variable	Description of Categories from open-ended questions
Reasons why best at school subject/s	Enjoy; enjoy & ability; enjoy & effort; enjoy, ability & effort; enjoyment & tangible outcome; ability; ability and family; ability & effort; effort; other family members; task value; easy task; tangible outcome
Reasons why good at particular things	Enjoy; enjoy & ability; enjoy & effort; enjoy, ability & effort; enjoyment & tangible outcome; ability; ability and family; ability & effort; effort; other family members; task value; easy task; tangible outcome
What like most about Music as a school subject	Fun, enjoy playing; play in ensemble; choir; composition; theory; easy; teachers; listening; nothing
What like least about Music as a school subject	Theory; aural; composition; history; scales; choir; teachers; too easy for me; boring; homework; it's hard; everything; irrelevant; practising
What like most about playing a musical instrument	Fun, enjoyment, interesting; sense of achievement; express oneself; learn modern songs; relaxing; play songs by ear; play pieces I like; learn new things; playing with others; understand music better; make my own music; takes up some time; performing; get out of other lessons
What like least about playing a musical instrument	Practice; time-consuming nature of practice; frustrating when can't get it right; can't play instantly; gets boring; instrument problems; sounds bad when don't practise; scales and technical work; endless repetition; performing; going to lessons; pressure; tiring; cost of lessons
Why lessons on instrument stopped	Too time consuming; boring; repetition; no longer enjoying; inconvenient; teacher dislike; teacher no longer available; did not practise; another instrument preferred; too difficult; didn't enjoy theory; instrument no longer available; concentrating on schoolwork
Even if lessons stopped, whether still play instrument	No, occasionally, by ear, instrument at home, friends want me to play, love playing

For open-ended questions, responses were sorted into relevant categories which were coded and then entered into SPSS for collation. The categories were arrived at by sorting the responses, based on the main point or points included in the response. Due to the variety of wording used by participants in their open-ended responses, there may be a degree of subjectivity in the sorting of the responses, however, every effort has been made to sort responses according to the obvious meaning/s inherent in the responses. There were some further open-ended questions related to school subjects, other pursuits, and musical preferences. The names of subjects, pursuits, styles, performers and pieces in response to these questions were tallied.

.

Chapter 5

RESULTS

5.1 Introduction and overview of data collected

In this chapter, the data collected from the *Survey of Musical Experiences and Self-Concept* (see Appendix E) along with the data on academic achievement will be analysed. This process will examine each section of the Survey, and preliminary analyses will be based on the whole cohort of participants, as well as a breakdown according to whether or not Music was being taken as a school subject and according to the gender of the participants.

The participants comprised a mixture of Year 9 and Year 10 students, aged around 14 to 15 years old, and drawn from three schools in metropolitan Adelaide, South Australia. The total number of participants was 282, and this comprised 145 males and 137 females (see Table 12). Within the total cohort, there were 124 participants who were taking Music as a school subject (hereafter referred to as 'Music' participants) comprising 66 males and 58 females. There were 158 participants not taking Music as a school subject (hereafter referred to as 'non-Music' participants) and this group comprised 79 males and 79 females.

Table 12: Number of participants and sub-groups.

	Total	Percentage
Total number of participants	282	100
Music students	124	44.0
Non-Music students	158	56.0
Male	145	51.4
Female	137	48.6
Music students	124	100
Male	66	53.2
Female	58	46.8
Non-Music students	158	100
Male	79	50.0
Female	79	50.0

.

5.2 Survey Section A – Background Information

The opening questions in the Survey related to which subjects were being studied by the participants at school. All participants were taking the subjects English, Mathematics, Science, and Studies of Society and Environment as part of their school program of studies. These subjects have been designated here as core subjects, as these subjects are traditionally viewed as academic subjects, and all participants were undertaking these four subjects. The curriculum structures of the three schools involved in the research were each a little different, most notably with respect to the number of subjects being available in addition to the core subjects. Some subjects were offered for only one semester of the year, while others were available as elective subjects which were chosen by the students and could be taken in either one or both semesters. In addition to the core subjects, the other subjects typically available included Music, Drama, Dance, Art, Physical Education, Home Economics, Technology, and a Language other than English.

The first question in the Survey asked: "What subject/s are you best at? Why do you think that this is the case?" Participants could therefore list one or more subject which they considered to be their best subject, and to give reasoning for this nomination. The responses are summarised in Table 13, which shows those subjects perceived to be participants' best subjects when one, two or three subjects were listed. Physical Education, English and Mathematics were the subjects most frequently perceived as being 'best'. Participants expressed their reasons for for being best at nominated school subjects in various ways, and many participants described more than one reason in their responses. The question about "why do you think [you are best at]" was interpreted in many different ways. Some responses suggested particular tangible outcomes or evidence, such as good grades or special awards or certificates, as the reason for being best at nominated subjects. However, such responses are more applicable to the question: "how do you know that you are best at ...?". Given the open-ended nature of the question, responses were coded according to the main reason or reasons outlined in each response. The categories for coding the responses were arrived at based on the nature of the responses themselves and on the typical attributions as identified in Weiner's (1986) attribution theory. The categories that were developed use the following broad headings: enjoyment, ability, effort, family, task value, task

.

difficulty, and tangible outcome, and if multiple reasons were evident in the response then the relevant combination of headings was used when coding the responses. The category of enjoyment was included due to the large number of responses that mentioned enjoyment within the reasons given. The frequencies of the various reasons are shown in Table 14, which also includes the breakdown for all participants, Music and non-Music participants, and male and female participants.

Table 13: Perceptions of which were best subjects when one, two or three subjects were listed, as a percentage of responses.

Best subject - listed first (N=282)	Percentage of responses when 1 or more subjects listed	Best subject - second when 2 subjects listed (N=179)	Percentage of responses with 2 subjects listed	Best subject - third when 3 subjects listed (N=88)	Percentage of responses when 3 subjects listed
P.E.	19.4	P.E.	12.8	P.E.	12.5
English	17.7	English	12.3	English	11.4
Maths	13.8	Maths	13.4	Maths	8.0
Art	9.9	Art	15.6	Art	4.5
Music	9.2	Music	5.0	Music	10.2
Drama	7.4	Drama	9.5	Drama	10.2
Technology	5.3	Technology	2.8	Technology	6.8
Home Ec	3.9	Home Ec	6.1	Home Ec	10.2
S&E	3.9	S&E	3.4	S&E	10.2
LOTE	3.5	LOTE	7.8	LOTE	4.5
Science	1.8	Science	7.3	Science	8.0
Other	0.7	Other	2.2	Other	2.3
Dance	0.4	Dance	1.7	Dance	1.1
None listed	2.5		(100)		(100)

The most frequent category of reason given as to why participants were best at particular school subjects was Enjoyment, with 29.8% of responses indicating Enjoyment as the main reason, and a total of 53.8% indicating Enjoyment in combination with other reasons. Although it could be argued that enjoyment itself is not a reason for success, it nevertheless highlights that the participants perceived enjoyment to be an important factor that is a part of doing well or achieving. There was little difference in the frequency of Enjoyment responses for Music and non-Music students, however Enjoyment as a reason featured far more prominently for females as compared to males. The next most frequent reason given was Ability with 21.2% of responses attributing their achievement to Ability, and a total of 37.8% to Ability in combination

.

with other reasons. The frequency for the category of Effort as a single reason was only 4.6%, and in combination with other reasons Effort was included in 17.6% of responses. Females gave more frequent responses for Effort combined with other reasons (24.0%) as compared to males (11.8%). The remaining categories – Family, Task Value, Task Difficulty and Tangible Outcome - were much less frequent than Enjoyment, Ability and Effort. The relative frequencies of Enjoyment, Ability and Effort being included in responses is illustrated in Figure 22.

Table 14: Reasons given for best school subject.

| Reason	All responses: %	Music responses: %	Non-Music responses: %	Males' responses: %	Females' responses: %
Enjoyment	29.8	25.0	33.5	24.8	35.0
Enjoyment & ability	11.0	12.1	10.1	11.7	10.2
Enjoyment & effort	7.4	8.9	6.3	2.8	12.4
Enjoyment & effort & ability	2.8	5.6	0.6	2.1	3.6
Enjoyment & tangible outcome	2.8	0.8	4.4	1.4	4.4
Ability	21.2	22.5	20.2	27.0	15.4
Effort	4.6	3.2	5.7	4.1	5.1
Ability & effort	2.8	3.2	2.5	2.8	2.9
Tangible outcome	3.9	3.2	4.4	4.8	2.9
Task value	0.7	0.8	0.6	0.7	0.7
Task difficulty	1.8	0.8	2.5	2.1	1.5
Don't know	2.1	3.2	1.3	3.4	0.7
Miscellaneous	3.0	3.2	2.5	4.9	0.7
Did not answer	6.0	7.3	5.1	7.6	4.4

.
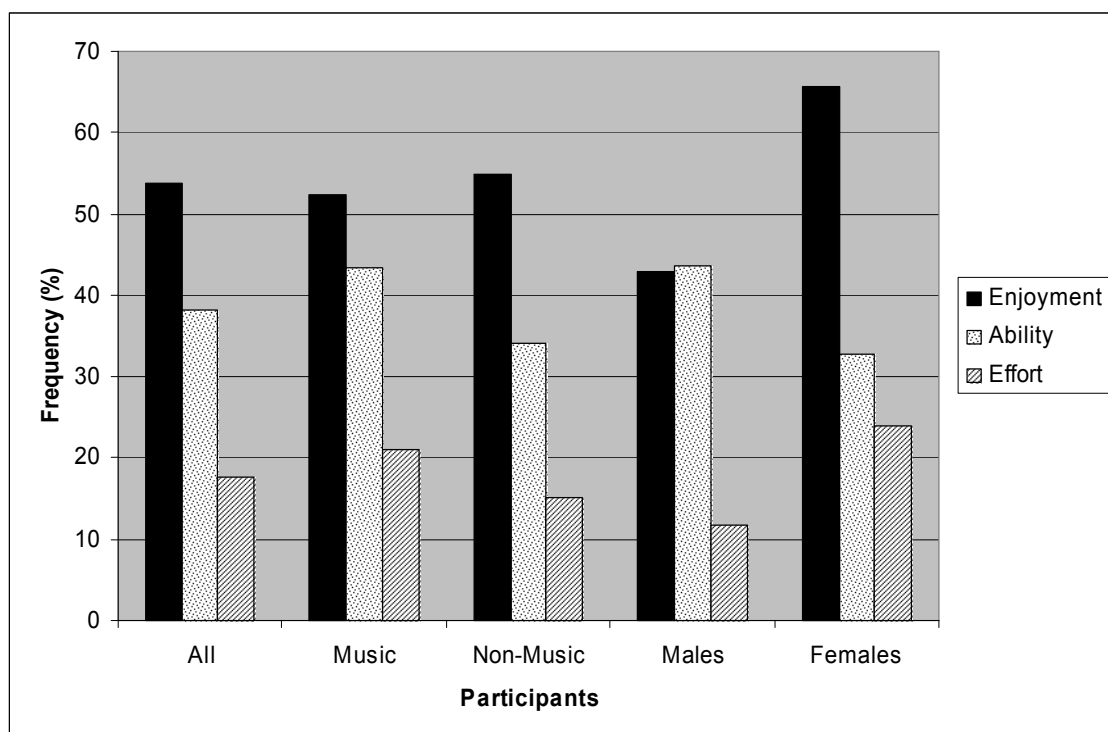
Figure 22: Main reasons for being best at particular school subjects.

The next question in the Survey related to naming other pursuits participants believed themselves to be "good at", and to provide a reason for being good at these pursuits. The responses naturally included many wide-ranging answers. For the purposes of data collation, if more than one pursuit was listed, then the first-named pursuit has been the one that has been counted here. The answers have been categorised as shown in Table 15, and are shown in descending order of frequency. Rather than listing specific individual pursuits, these have been allocated to the listed categories; for example, many types of sports (e.g. soccer, netball) and other physical activities (e.g. skateboarding, surfing) have been allocated to the category 'physical', which was by far the most frequent category of pursuit perceived as an area of doing well. The category listed as 'other' included many different and diverse activities such as photography, orienteering, puzzles, childcare, horse-riding and first aid. There were four participants who each indicated there were not any pursuits which were done well, and there were eight participants who did not write an answer for this question.

.

Table 15: Types of pursuits based on perceptions of being good at these pursuits.

Type of pursuit	Frequency	Percentage of responses (N=282)
Physical (sport, or outdoor activity)	156	55.3
Musical	38	13.5
Dancing	19	6.7
Drawing	18	6.4
Other	15	5.3
Using computer	7	2.5
Acting/drama	7	2.5
Nothing	4	1.4
Cooking	4	1.4
Writing	3	1.1
Reading	2	0.7
Watching TV	1	0.4
Not answered	8	2.8
Total	282	100

The same process as that outlined for the reasons for being good at school subjects, was used in order to analyse the reasons given for being good at particular pursuits (see Table 16 and Figure 23).

Table 16: Reasons given for being good at various pursuits.

| Reasons	All responses: %	Music responses: %	Non-Music responses: %	Males' responses: %	Females' responses: %
Enjoyment	23.8	25	22.8	17.2	30.7
Enjoyment & ability	4.6	4.8	4.4	6.2	2.9
Enjoyment & effort	7.8	8.9	7	6.2	9.5
Enjoyment & effort & ability	1.4	2.4	0.6	0.7	2.2
Enjoyment & tangible outcome	1.1	0.8	1.3	0.7	1.5
Ability	17.4	17.7	17.0	20.0	14.5
Effort	24.5	23.4	25.3	24.8	24.1
Ability & effort	3.9	1.6	5.7	5.5	2.2
Task difficulty	1.1	0.8	1.3	1.4	0.7
Don't know	3.9	5.6	2.5	5.5	2.2
Tangible outcome	2.5	4.8	0.6	2.8	2.2
Did not answer	6.4	2.4	9.5	6.9	5.8
Miscellaneous	1.8	1.6	1.9	2.1	1.5

.
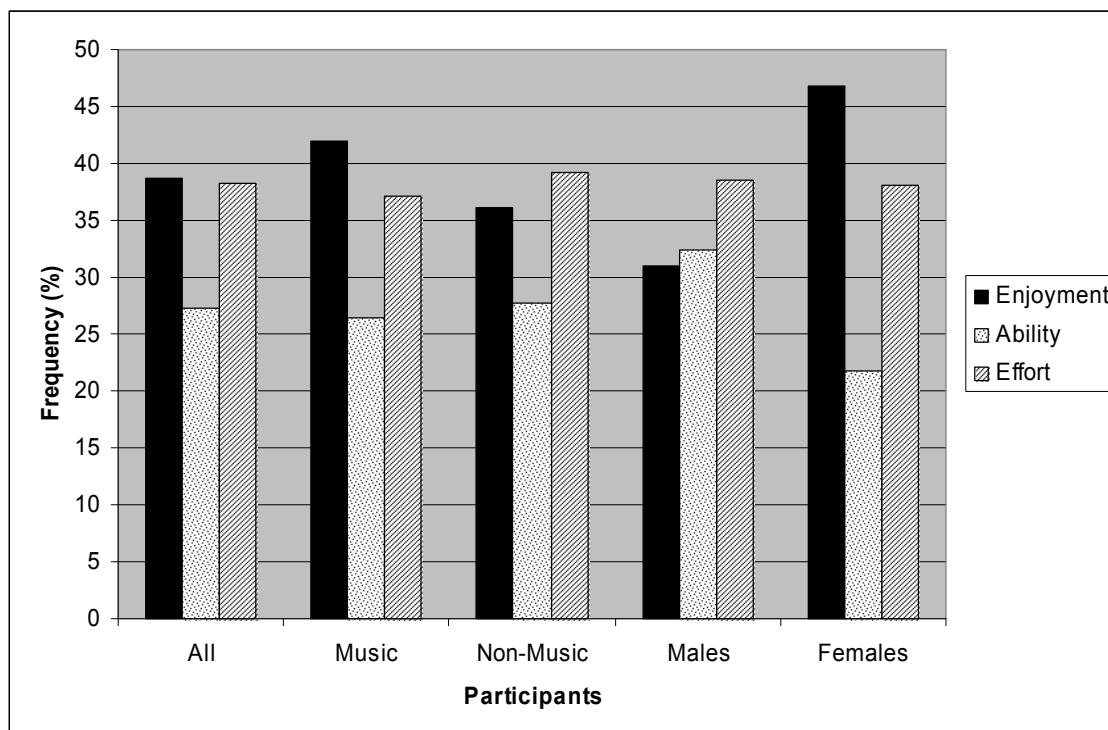
Figure 23: Frequency of reasons for being good at various pursuits.

Analysis of the frequency of responses for the various categories in relation to the reasons given for being good at nominated pursuits reveals some distinct differences when compared to best school subjects. Enjoyment was still the most frequent (although less so) category of response with a total of 38.7%, as compared to 53.8% for best school subjects. The most striking difference was with the response category of Effort where the frequency for other pursuits was a total of 38.3%, as compared to a total of 17.6% for best school subjects. Likewise the category of Ability occurred as a response less frequently for various pursuits (27.3% total) as compared to school subjects (37.8%). Both males and females were much more likely to attribute Effort in relation to various pursuits (38.6% and 38.0% respectively) as compared to school subjects (11.8% and 24.0% respectively). Given the desirability of attributing success to Effort, it would appear that this is more likely to occur with other pursuits rather than with school subjects (see Figure 24).

.
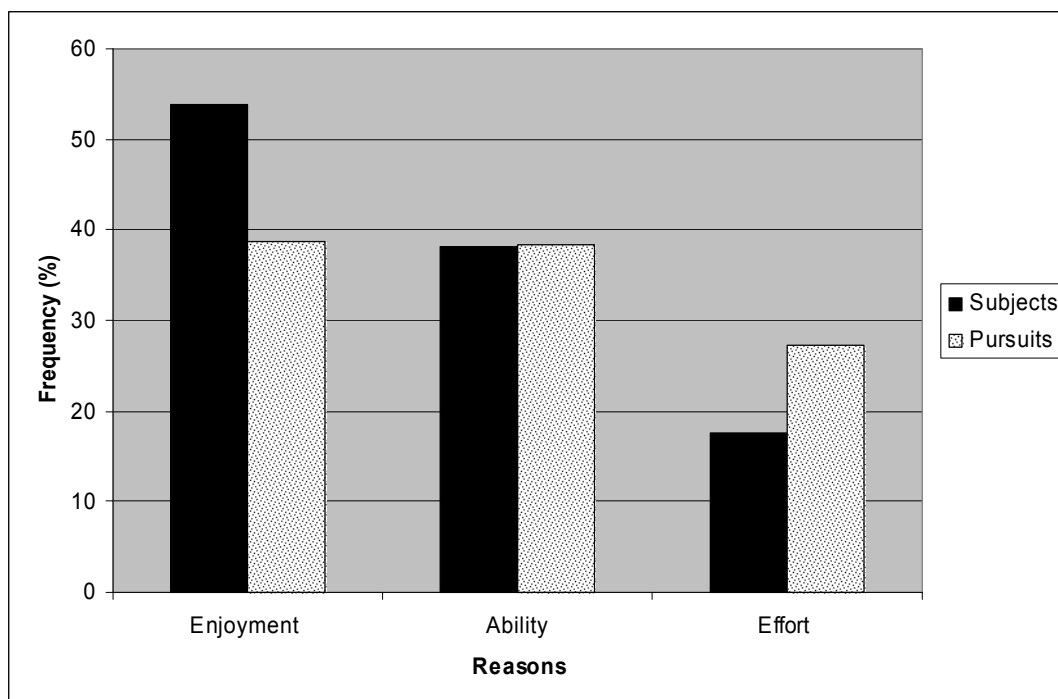
Figure 24: Frequency of main reasons for doing well in school subjects and various pursuits.

The following statements provided by some of the participants in the Survey give some insights about the perceptions of Enjoyment being included in the reason for their achievements either in school subjects or in other pursuits:

- "Because I enjoy them and I have a lot of time and patience for them" (No. 164)
- "I enjoy them so it gives me motivation to do them" (No.155)
- "Because I enjoy them, so learn the skills quickly and fun doing these things" (No. 125)
- "These are things I really enjoy so I put more effort into them" (No.91)
- "Because I love doing these things and they interest me" (No. 28)
- "Because I enjoy them and I try very hard to do my best" (No. 4)
- "If they interest me I will work harder at them in order to be the best I can" (No. 126)
- "When I have an interest in something I often try to succeed harder than when I am disinterested" (No. 158)

The remaining questions in the Background Information section sought information about participants' parents, including country of birth, occupation, highest level of education, and whether a language other than English was spoken at home, in order to provide some socio-economic and cultural context. This information is summarized in Figure 25. More than 85% of the participants did not speak a language other than English at home, and a European language was spoken for 8.1% and an Asian language for 4.2% of the participants. Around 70% of parents were born in Australia or New Zealand, with just over 10% being born in the United Kingdom. Approximately 45% of the parents had attended university. Regarding the occupation of parents, the Australian Standard Classification of Occupations (ASCO) Second Edition published by the Australian Bureau of Statistics (1996) was used for classifying occupations. The five skill levels formed the basis for the classification here. Over 40% of fathers and over 30% of mothers were in occupations designated at skill level 1 which includes managers, administrators and professionals.
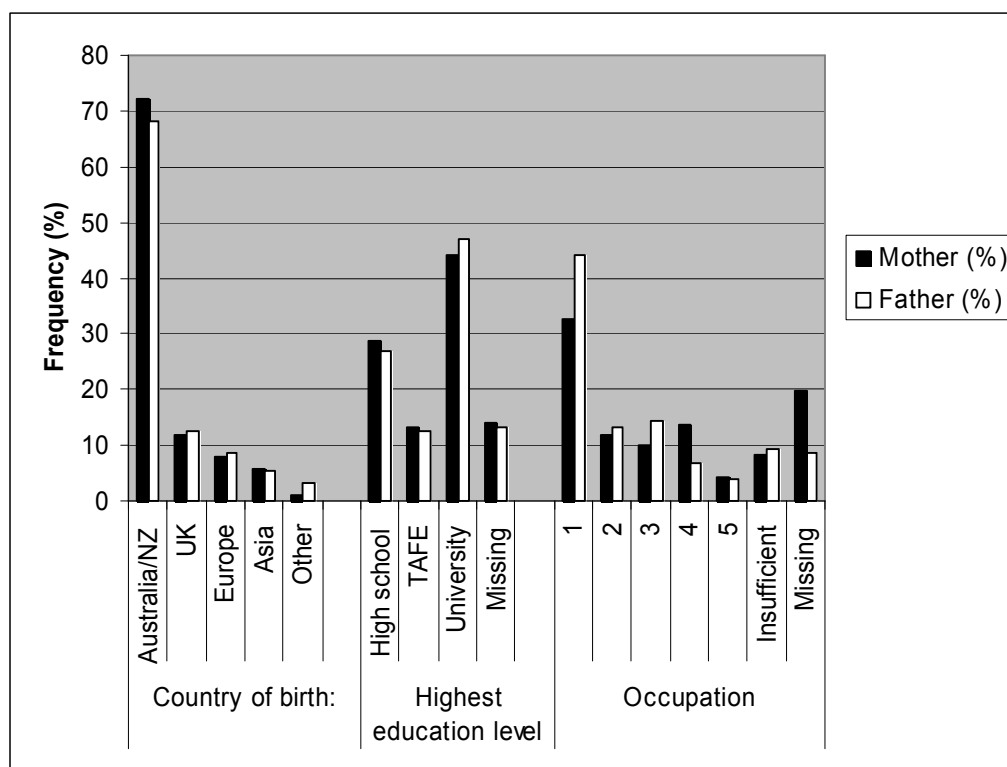

Figure 25: Summary of parental background.

.

5.3 Section B – musical experiences (listening, performing, and creating)

Listening to music

The participants in the study reflected the general perception that adolescents spend a considerable amount of time listening to music. Overall, 45% of the participants indicated that they listen to music "very often, whenever I can", which is similar to the finding by North et al. (2000) where 39.6% reported listening "as often as I can" (p. 260). In the present study, the results indicated that females tend to spend more time listening to music, with 55.5% of the females and 35.2% of the males reporting "very often, whenever I can" in estimating their frequency of listening to music (see Figure 26).
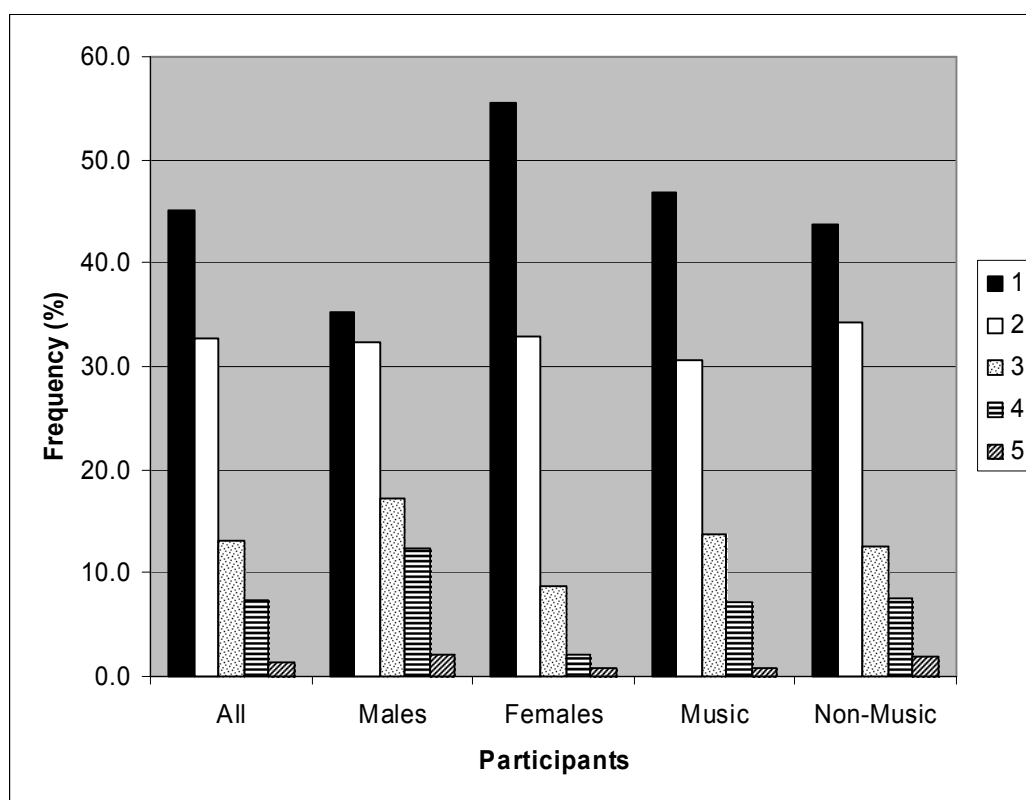

Figure 26: Estimate of frequency of listening.

Note. 1 = very often – whenever I can;
2 = several times each day;
3 = once a day;
4 = a few times each week;
5 = rarely.

.

With regard to the number of hours spent listening to music, 48.2% of the females and 26.2% of the males reported spending 10 hours or more per week listening to music (see Figure 27). There was little difference in the responses about music listening habits between Music and non-Music participants. Regarding how well the words of favourite songs are known, participants indicated that there was strong knowledge of the words of their favourite songs, with 76.7% saying that they knew the words 'very well' or 'mostly'. Females showed higher levels of knowledge of words than males, with 90.5% of the females and 67.8% of the males indicating 'very well' or 'mostly'. Participants were asked whether they were doing other things (such as homework, or playing computer games) while listening to music. The results showed that it was quite common for participants to be doing other things and this raises questions as to what actually constitutes listening.
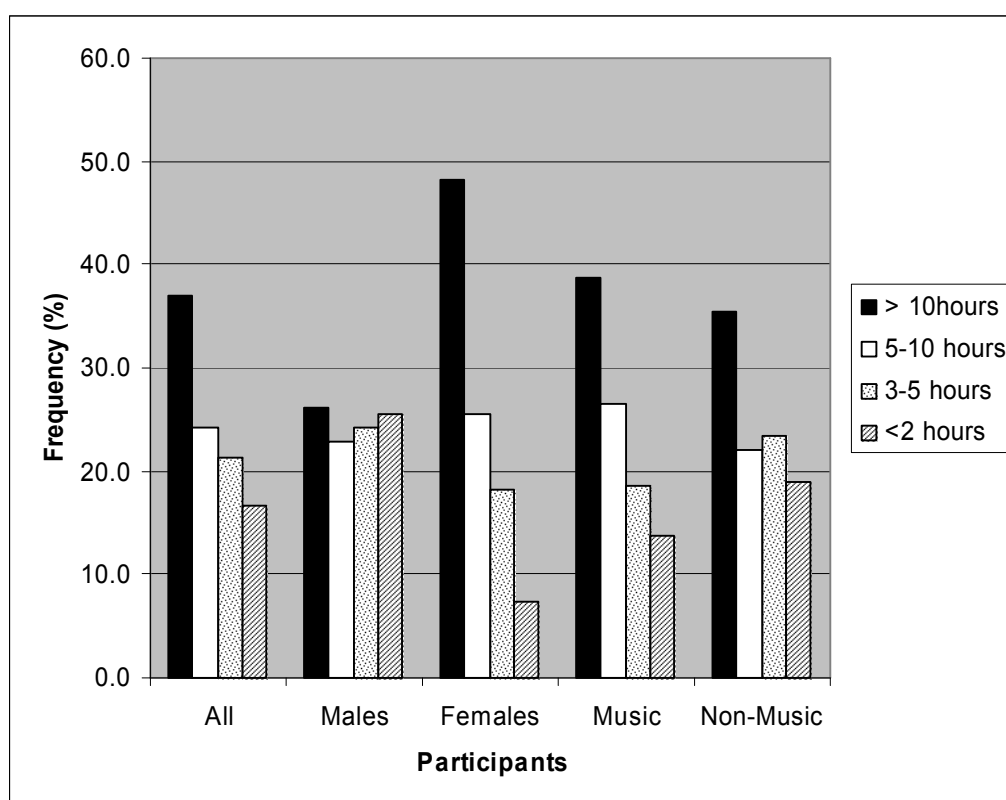

Figure 27: Estimate of hours of listening per week.

In order to gain further insight into the role and nature of listening, participants were asked to name some of their favourite styles of music, and to name up to three of their favourite performers, along with the names of up to three of their favourite pieces.

When collating the responses regarding styles, if there were multiple styles listed, then the first two styles listed were counted. There were 14 participants who did not respond to the question, and a total of 10 who indicated either 'all', 'anything', 'everything' or 'most' regarding their favourite musical styles. Of the remaining 258 participants, there were approximately 60 different styles named as favourites. Around 70% of the responses named two or more styles. The most frequently named favourite styles were "R&B", hip hop, rock, and rap, and Figure 28 shows the 14 most frequently named styles. It would appear that the term "R&B", which originates from the Afro-American rhythm and blues style which developed during the mid-twentieth century, refers to the more contemporary style of rhythm and blues (commonly referred to as R&B) and which is more closely related to hip hop and rap, rather than the earlier form of rhythm and blues.
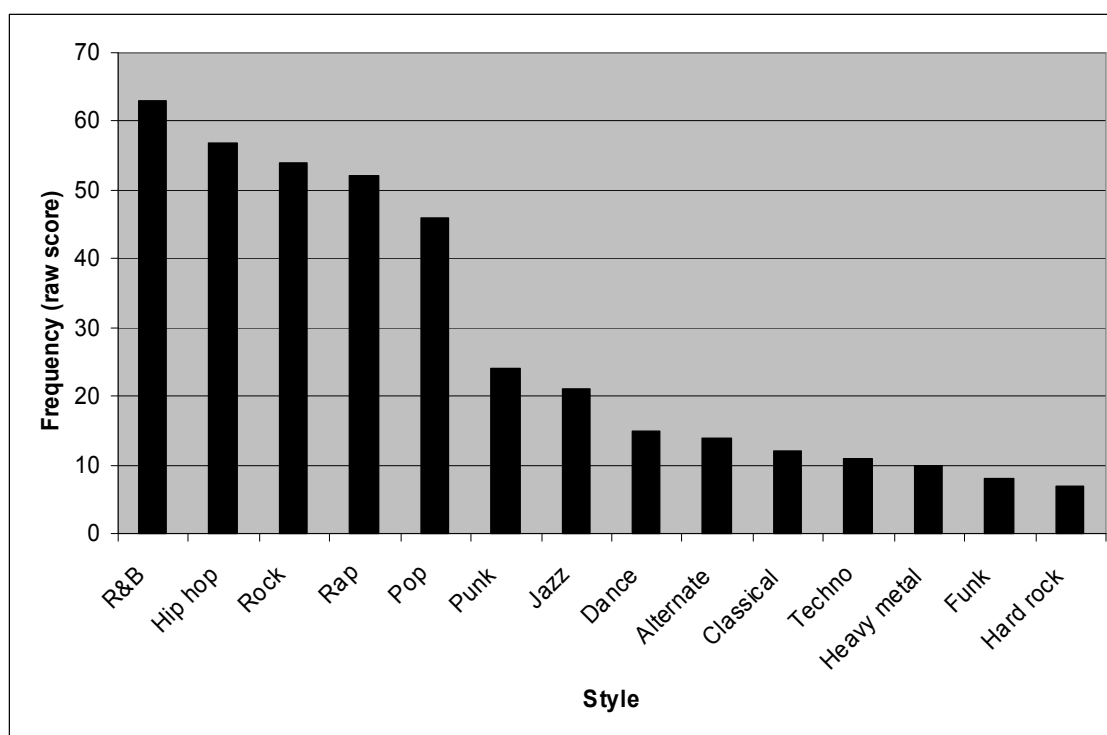

Figure 28: Favourite styles of music for listening.

The total number of different performers named among participants' favourite performers was over 150. The most frequently named 20 performers are shown in Figure 29, with Eminem, Ja Rule and Nelly being the three most frequently named

favourite performers, which seems to match with the favourite styles named. These performers are all from the United States of America and all feature prominently as performers in contemporary R&B, hip hop and rap music. Given the number of different performers named by participants (over 150), the response reflects the wide diversity of favourite performers. Likewise, there was a total of 405 different pieces named as favourites, with the 10 most frequently named favourite pieces shown in Figure 30. Preferences regarding favourite performers and pieces are likely to be volatile, and it should be remembered that the Survey was carried out during 2002. The American *Billboard Magazine,* which commenced in 1894, provides information about the music business, including charts of record sales (Letkemann, 2007). The performers Eminem, Ja Rule and Nelly, who were the three most popular performers listed in the Survey, were all listed in the 2002 *Billboard Magazine's* "Hot 100 charts" with one or more number 1 hit songs. The songs *Always on time* performed by Ja Rule, and *1000 miles* performed by Vanessa Carlton, both reached number 1, and Eminem's *Without Me* reached number 2 on the Hot 100 charts during 2002. These three songs were listed most frequently as favourite pieces by the Survey participants.
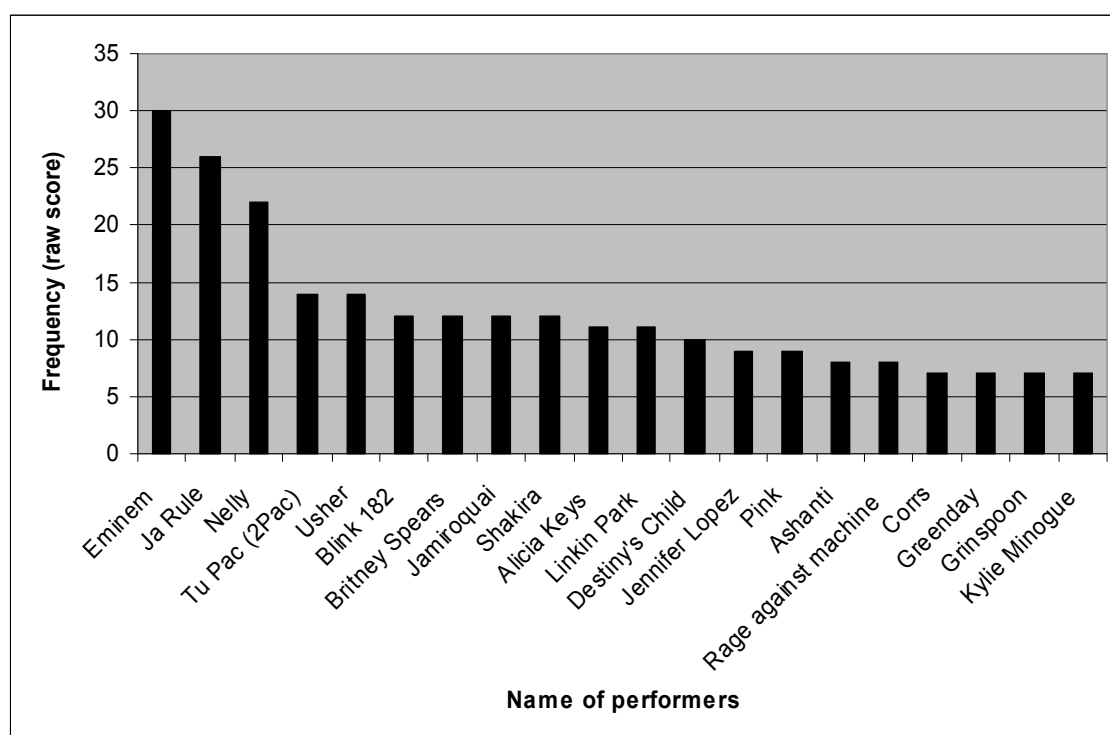

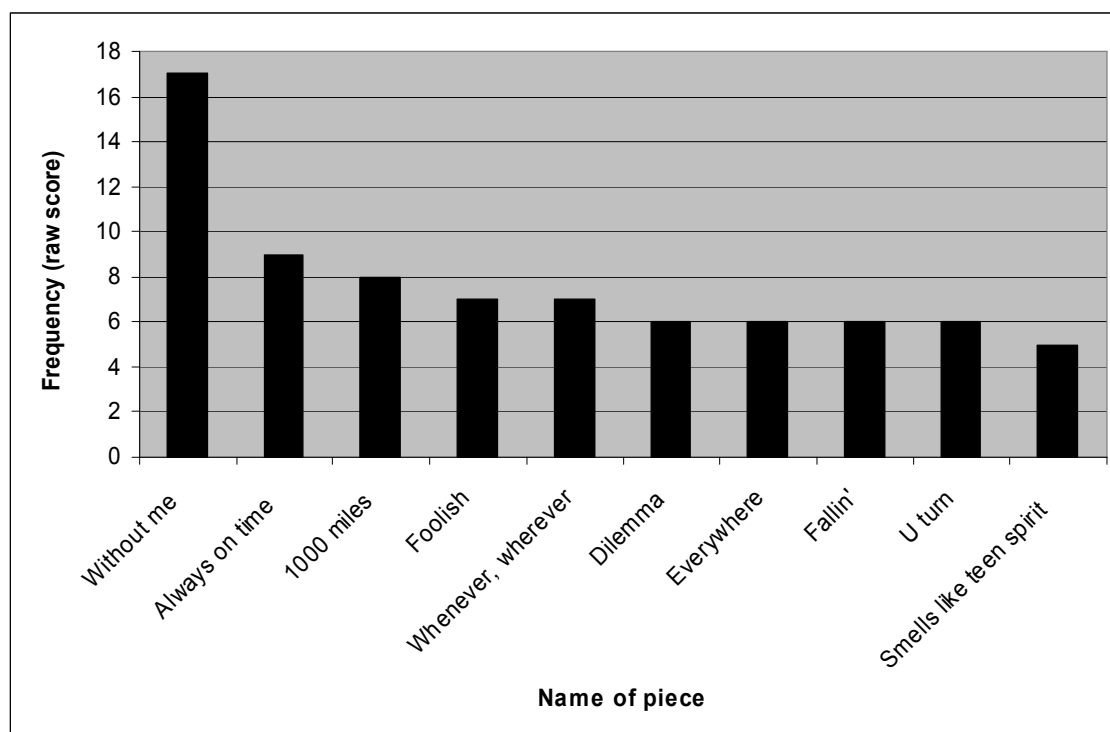*Figure 29*: Frequency of names of favourite performers.

.

Figure 30: Frequency of names of favourite pieces of music.

Note. Titles and performers of favourite pieces:
   Without me – Eminem;
   Always on time - Ja Rule;
   1000 miles - Vanessa Carlton;
   Foolish – Ashanti;
   Whenever, wherever – Shakira;
   Dilemma – Nelly;
   Everywhere -Michelle Branch;
   Fallin' - Alicia Keys;
   U turn – Usher;
   Smells like teen spirit – Nirvana

The Survey sought information about how much money the participants had spent buying recorded music in the month prior to the Survey being completed. Given that one would not expect Year 9 and 10 students (i.e. 14-15 year olds) to have much money available to spend, it was interesting to note that almost 30% of the students had spent over $A20 on buying music in the month prior to completing the survey, with 7.7% indicating that they had spent more than $A50. Students were asked to indicate whether they ever listened to music via MP3 files or the internet, and 58.5% of students indicated that they did. The incidence of listening via MP3 files and the internet was greater for males (69.2%) than for females (48.9%). Despite relatively free access to music via MP3 files and the internet, it would appear that in 2002 spending money on

.

music was still being pursued with 54% of participants indicated that they had spent $10 or more in the month prior to completing the survey. The availability of music via the internet has increased greatly since 2002, despite the many unresolved copyright issues surrounding music downloading from the internet.

Performing music (playing or singing)

A surprisingly high proportion of participants in the study (78%) indicated that they had had lessons to learn to play one or more instruments (or voice). Not only was this proportion high, but the ratio of participants (44.3%) who had received lessons on two or more instruments was also very high. Of the Music participants, 100% of these indicated having had lessons on at least one instrument (or voice), with 75% of these having had lessons on at least two instruments, and with 39.5% having stopped instrumental lessons at some time. Of the non-Music participants, 39.2% reported never having had lessons at all. There were 60.7% of the non-Music participants who reported having taken instrumental lessons at some time, with 45.6% indicating that lessons had stopped. This suggests that up to 15% may have been continuing lessons even though they were not doing Music as a school subject. Regarding whether lessons were continuing, it is reasonable to assume that those participants taking Music as a school subject are likely to be continuing instrumental lessons, given that, in South Australian schools, students taking Music as a school subject are generally required to also be learning an instrument. Some differences in instrumental learning are evident between male and female participants, with 53.8% of the females and 35.2% of the males having learned two or more instruments (see Figure 31).

.
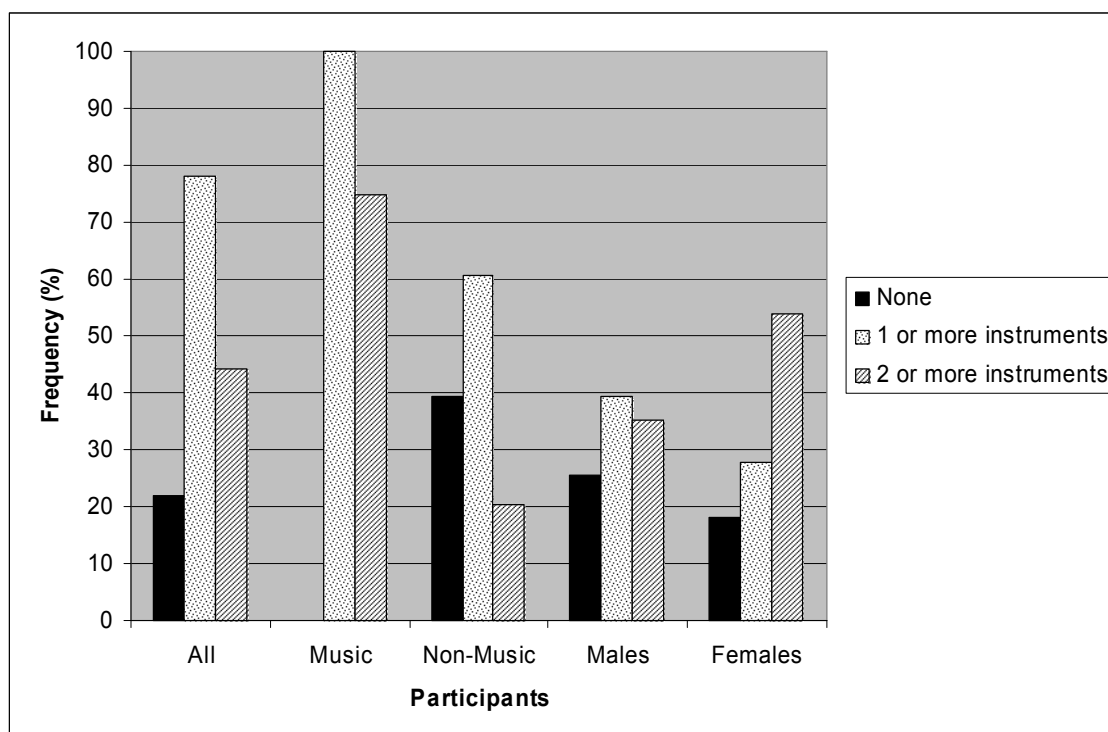
Figure 31: Number of instruments (including voice) learned.

Participants were asked to describe what they liked best about learning a musical instrument. The most frequent response, given by 19.5% of participants who had learned an instrument, related to the sense of achievement and progress gained, and the associated favourable impression that this made on others, such as family and friends. The next most frequent response (16.2%) related to the aspect that playing an instrument was perceived as being fun, enjoyable and interesting. Other responses included aspects such as opportunities for self-expression, making up one's own music and playing music with friends. The most common best-liked aspects of learning a musical instrument and the frequency of responses are shown in Figure 32. When considering the various reasons as given by males and females, the sense of achievement was more frequent for females (23.2%) than males (15.7%), while the perception of fun and enjoyment was more prominent for males (22.2%) than females (9.8%).

.
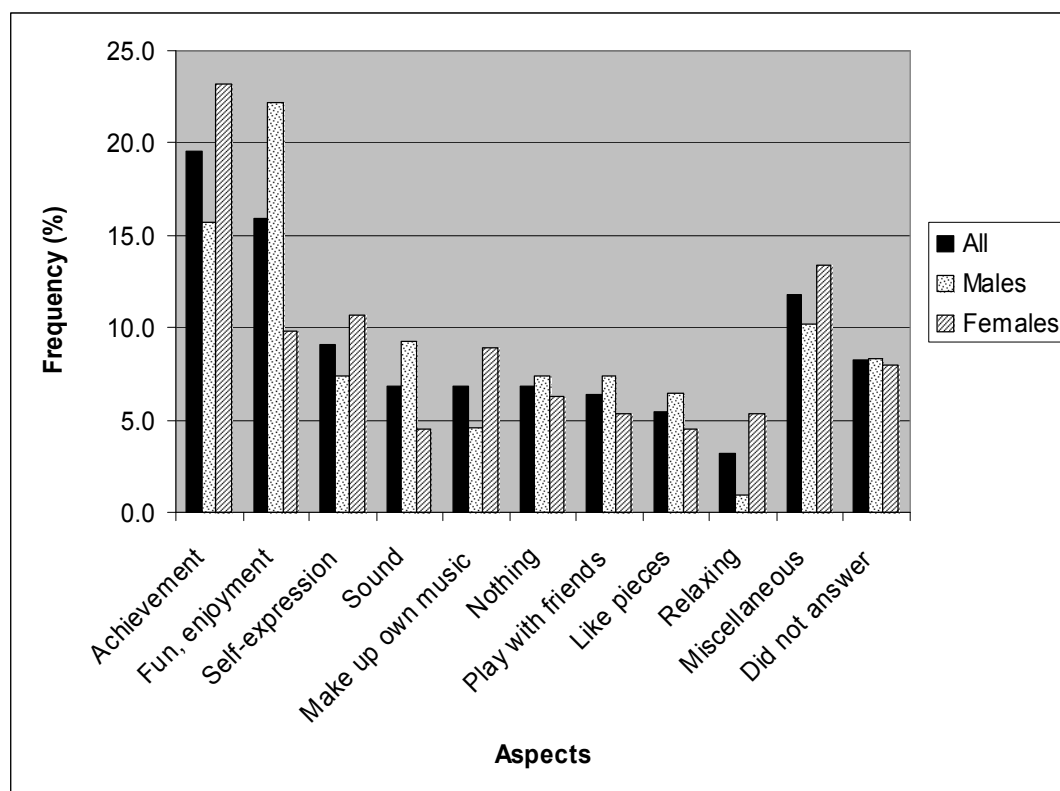
Figure 32: Aspects liked best about learning a musical instrument.

Participants were also asked what they liked least about playing a musical instrument (see Figure 33). The most frequent response by far (28.2%) referred to practice and the obligation to practice, followed by the perceived difficulty of learning an instrument (10.5%), the time-consuming nature of practice (9.5%) and the frustration of not being able to play things straight away without hard work (8.6%). For this question there were minimal differences between the frequency of responses for the males and females.
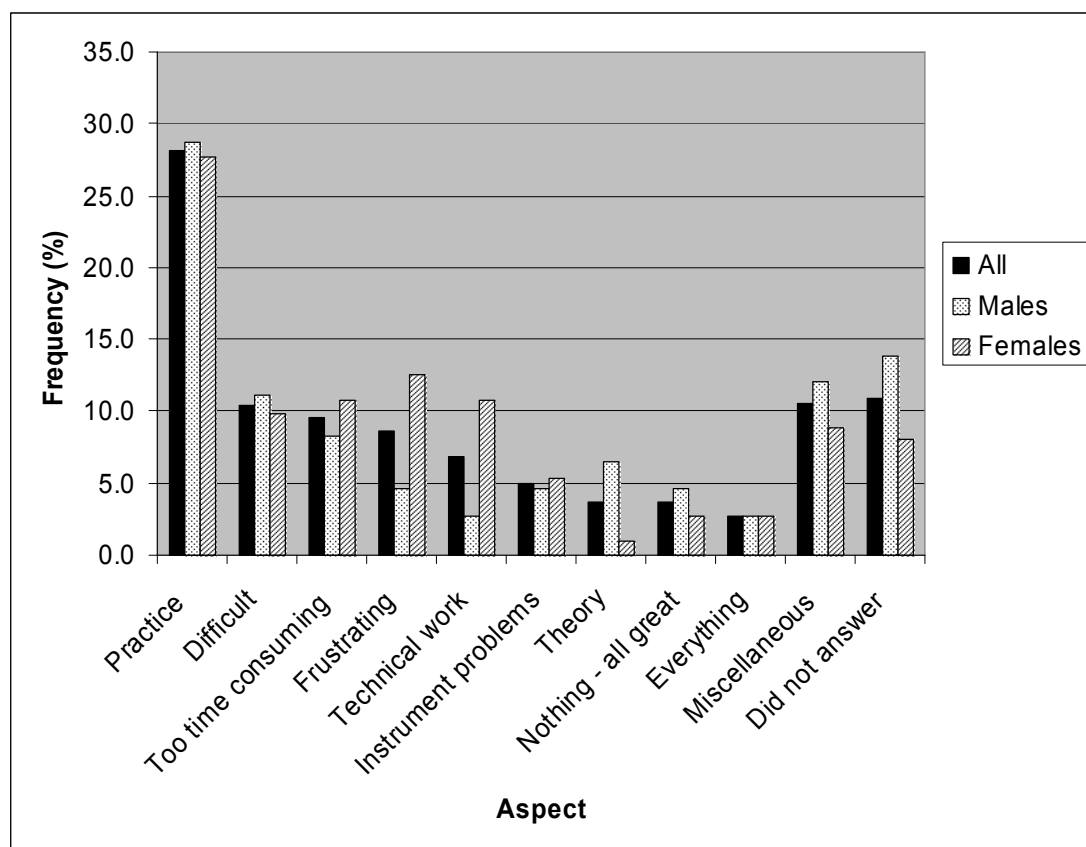
Figure 33: Aspects liked least about learning a musical instrument.

With regard to the amount of practice undertaken, participants were asked to indicate how many times per week they usually practise, and for how long at each session (see Figure 34). It was difficult to quantify responses with regard to the usual length of practice sessions, therefore the number of practice sessions per week were counted according to the following categories: more than 5 times per week, 3 to 4 times per week, 1 or twice per week, and does not practise. A majority of participants indicated that they practise more than 5 times per week, with little difference between males and females with regard to practice. Those participants who played 2 or more instruments indicated higher frequencies of practice, with those who played 1 instrument showing less practice frequency. The level of practice frequency for Music participants was similar to the level of practice for those learning 2 or more instruments. Those participants who played 1 instrument would have included a mixture of Music and non-Music students. More than 80% of the Music participants, and likewise for those learning 2 or more instruments, indicated that they practice at least 3 to 4 times

.

per week which seems to reflect a healthy attitude towards practising, although the extent and quality of each practice session was not investigated.
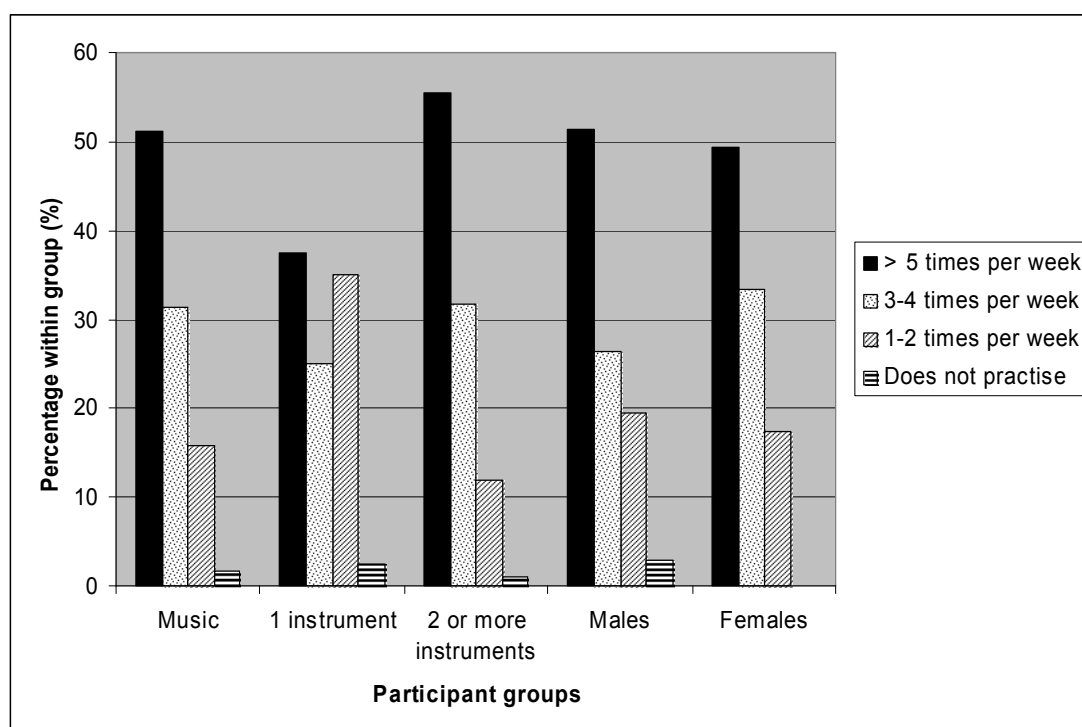
Figure 34: Frequency of practice sessions per week.

Those participants who had had instrumental or vocal lessons were asked whether they have ever done any music examinations (such as those run by the Australian Music Examinations Board [AMEB]). The data collected shows that 30% of those who have learned one or more instruments have undertaken such an examination. Of those participants taking Music as a school subject, 41% have undertaken an external music examination.

Participants were asked to give any reasons if instrumental lessons were not being continued. The responses indicated that the main reason was that learning an instrument was "boring" or "had become boring" (see Figure 35). This may perhaps explain in part the relatively high incidence of students who had learned two or more instruments, as it seems most likely that they may have gone on to another instrument after becoming 'sick' of a previous instrument. The response that instrumental learning was boring was more frequent for the males (30.6%) than the females (15.3%) who

.

were more likely to indicate that they either preferred another instrument or had some
dislike for the instrumental teacher.
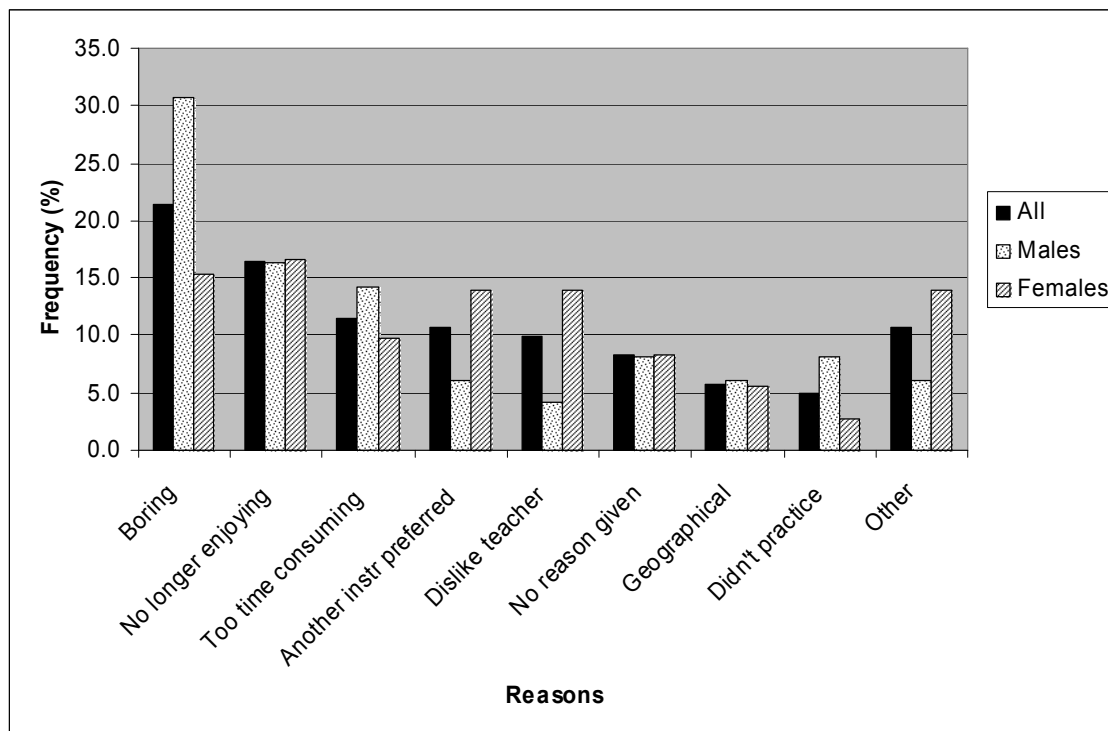
Figure 35: Reasons for ceasing instrumental/vocal lessons.

Aside from having instrumental or vocal lessons, participants were asked
whether they ever played instruments in primary or high school music classes. The
responses are shown in Figure 36 where it can be seen that around 30% of the non-
Music participants did not play instruments in music classes, presumably either at
primary school or in Year 8 general Music. The opportunity to play several instruments
(i.e. two or more) was quite frequent, especially for the Music participants and the
female participants, with recorder being the next most frequent instrument indicated.

.
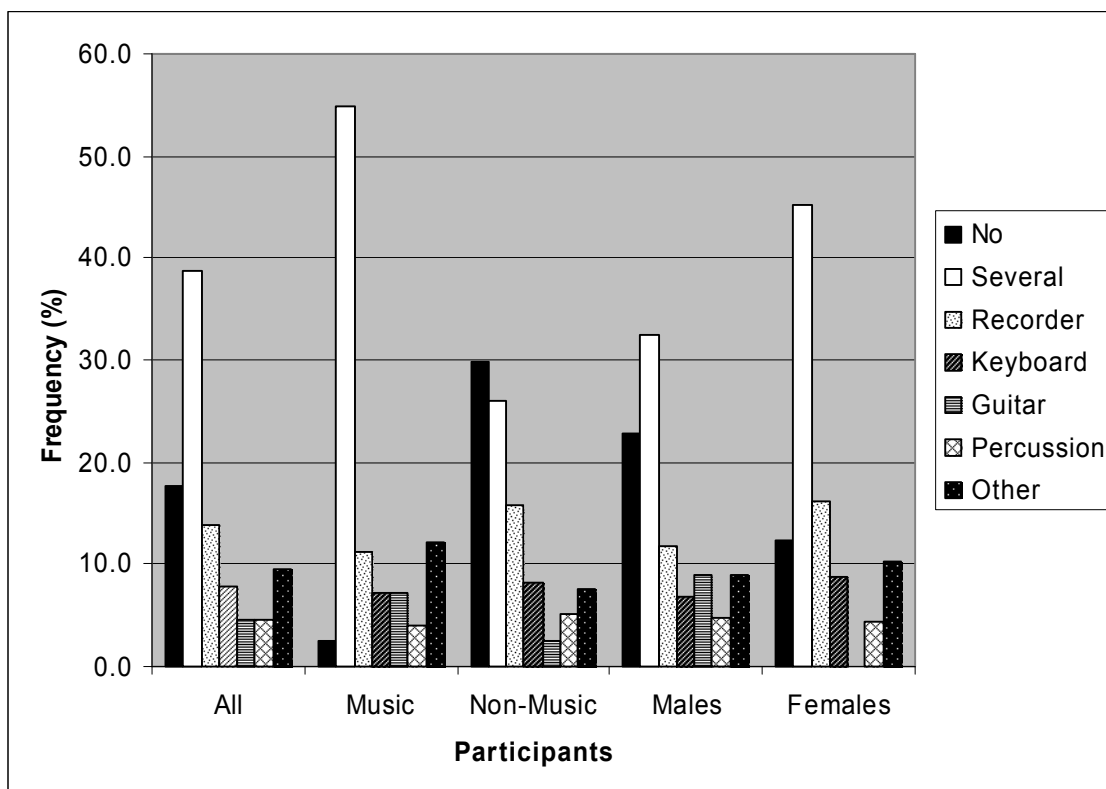
Figure 36: Instruments played in music classes at primary or high school.

There was some incidence of informal learning of instruments, aside from having formal lessons, for 31% of the participants (see Figure 37). These were either self-taught or learned from friends. This was more likely to occur for females (38%) than males (25%). The incidence of family members playing a musical instrument at home was quite different for the Music and non-Music participants. More than half of the non-Music participants in the study (56%) indicated that no family member plays a musical instrument at home, while for Music participants only 27% reported that no family member plays an instrument at home (see Figure 38).

.
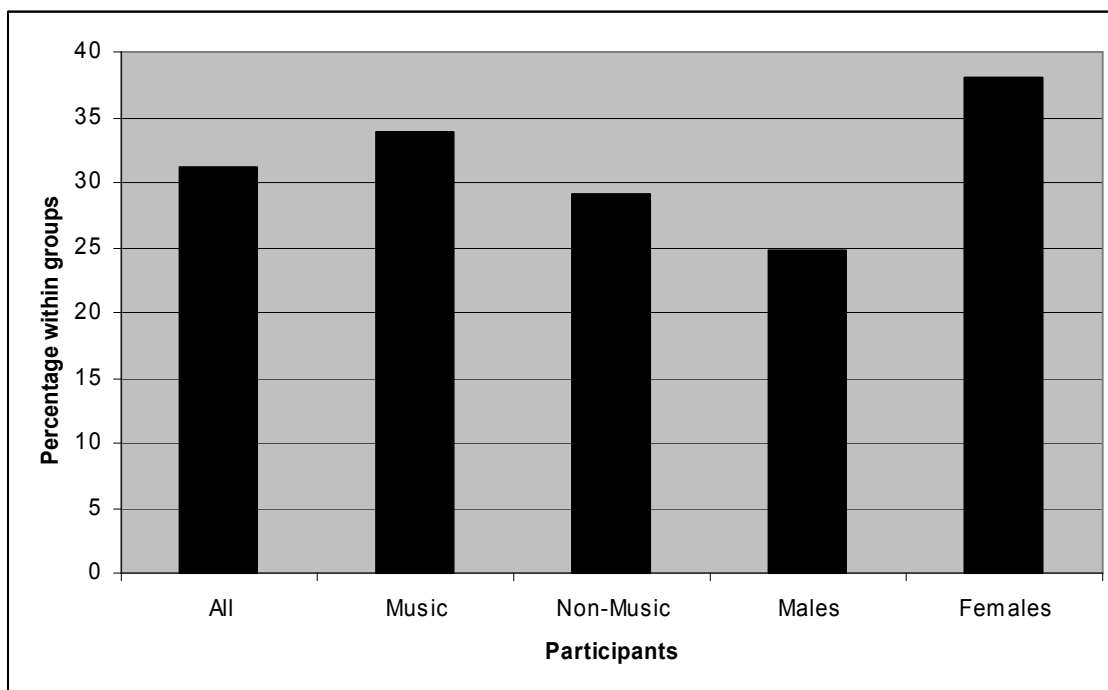
Figure 37: Frequency for instruments being either self-taught or taught by friend.
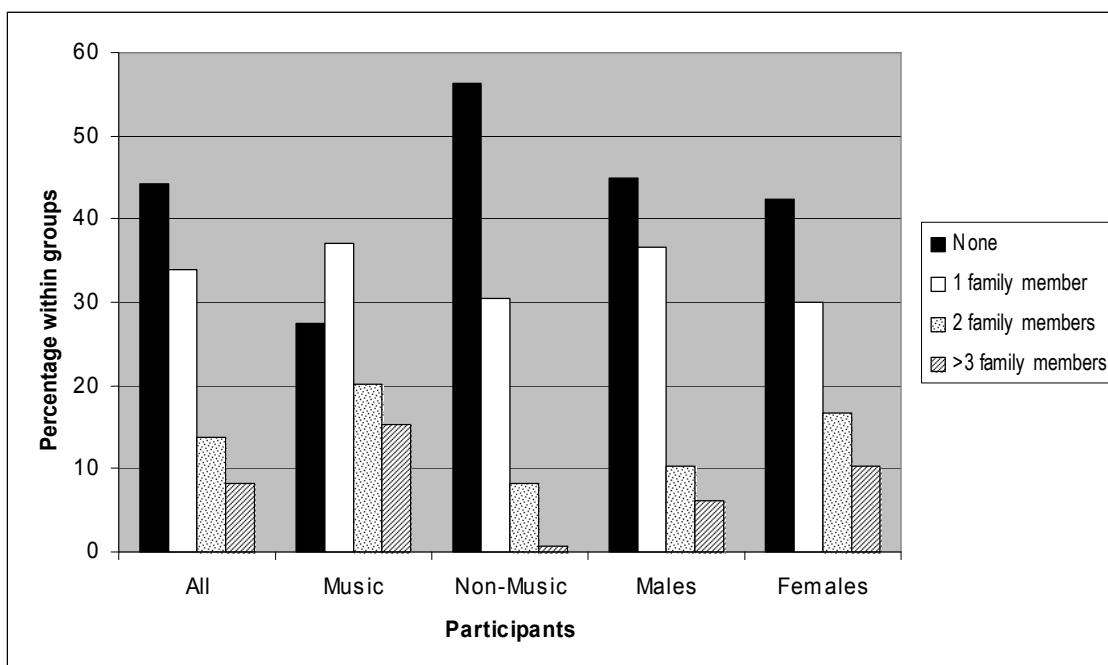
Figure 38: Number of family members who play instruments at home.

.

Ensemble activity, as expected, was high for Music participants, with around 85% of Music participants taking part in ensemble activity either at school or outside of school both (see Figure 39). Conversely, there were very few non-Music participants undertaking ensemble activity either at school or outside of school, with just over 1% of the non-Music participants taking part in any ensemble activity.
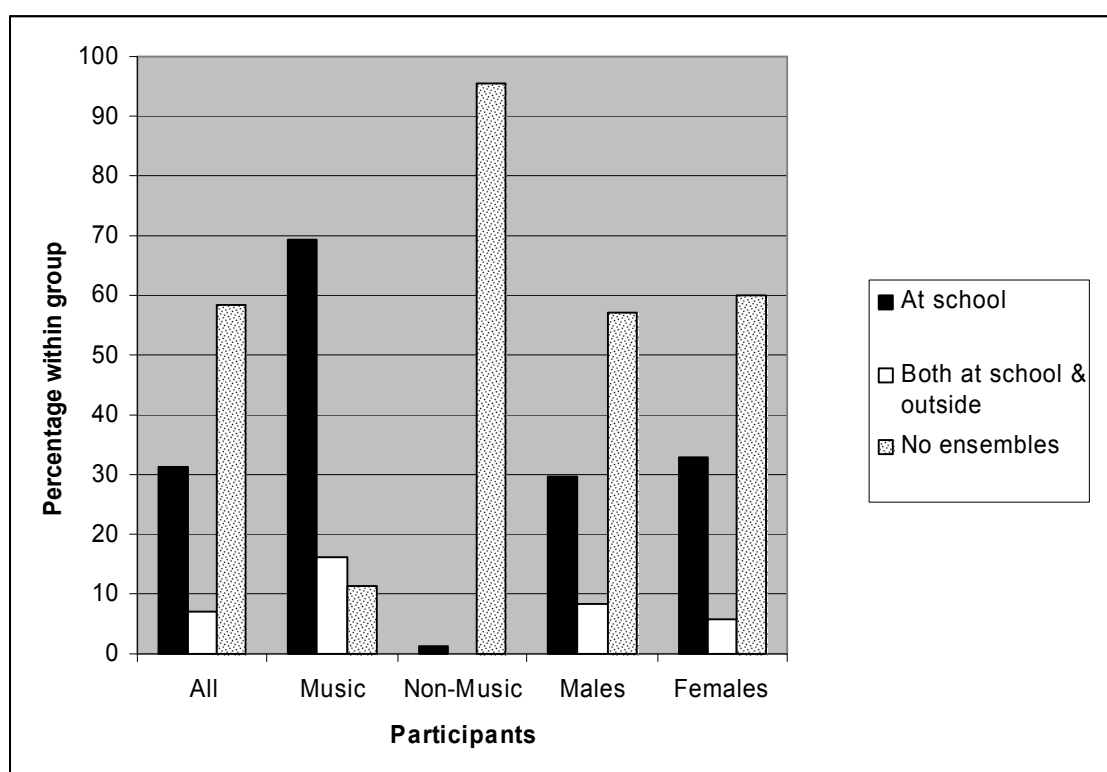
Figure 39: Playing in ensembles, at school and outside of school.

Participants were asked whether they sing in any ensembles, either at school or outside of school (see Figure 40). As expected, Music participants are much more likely to be taking part in a vocal ensemble with more than half of the Music participants indicating that this is indeed the case. Females were more likely than males to be taking part in a vocal ensemble. The vast majority of the ensembles were indicated as school-based.
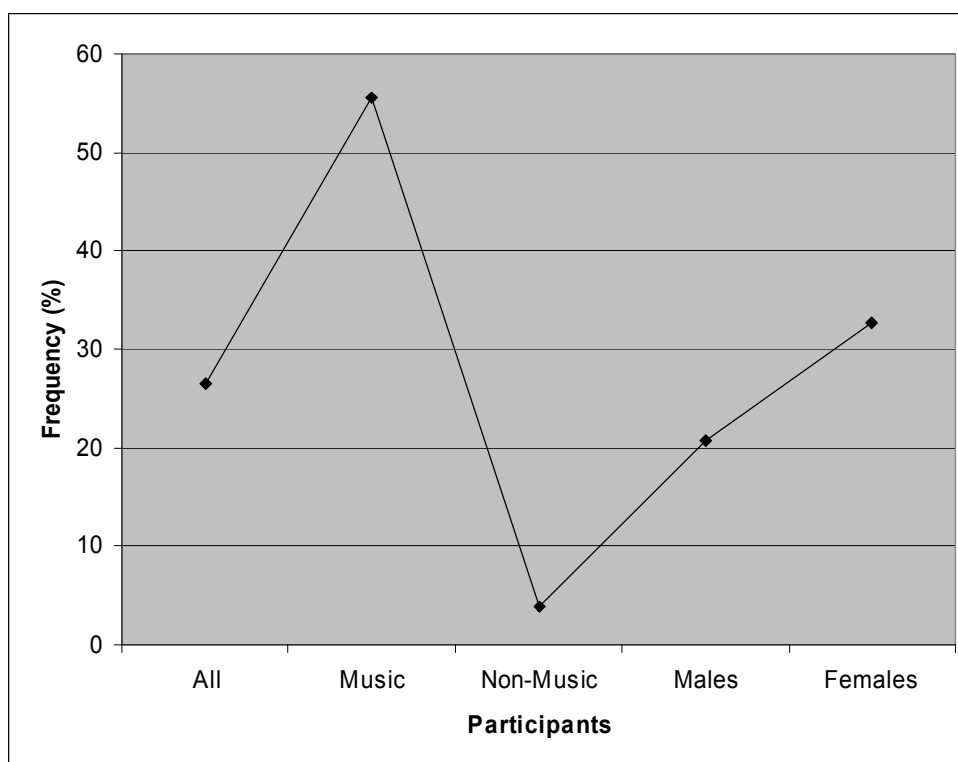
Figure 40: Participation in singing in an ensemble.

Participants were asked to indicate whether they had taken part in the South Australian Public Primary Schools' Music Festival [PSMF], which involves being in a school-based choir and learning selected repertoire which is later performed as part of a massed choir in Adelaide's Festival Theatre. The PSMF, which has been running since 1891 and is recognised as a state icon of South Australia, provides the opportunity for vocal involvement and performance. Nearly half of the participants indicated that they had taken part in the PSMF, and it can be seen from Figure 41, that the Music participants and female participants were both more frequently involved in the PSMF than the non-Music and male participants respectively.

.
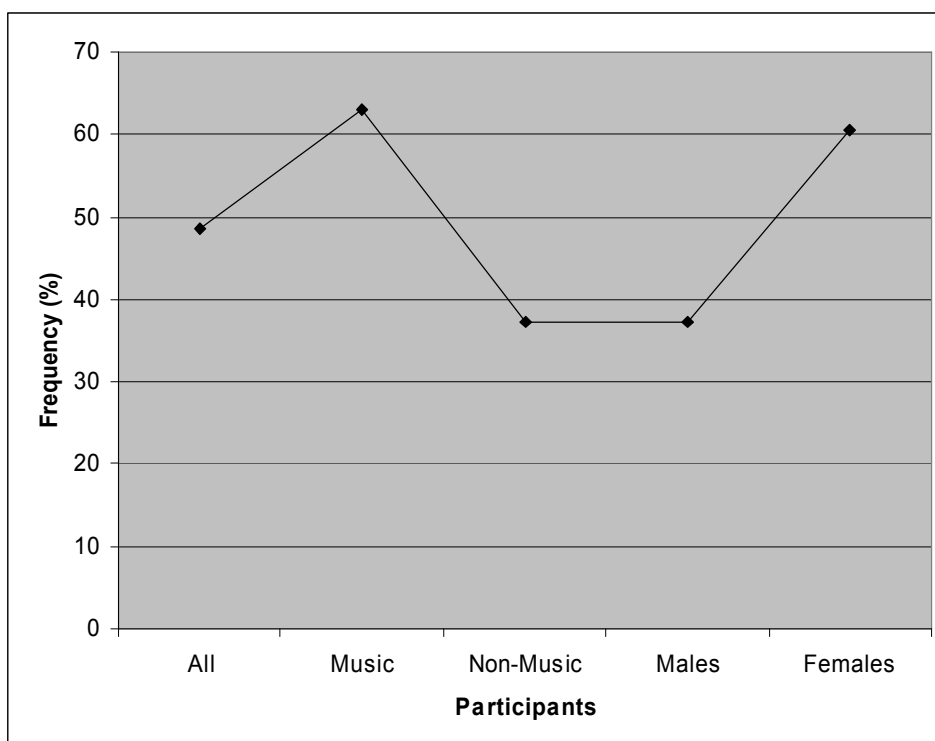
Figure 41: Frequency of prior involvement in the South Australian Public Primary Schools' Music Festival.

Music as a school subject

Participants were asked what they liked most about Music as a school subject (see Figure 42). By far, the most frequent answer (37.9%) given was being able to play in ensemble during Music classes. The next most frequent (13.7%) answer given was that Music was perceived as being fun and enjoyable. When looking at the responses from male and female participants, it can be observed that 46.6% of the females nominated ensemble playing as the best aspect as compared to 30.3% of the males. Conversely, 18.2% of the males suggested that the best aspect of Music was that it was fun as compared to 8.6% of the females.

.
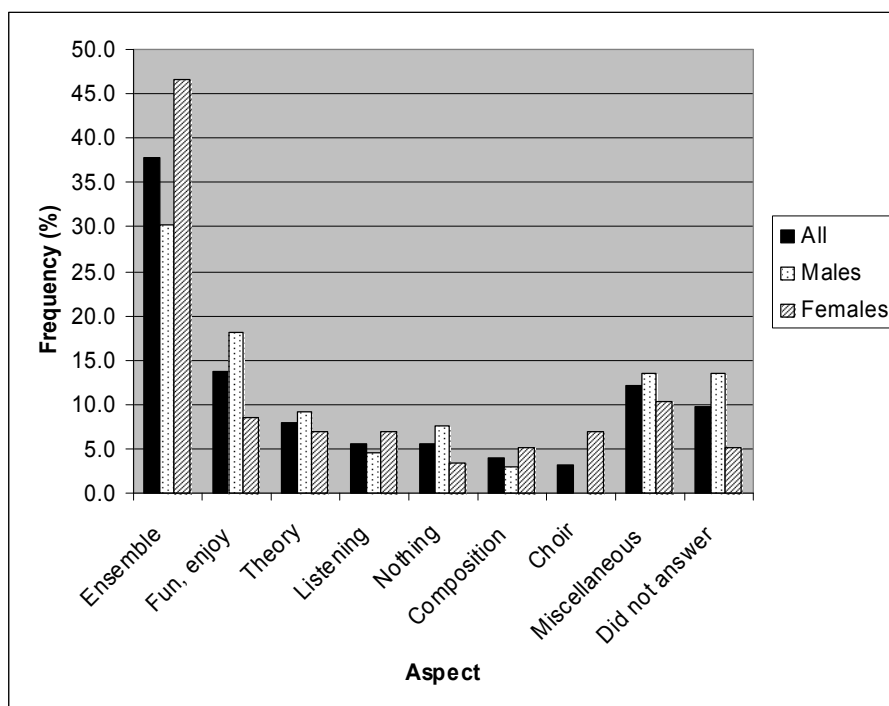
Figure 42: Aspects liked most about Music as a school subject (N=124).

With regard to what participants liked least about Music as a school subject (see Figure 43), the most frequent reason given was theory (47.6%). The next most frequent response (8.1%) was that there was nothing that the participants disliked about Music as a school subject, which therefore infers a positive liking for the subject. When looking at the responses from male and female participants, it can be observed that 56.9% of the females nominated theory as the least liked aspect of Music at school, as compared to 39.4% of the males. There was a diverse range of least-liked aspects which have been categorised under the heading of 'Miscellaneous', and some aspects mentioned included scales, choir, homework, too easy, boring and practice.

.
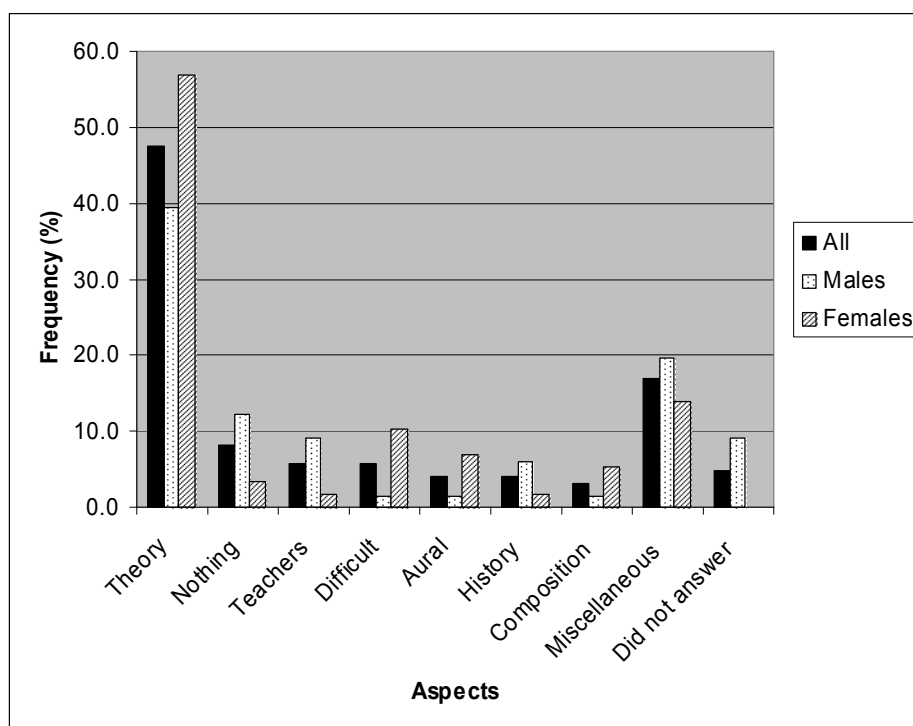
Figure 43: Aspects liked least about Music as a school subject (N=124).

Creating music

Within the Creating Music section of the Survey, participants were asked whether they ever make up their own music. There was a surprisingly positive response to this question with around half of the total number of participants answering 'yes'. There was little difference in the proportion of males and females answering yes (around 50% for both), and as could be expected a large number (69.4%) of the Music participants answered in the affirmative. A rather surprising result was that 35.2% of the non-Music participants also make up their own music. Although the survey did not explore the extent of creating one's own music, it nevertheless is a reminder of the role of music as a medium for creativity, even when music is not being studied as a school subject. Another question asked participants whether they ever used a sequencer or computer program to make up their own music. Around 20% of all the participants indicated use of this technology, but there was a marked difference in the responses of the males and females, with 30.1% of the males and only 10.9% of the females indicating such usage.

.

5.4 Section C – Rosenberg's Self-esteem Scale [RSES]

The range of marks possible for the Rosenberg Self-esteem Scale is from a minimum of 10 to a maximum of 40. The data collected here from Section C which used the Rosenberg Self-esteem Scale show that there is little difference in the self-esteem scores between the Music (mean of 29.7) and non-Music (mean of 30.0) participants, while the difference between males (31.0) and females (28.7) is more marked (see Figure 44). In order to compare the means for Music and non-Music participants, and for males and females, t-tests were carried out. In the t-test for Music and non-Music participants, $t = -0.58$ which is not significant. However, in the t-test for males and females, $t = 4.29$ which is significant at less than the 0.01 level and shows that the mean level of self-esteem for the female participants was lower than that for males. These results concur with various studies (e.g. Clay, Vignoles, & Dittmar, 2005; Malone, 1996; Martinez & Dukes, 1991) which show that males tend to have higher self-esteem than females, although various studies relating to gender and self-esteem have shown inconsistencies (Rosenberg, 1979).
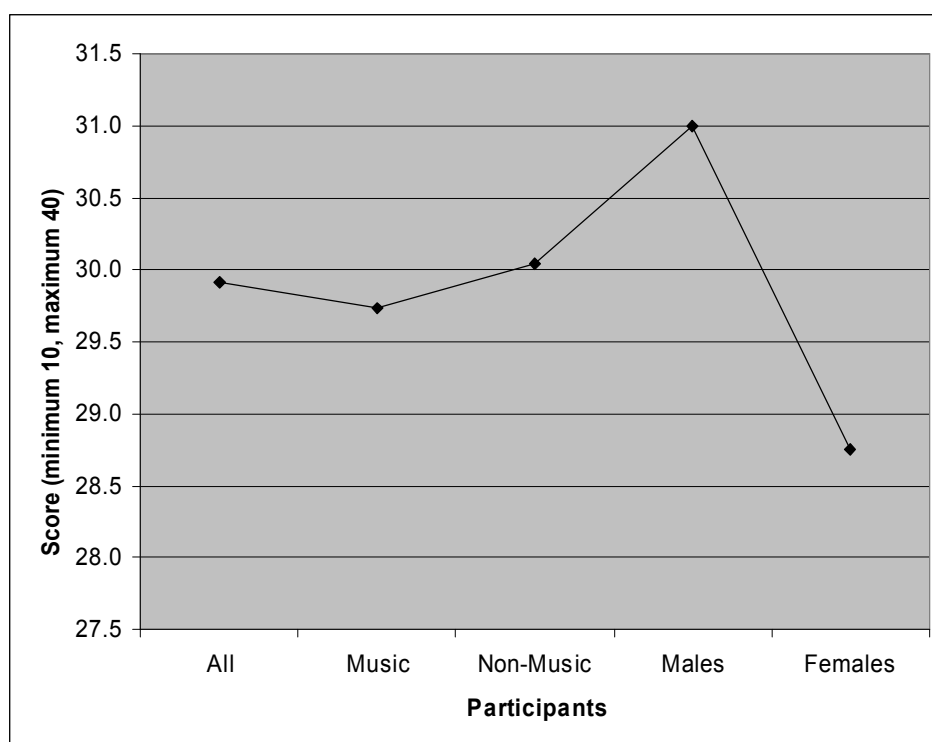
Figure 44: Self-esteem scores.

5.5 Section D – Chan's Perceived Competence Scale

There were 28 items in Chan's Perceived Competence Scale, with seven items for each of the four sub-scales, namely cognitive, social, physical and general. This resulted in a range of marks from a minimum of 7 to a maximum of 28 for each sub-scale. The mean scores from the four sub-scales are summarized in Figure 45. The Social sub-scale has the highest mean, while the Cognitive sub-scale has the lowest mean. The largest difference in means occurs in the Physical sub-scale with Music participants having a lower mean than non-Music participants. When comparing means for Music and non-Music participants using a t-test, t was significant for the Physical sub-scale (t = -2.30). Likewise, when comparing the means for males and females, for the Social sub-scale female mean scores were higher (t = -2.07), while on the General sub-scale, male mean scores were higher (t = 2.22).
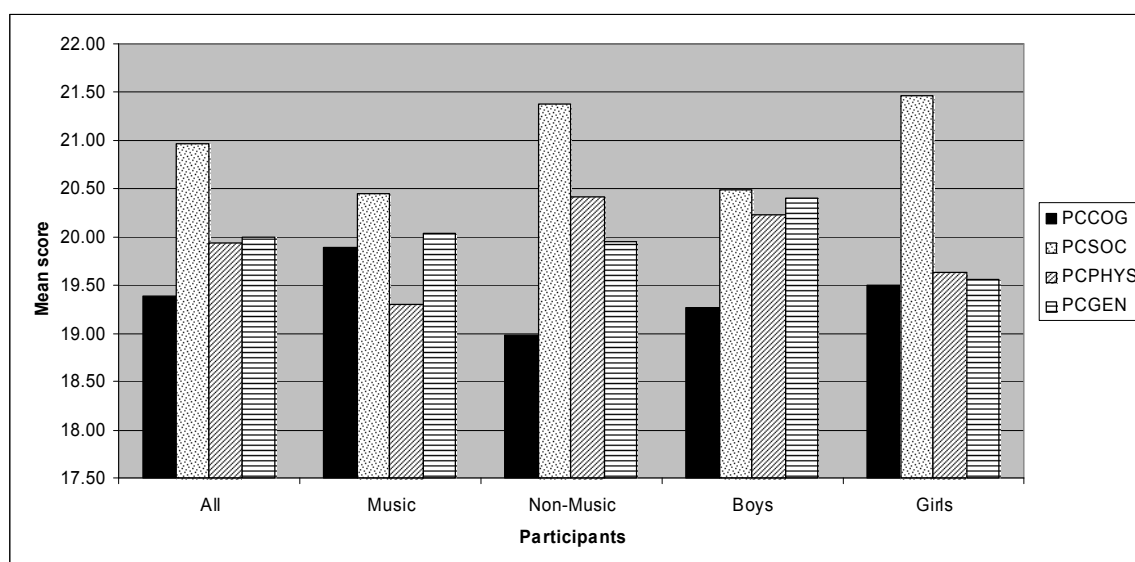
Figure 45: Mean scores for Perceived Competence Sub-Scales.

Note. The following abbreviations are used for the sub-scales:
PCCOG = Perceived Competence Cognitive;
PCSOC = Perceived Competence Social;
PCPHYS = Perceived Competence Physical;
PCGEN = Perceived Competence General.
For each sub-scale the score range is from a minimum of 7 to a maximum of 28.

In analyzing the correlations between the four sub-scales, it can be noted that they all correlate with each other and are all significant at the 0.01 level (see Table 17) when all participants are considered. The strength of the correlation shows some

.

variation, with the strongest being between the social and physical sub-scales. The correlation between the cognitive and physical sub-scales, while still significant, is the weakest. For Music participants, the correlation between the Cognitive and Physical sub-scales is not statistically significant which in turn implies that the Music participants' views about their perceived competence are not strongly correlated in these two areas. The Music participants tend to perceive greater competence in the cognitive area than in the physical area. For male participants, the correlation between the Cognitive and Physical sub-scales was also not significant, while for females the correlation was at the 0.05 level (rather than 0.01 level).

Table 17: Pearson correlation coefficients for the Perceived Competence Sub-scales.

		PCCOG	PCSOC	PCPHYS	PCGEN
All					
	PCCOG	1	0.351**	0.160**	0.448**
	PCSOC	0.351**	1	0.500**	0.414**
	PCPHYS	0.160**	0.500**	1	0.323**
	PCGEN	0.448**	0.414**	0.323**	1
Music					
	PCCOG	1	0.359**	0.108	0.482**
	PCSOC	0.359**	1	0.414**	0.420**
	PCPHYS	0.108	0.414**	1	0.258**
	PCGEN	0.482**	0.420**	0.258**	1
Non-Music					
	PCCOG	1	0.383**	0.222**	0.431**
	PCSOC	0.383**	1	0.560**	0.418**
	PCPHYS	0.222**	0.560**	1	0.381**
	PCGEN	0.431**	0.418**	0.381**	1
Males					
	PCCOG	1	0.365**	0.138	0.330**
	PCSOC	0.365**	1	0.525**	0.406**
	PCPHYS	0.138	0.525**	1	0.263**
	PCGEN	0.330**	0.406**	0.263**	1
Females					
	PCCOG	1	0.339**	0.195*	0.574**
	PCSOC	0.339**	1	0.501**	0.480**
	PCPHYS	0.195*	0.501**	1	0.388**
	PCGEN	0.574**	0.480**	0.388**	1

** - Correlation is significant at the 0.01 level.
* - Correlation is significant at the 0.05 level.

.

5.6 Academic Achievement Data

As described in the previous chapter, the academic achievement of the participants was measured using the subjects designated here as core subjects, that is, English, Mathematics, Science and Studies of Society and Environment. The grades provided by the school have been converted to a percentage, and Figure 46 shows the mean percentages for all the participants, and for the various sub-groups within the whole cohort of participants. In order to compare the mean results for academic achievement in the core subjects, independent samples t-tests procedures were carried out for Music and non-Music, males and females, and one or more instruments learned as compared to no instruments learned. The significant t-values are shown in Table 18.
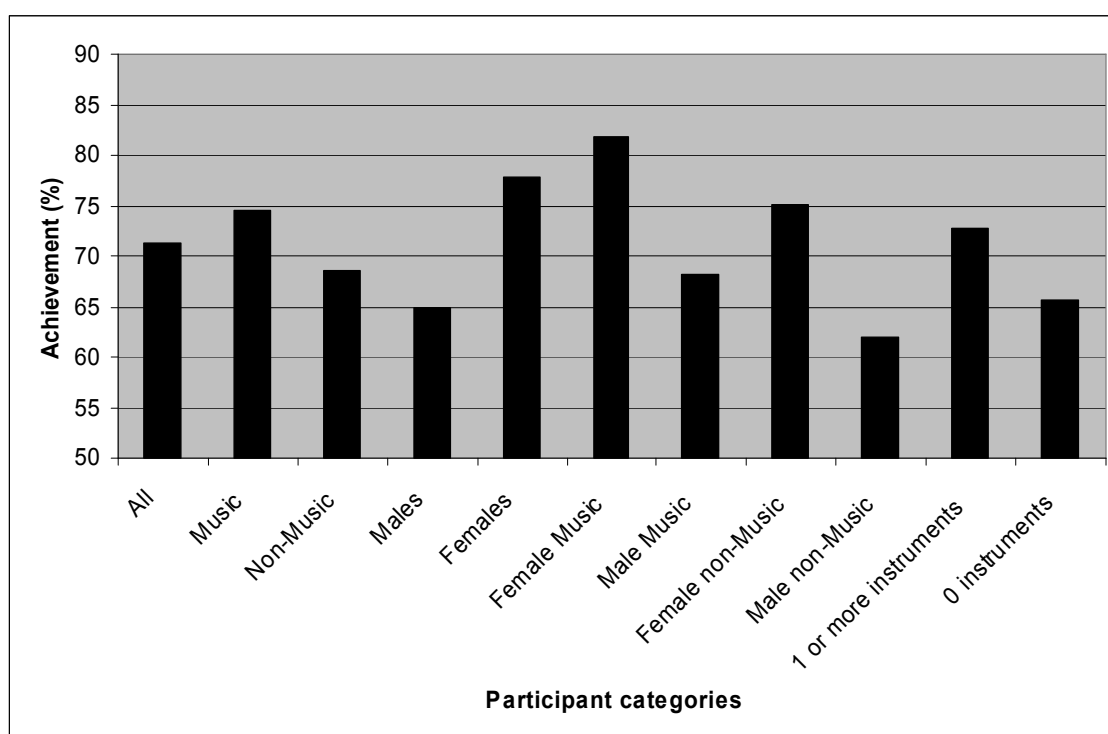
Figure 46: Academic achievement in core subjects (English, Mathematics, Science, and Studies of Society and Environment).

.

Table 18: Significant t-values for academic achievement.

Groups being compared	t-value	Significance
Music/non-Music	2.729	.007
Males/females	-6.293	.000
Female Music/Female non-Music	2.421	.017
Male Music/Male non-Music	2.038	.043
One or more instruments/ no instruments learned	2.663	.008

Thus it can be seen that academic achievement was significantly higher for Music participants than non-Music participants, and to a slightly lesser extent, for those participants who had learned one or more musical instruments as compared to those who had not learned (had lessons on) a musical instrument. However, the most striking difference is between the male and female participants, with females achieving significantly higher than males and at a stronger level of significance than seen with the Music and non-Music participants.

.

Chapter 6

DISCUSSION OF RESULTS

The data collected in the Survey provide a snapshot of the cohort of participants, and therefore convey a picture about their beliefs of reasons for achievement, extent of involvement and interaction with various aspects of music, music listening preferences, attitudes to Music as a school subject, aspects of self-perception (self-esteem and perceived competence), and academic achievement. This chapter seeks to address the six original research questions, and to identify and discuss issues arising from the results which were described in Chapter 5 and which may have wider implications for music learning and learning in general.

6.1 Research Questions

Research Question 1: What is the extent of involvement in the musical activities of listening, playing and creating music by the participants in this study?

The data collected from Section B of the Survey, described in detail in Section 5.3 earlier, indicates that the participants, who comprise a mixture of those doing Music as a school subject and those not doing Music as a school subject, listen extensively to music as expected, with R&B (contemporary Rhythm and Blues), hip hop and rap music being identified as the most favourite styles. Another aspect that emerged was that participants were frequently doing other things whilst listening. With regard to playing music, an unexpectedly large proportion of the participants (78%) indicated that they had had lessons on one or more instruments (or voice), although the extent of such learning showed wide variation. For the Music participants, all were learning at least one instrument, and for the non-Music participants only up to around 15% were likely to be continuing lessons on an instrument. In the area of creating music, around 50 per cent of the total number of participants make up their own music. As would be expected a large proportion (nearly 70%) of the Music participants make up their own music, but a surprising finding was that around 35% of the non-Music participants also make up their own music. Whilst the use of music technology may account for some of

.

this activity, it was not necessarily the case that music technology was the predominant means of creating music.

Research Question 2: What are some of the attributions for success identified by the participants in this study?

Responses to the questions about the reasons for doing well in school subjects or other pursuits from Section A of the Survey (see Section 5.2) provide some insights into the beliefs about the reasons for achieving. An unexpected finding was the large proportion of responses which suggested that enjoyment, or enjoyment in combination with other factors such as effort and ability, featured as an important part of doing well, whether it was for school subjects or for various other pursuits. Another interesting aspect was that participants were more likely to attribute effort when outlining their reasons for doing well in various pursuits, but less likely to do so for school subjects. In other words, participants were less likely to believe that effort contributed to doing well in school subjects. There were differences in the attributions for male and female participants, with females more likely than males to attribute achievement to effort in school subjects, whereas males were much more likely to attribute achievement to effort for various pursuits rather than for school subjects. Whilst enjoyment still featured as an important attribution for various pursuits, it was less so as compared to the attribution of enjoyment for doing well in school subjects. The data imply that participants were more likely to invest more effort into other pursuits as compared to school subjects.

Research Question 3: To what extent do self-perceptions of the participants in this study relate to academic achievement?

The area of self-perception is very complex and difficult to measure, but Rosenberg's Self-esteem Scale and Chan's Perceived Competence Scale have added some measurable dimensions. It should be noted that there are strong correlations between the Rosenberg Self-esteem Scale and each of the Perceived Competence sub-scales (see Table 19), and as mentioned earlier (see Section 5.4), the four sub-scales of

.

the Perceived Competence Scale are strongly correlated. The Cognitive sub-scale of the Perceived Competence Scale shows a strong correlation with academic achievement (.393, $p<.01$) which supports the idea of the importance of self-beliefs in achievement. Similar relationships between cognitive perceived competence and academic achievement are evident when analysed according to gender (see Table 20) or whether Music is being done as a school subject (see Table 21). The correlation between physical perceived competence and academic achievement (-.143, $p<.05$) reflects the relationship that those with higher physical perceived competence tended to have lower academic achievement. When considering academic achievement and self-esteem, there is no significant relationship evident, except when the sub-group of males is considered (.184, $p<.05$). This correlation between male self-esteem and male academic achievement indicates the male participants' higher self-esteem scores had a similar distribution to that of their lower academic achievement scores.

Table 19: Pearson correlation coefficients for the Rosenberg self-esteem scale, the Chan perceived competence sub-scales and academic achievement, all participants (N=282).

	Rosenberg SES	Academic achievement
Rosenberg SES	1	.045
Perceived Competence – Cognitive	.278**	.393**
Perceived Competence – Social	.416**	.063
Perceived Competence – Physical	.328**	-.143*
Perceived Competence – General	.574**	.003
Academic achievement	.045	1

** Significant at the 0.01 level.
* Significant at the 0.05 level.

.

Table 20: Pearson correlation coefficients for the Rosenberg self-esteem scale, the Chan perceived competence sub-scales and academic achievement, males and females.

	Rosenberg SES		Academic achievement	
	Males (N=145)	Females (N=137)	Males (N=145)	Females (N=137)
Rosenberg SES	1	1	.184*	.098
Perceived Competence – Cognitive	.215**	.385**	.382**	.441**
Perceived Competence – Social	.475**	.462**	.026	.016
Perceived Competence – Physical	.254**	.411**	-.160	-.076
Perceived Competence – General	.521**	.614**	.043	.065
Academic achievement	.184*	.098	1	1

** Significant at the 0.01 level.
* Significant at the 0.05 level.

Table 21: Pearson correlation coefficients for the Rosenberg self-esteem scale, the Chan perceived competence sub-scales and academic achievement, Music and non-Music participants.

	Rosenberg SES		Academic achievement	
	Music (N=124)	Non-Music (N=158)	Music (N=124)	Non-Music (N=158)
Rosenberg SES	1	1	.078	.014
Perceived Competence – Cognitive	.320**	.265**	.466**	.251**
Perceived Competence – Social	.345**	.467**	.135	.034
Perceived Competence – Physical	.249**	.369**	-.076	-.188*
Perceived Competence – General	.589**	.567**	.043	-.053
Academic achievement	.014	.078	1	1

** Significant at the 0.01 level.
* Significant at the 0.05 level.

.

Research Question 4: To what extent do self-perceptions of the participants in this study relate to musical involvement?

There are no particular relationships that are evident between the various aspects of self-perception measured here and the musical involvement of the participants. Independent samples t-tests for Music and non-Music participants showed that the only aspect of significance was the physical sub-scale of the PCS where $t = -2.300$, that is, Music participants tended to have a lower perceived competence for the physical sub-scale. Analyses using various types of musical involvement, such as the number of instruments played, participation in the Primary Schools Music Festival, participation in instrumental or vocal ensembles were also carried out and likewise did not reveal any strong relationships.

Research Question 5: What is the strength of the relationships between musical involvement, self-concept and academic achievement for the participants in this study?

In general, the data here have shown that there is a significant relationship between musical involvement and academic achievement. Independent samples t-tests were carried out for academic achievement and various types of musical involvement, such as whether participants were taking Music as a school subject, whether they had taken lessons on one or more instruments (or voice), whether they had taken part in the Primary Schools' Music Festival, or whether they sang in any ensembles. For each type of musical involvement, the t-value was significant (see Table 22). Whilst there was some significance in the relationship between the cognitive sub-scale of the PCS and academic achievement (see Research Question 3), there were no particularly strong relationships between any of the types of musical involvement and the various self aspects being measured.

.

Table 22: Significant t-values for comparing types of musical involvement and academic achievement.

Type of musical involvement	t-value	significance
Music as a school subject	2.729	.007
One or more instruments learned	2.663	.008
Prior involvement in Primary Schools Music Festival	3.333	.001
Sing in an ensemble	2.400	.017

Research Question 6: What are the attitudes of participants in this study towards learning music?

Attitudes towards learning music by the participants can be found through some of the data collected in Section B of the Survey (see earlier Section 5.3 for detailed discussion), particularly with the questions about the most and least liked aspects of Music as a school subject and of learning a musical instrument. With regard to Music as a school subject, it is clear that taking part in ensemble playing as a part of classroom Music is the most liked aspect, while music theory is the least liked aspect. The most liked aspect of learning a musical instrument was the sense of achievement as well as the fun and enjoyment associated with playing an instrument, while the least liked aspect was, not surprisingly, practice.

6.2 General discussion of results

It was evident that participants rated Physical Education as the subject in which they achieved the best, and that, besides school subjects, physical activities such as sport were most frequently viewed as being aspects in which they also achieved well. The high incidence of such opinions about physical activity suggests that this is likely to be an important area of perceived competence which can therefore contribute to general self-concept. It suggests that Physical Education is an important curriculum area, not only for the desirable aspects associated with physical fitness, but with providing an avenue for perceiving competence. It also suggests that those who may be physically

.

challenged (for example, through obesity or poor coordination), may experience difficulties with physical self-concept, which can have an impact on other facets of general self-perception and therefore well-being. Individuals need to find areas in which they can perceive they are competent, and for many this is likely to be in a physically based area. After physically based activities, the next most frequent type of activity in which participants believed they achieved well was music-related activity. On Chan's Perceived Competence Scale, the Social sub-scale scored the highest, with the Physical sub-scale being second highest, while the Cognitive sub-scale was lowest. The Social sub-scale was largely concerned with interactions with peers, and the Cognitive sub-scale related to perceptions about school work. Physical Education as a school subject and sporting activities inherently involve peers and therefore have a strong social element. It was interesting that the Music participants had a lower perceived competence for the physical sub-scale, which perhaps suggests that Music may be helping to prop up a sense of deficient physical perceived competence.

The reasons given for achievement in either school subjects or in other pursuits showed that the broad reason of enjoyment was the most frequent reason given. Enjoyment in relation to learning embraces a number of aspects, of which some sense of achievement in an area of interest (which implies that the area is liked, is pleasing) seems to be underlying it. Enjoyment, however, implies much more than fun. The term 'fun' implies pleasure which

> can occur with little or no conscious effort; [however] enjoyment cannot. Pleasure can be stimulated electrically and chemically in the brain; enjoyment cannot. Enjoyment results not from satisfying basic biological and social needs but from moving forward in psychological growth and complexity. … Any form of intentional action to which there is a corresponding form of know-how provides the basis for ordering consciousness and experiencing enjoyment. Enjoyment is not something that just happens; enjoyment is something that people make happen as a result of their efforts to meet the demands of something that they themselves deem a challenge. (Elliott, 1995, p. 115)

Whilst enjoyment may indeed be an outcome of, rather than a reason for, achievement, it nevertheless highlights that the aspect of enjoyment was perceived to go hand in hand with achievement. Enjoyment as a reason featured for both school subjects and other pursuits in the Survey, although it was mentioned more frequently in relation to school subjects. This seems to suggest that enjoyment is a factor in achieving, therefore it

.

raises the question: if enjoyment is increased, is achievement likely to increase as well? This is believed to be the case at Mount Gambier High School, a large country school in the south-eastern area of South Australia. A report (Salter, 2005) in Adelaide's *The Advertiser* newspaper described how Mount Gambier High School adopted a policy of trying to ensure that students' school experiences were enjoyable and successful, and, over a period of around seven years, academic achievement as shown by Year 12 results was shown to have increased markedly. The newspaper's Editorial (Mansell, 2005) stated in part: "at Mount Gambier High School, students have been encouraged to enjoy themselves – and the academic results have been outstanding. …The results are too startling to ignore … [and] should be the subject of deeper research by the Education Department" (p. 16).

When looking at the reasons given for achievement in school subjects and in other pursuits it was apparent that, for other pursuits, the attribution of effort was more prominent. With other pursuits, it is reasonable to expect that participants would have quite a degree of choice in whether or not to undertake the pursuit, and the combination of choice along with effort attribution could contribute to the sense of achievement with the pursuit. There is widespread support in the literature for the desirability of attributing effort rather than ability in achievement, and that is what was occurring here more in relation to other pursuits rather than school subjects. It may be helpful if the effort attribution could more readily be applied to school subjects, just as it is in other pursuits.

With regard to musical activities, it was not surprising that listening to music featured as an area of great interest. The reported levels of listening, such as 'very often' and 'whenever I can', reflect the popularity of listening to music, as evident in various other studies (Boal-Palheiros & Hargreaves, 2001; Fitzgerald et al., 1995; Hargreaves & Marshall, 2003; Ivaldi & O'Neill, 2002; Lamont, Hargreaves, Marshall & Tarrant, 2003; North, Hargreaves & O'Neill, 2000; Roberts and Foehr, 2004; Schwartz & Fouts, 2003; Zillman & Gan, 1997). There was some difference in the levels of listening between males and females, with females reporting higher frequency of listening and greater estimated number of hours per week spent listening to music. Females also reported higher degrees of knowing the lyrics of songs, which seems to match the reported higher levels of listening. With regard to music listening, it is

.

apparent that doing other tasks while listening was very common. The North, Hargreaves and Hargreaves (2004) study also found that "music listening was rarely the main task in which participants were engaged … [and] that people consciously and actively use music as a resource in everyday life" (p. 74). Even though doing other things while listening was common, lyrics were reported to be well known. This suggests that even background listening can result in knowing the music (which is well recognised by commercial advertisers) which may have application in music classes. This confirms the suggestion by Hallam (2006a) with regard to the importance of the "incidental learning that can occur from just hearing the music" (p. 57). The data collected about listening preferences indicated, perhaps unsurprisingly, that the influence of commercial radio and television is very strong, with the American styles of contemporary R&B, hip hop and rap being most popular with the Survey participants from metropolitan Adelaide.

The incidence of learning to play a musical instrument was unexpectedly very high (around 78% of participants), although the length of time learning could have been very variable, ranging from just a few lessons to five or more years of learning an instrument. The North et al. (2000) study indicated that 69.6% of their respondents had learned an instrument, with 17.8% continuing to play an instrument, and 51.7% having played an instrument in the past but since given up. In the present study, the Music participants (44%) were continuing with instrumental learning, and around 15% of non-Music participants were also continuing to learn an instrument, which gives a quite high continuing rate of around 59% for all participants. This compares to 17.8% continuing to learn instruments in the North at al. (2000) study, while the Lamont et al. (2003) study found that approximately 30% of students were learning an instrument outside school, although this figure includes those who are teaching themselves. In the present study, it would appear that learning an instrument appears to have been valued by the majority of parents of participants, as providing lessons not only has financial implications but also requires the investment of time and support. Aside from the large proportion of participants who had had instrumental lessons, the proportion of participants who had learned two or more instruments was surprisingly high (around 45%). It would appear that for many who learned two or more instruments, it was likely that the second (or third) instrument would have commenced after discontinuing the first instrument, rather than being learned concurrently. There seems to have been a

.

perception that transferring to a different instrument may have been easier than persevering with the same instrument. It was also more likely for females than males to be learning more than one instrument.

The frequency of learning to play an instrument through being self-taught or taught by a friend was around 31% of participants, and this is in addition to having lessons from an instrumental teacher. This type of informal learning is somewhat higher than anticipated. The playing of instruments by other family members appears to be related to whether or not Music was being taken as a school subject. More than half of the non-Music participants in the study (56%) indicated that no family member plays a musical instrument at home, while for Music participants only 27% reported that no family member plays an instrument at home. Lamont et al. (2003) reported that around half of the participants (in Years 6-9) in their study who were learning an instrument were being self-taught, and pointed out "the importance of other family members in facilitating and encouraging this kind of musical activity" (p. 238).

Data collected about attitudes to learning an instrument showed some differences between males and females regarding the most liked aspects of learning to play an instrument. Females were more likely to identify the opportunity to have a sense of achievement as the best aspect, while males were more likely to identify the enjoyment and fun of learning an instrument. The need to practice was clearly the least liked aspect of learning an instrument, with the amount of time required for practice and the difficulty and frustration of learning an instrument contributing. Reasons given for ceasing instrumental lessons were most frequently expressed as feelings of boredom, and this was more prevalent for males than females. This suggests that the level of challenge was not optimally suited to the level of expertise of individuals. Boredom is indicative of a high level of expertise and a low level of challenge (see Figure 8, Elliott's graph of Musicianship x Musical Challenge), and this suggests that participants who found instrumental learning to be boring were not being sufficiently challenged. Another interpretation could be that by saying that learning an instrument is boring is a way of 'saving face', that is, it deflects the reason from oneself or a sense that one is not competent. The most frequent reason given by females for ceasing lessons was that learning an instrument was no longer enjoyable which suggests too that the level of challenge and expertise was not optimally matched.

.

There was a strong association between participants who played instruments in music classes (which is likely to have been in primary school or in compulsory Year 8 General Music classes) and whether Music was being taken as a Year 9 or 10 elective subject in high school. This suggests that access to playing instruments in general music classes, prior to having to decide whether or not to take Music as an elective subject, may be a factor in whether or not Music is chosen as an elective subject. It also appears that such class instrumental playing is best undertaken on several instruments (for example, keyboard, recorder, guitar or percussion) rather than being restricted to just one instrument in order to increase the chance of Music being chosen as an elective subject. There was also a strong association between participation in the Primary Schools' Music Festival, and choosing Music as an elective subject.

Attitudes towards Music as a school subject indicated that being able to play in ensembles during Music classes was the most liked aspect. This is similar to the finding from Lamont et al. (2003) who found that playing instruments and making up music were the most liked aspects, and that "attitudes to musical activities could change rapidly depending on what was provided" (p. 235). Hargreaves and Marshall (2003) also reported that playing musical instruments and singing were the most popular activities in their study. Playing instruments as part of class ensemble activity provides the opportunity to work with peers, thus providing a social element which appears to be highly valued. The least liked aspect about Music as a school subject involved music theory, which raises questions as to why music theory rates so lowly. Some reasons could be the teaching methods involving music theory, where it is common practice to have students completing numerous (some would say endless) written exercises which appear to have little relevance or connection to music making, and where the process of audiation – mentally hearing the written symbols - is not emphasised (Stowasser, 1995). In the Lamont et al. (2003) study, it was found that "the most consistently disliked aspect of class music was learning abstract facts about music and musicians" (p. 235), which also incorporates music theory. There is plenty of scope within music theory to develop teaching methods which seek to maximise practical involvement, for example, through the use of keyboards which are often readily available, or through other creative tasks, such as small group composition tasks which enable the practical application of theoretical concepts and social support in the learning process. Teachers

.

need to be actively seeking to make classes as enjoyable as possible, such as by recognising students' inherent interest in music, allowing for students to have some choice in the process, along with providing activities which involve social elements (such as group music-making). The use of music technology can be a vehicle for developing and supporting music theory, where software involving theory games and music notation can be used. If teachers can increase enjoyment levels of students then students may be more likely to invest effort in the subject or activity.

The aspect of participants creating their own music produced a surprising result, with around half of the total number (which includes both Music and non-Music participants) indicating that they do make up their own music. This is similar to the findings from Odam's (2002) research where around 35 per cent of the students at Key Stage 3 (and rising to 53 per cent at Key Stage 4) reported that they composed on their own outside school for enjoyment. This suggests that music can be an accessible outlet for creativity and self-expression, which is likely to create intrinsic interest in music. With the advances in technology, the possibilities for creating music are becoming not only more accessible, but provide a richer palette of sound with which to experiment without impediments relating to instrumental technique (Webster, 1994). It also emphasises the importance of including opportunities for creating music, through improvising and composing, in Music as a school subject, as it can build on students' inherent interest in creating music and has obvious benefits for other aspects of music learning.

The results from the Rosenberg Self-esteem Scale did not indicate any particular associations with the musical involvement parameters in the Survey. The mean self-esteem score for the females was lower than for the males but this was not surprising and is similar to findings in other studies (Clay, Vignoles, & Dittmar, 2005; Malone, 1996; Martinez & Dukes, 1991). The cognitive, social, physical and general sub-scales of Chan's Perceived Competence Scale provided some insights into these different areas. The social perceived competence sub-scale had the highest mean score of the four sub-scales, which relates to perceptions about interactions and friendships with peers. The cognitive perceived competence sub-scale had the lowest mean score, and suggests that the area of academic achievement was viewed as a less competent area as compared to the other areas, in particular the social sub-scale. The Music participants

.

displayed higher mean scores for the cognitive sub-scale, but the social and physical sub-scales were lower. The non-Music participants had a much lower mean score for the cognitive sub-scales. Given the academic achievement results, where Music participants achieved significantly higher than non-Music participants, the perceived competence sub-scale reflects the literature on self-efficacy, as the Music participants had higher cognitive competency beliefs. However, when the male and female mean scores for the perceived competence sub-scale are compared, there is less difference, even though the academic achievement of the female participants was very much higher than the males.

The Survey was designed to be undertaken by both Music and non-Music participants to enable comparisons between the two groups, particularly for the aspects of academic achievement and self-concept. With regard to the level of academic achievement, it was clear from the data that the Music participants achieved significantly higher academic results than the non-Music participants. For the measures of self-esteem and perceived competence, there were no significant differences between the two groups, except in the area of physical perceived competence, which was lower for Music participants. In collating and analysing the data, it became apparent that comparisons on the basis of gender revealed much more striking differences, with females showing a significantly much higher level of academic achievement, and a slightly lower, yet significant, level of self-esteem. Females were more likely to attribute achievement to effort in both school subjects and in other pursuits. Exploration of the music backgrounds of participants revealed that females learned more musical instruments than males, were more likely to participate in vocal ensembles, were more likely to have participated in the Primary Schools' Music Festival, and were more likely to spend more time listening to music. The female participants were thus more likely to have a richer and more diverse background of musical involvement. When looking at the female Music participants, it was evident that they recorded the highest level of academic achievement of any sub-group. Conversely, the male non-Music participants recorded the lowest level of academic achievement. A simple diagrammatic representation which summarises the findings, with enjoyment being central to self-concept, motivation and achievement, is provided in Figure 47.

.
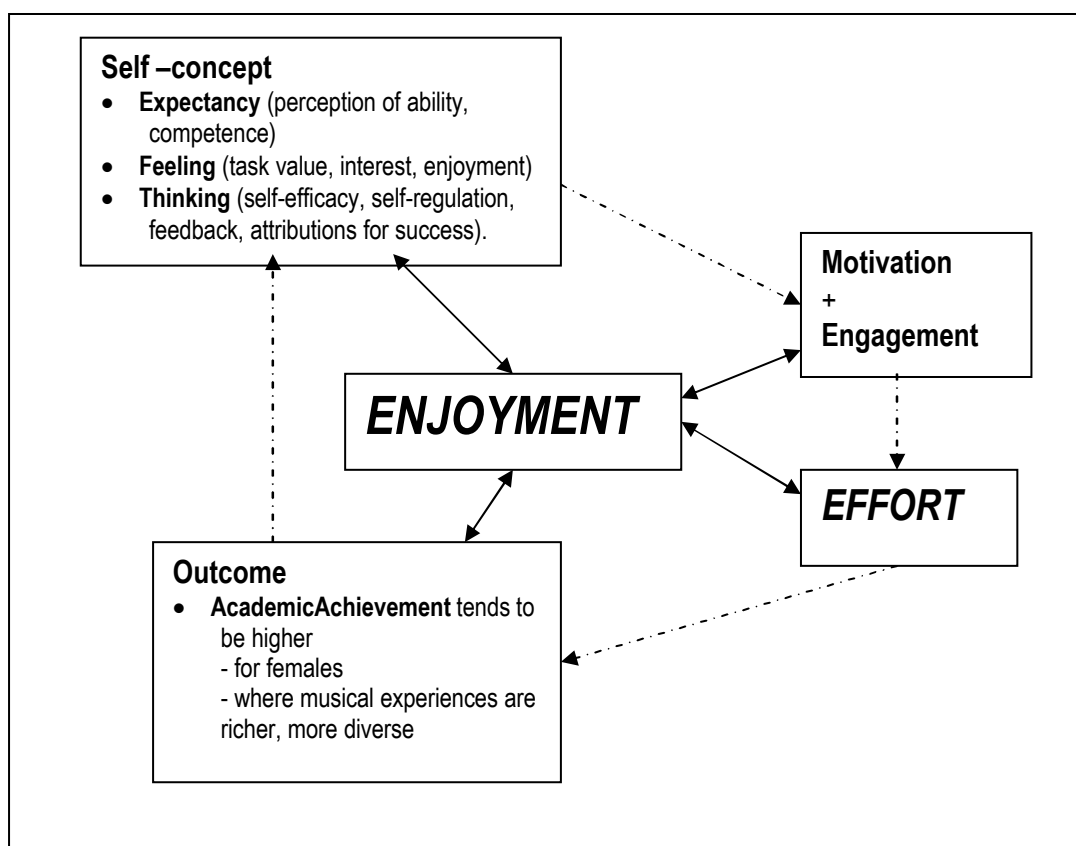
Figure 47. Summary of findings.

In summary, the data collected provide insights into the participants' beliefs about their reasons for achievement, along with the extent of their musical experiences, self-esteem, perceived competence and academic achievement. The specific research questions have been addressed, and in addition the data contribute to a number of related aspects. These include the role of physical perceived competence and the notion of enjoyment as an attribution, as well as factors that may affect studying Music in high school and attitudes towards learning a musical instrument.

Chapter 7
CONCLUSIONS

7.1 Introduction

This research has investigated a diverse range of aspects related to musical experiences, self-concept and academic achievement. Within the aspect of musical experiences, elements pertaining to music outside of school, as well as Music as a school subject and learning to play a musical instrument, have been explored. The aspect of self-concept is extremely complex, and the role of self-perceptions in any human endeavour, while widely recognised as being crucial to achievement, is nevertheless an elusive aspect which is difficult to pin down. Academic achievement is more readily measurable, and the attributions for doing well in school subjects or in other pursuits provide some interesting insights. The conclusions that can be drawn from the investigation, based on the review of literature and the data collected via the Survey, have implications for learning in general, and for specific music learning.

7.2 Conclusions about learning in general

The identification of enjoyment as a key factor in achieving suggests that there needs to be more recognition of enjoyment as an important part of the learning process by high school teachers. Enjoyment is likely to be experienced when there are optimal challenges, that is, the level of challenge matches the level of expertise thus enabling a sense of achievement. If students have more opportunities where they can experience a sense of achievement, and hence enjoyment, they are more likely to continue to apply effort. Another factor in enjoyment is that of interest, and it is here where teachers may need to incorporate strategies which are designed to create interest and thereby develop intrinsic motivation. Interest embraces much more than a superficial liking for a topic or activity. Drawing on Deci and Ryan's self-determination theory, interest can be generated when students perceive they can be competent through optimal challenges, when they can relate to the topic or activity, and when they have some sense of control over the process in which they are involved.

.

Encouraging students to develop an effort attribution rather than an ability attribution can be another means of influencing motivation to learn. Likewise, beliefs about one's ability can impact upon learning, and developing an incremental view of ability (which is that ability can be changed through effort) can help students to develop a tendency towards effort attribution. The opinions of teachers and parents can be influential in students developing such views about their abilities. Such beliefs are less receptive to change as students move through the primary and into the high school years. Students' beliefs about their abilities develop as a result of the experiences which they have and the opinions of others, and sometimes these beliefs can generate a mindset which closes off their willingness to pursue an area, even though there may be nothing inherently lacking with regard to their ability. Students with an incremental view of ability are likely to seek challenges, apply effort, and to persevere in the face of difficulty (Dweck, 2000). It is also desirable that students develop strategies for self-regulation, which can provide functional ways of supporting them as they apply effort and persist with tasks. Such strategies include goal setting, attention to the task, time management, the setting up of a suitable environment, self-evaluation and seeking assistance (Zimmerman & Katsantas, 2005). Developing an awareness of these aspects of self-concept, that is, effort attribution, incremental view of ability, and strategies for self-regulation, is an important part of personal development and therefore should be included within schooling.

The higher academic achievement of the Music participants, and, even more so, by the female participants, raises questions about what are the characteristics of Music students (and females) that may contribute to their higher academic achievement. As outlined by Demorest and Morrison (2000), music (and arts) study is a characteristic, rather than a cause, of academic success. Fitzpatrick (2006) found that students who went on to learn instruments during high school demonstrated higher scores on tests of academic ability, but these tests were carried out even before they began to learn an instrument. When one considers the characteristics of the Music participants, and the female participants, it would appear that they are more likely to use effort attributions which can therefore impact upon their achievement. Learning to play a musical instrument, which was undertaken by all of the Music participants, and around 80% of the female participants, necessitates the use of self-regulatory strategies, such as, organising practice time and an environment for practice, and having goals for the next

.

lesson. Such experiences through learning to play a musical instrument may impact on other areas of learning. Learning to play a musical instrument may also reflect a supportive home environment. Such support could extend to other areas, such as homework, which could also influence academic achievement.

There is wide recognition for the essential role of music in early childhood and its influence in the development of language and memory (Bridges, 1994). The use of music as a tool for learning tends to diminish throughout the primary years of schooling, with minimal use of music in other subject areas in the high school years. Given the widespread activity of listening to music by adolescents, and the high degree to which the lyrics of songs and information about the performers are known, the use of music as a tool for memorising could be more widely used. For example, given the popularity of rap music, students could be encouraged to create raps about topics being studied, and in particular, about topics which require memorisation. Using raps in this way relates to students and may help to create interest in a topic.

7.3 Conclusions about music learning

The recognition of enjoyment as an important part of the learning process applies equally to music learning. This endorses the view put forward by Cox and Pitts (2003) that "enjoyment is a vital but somewhat elusive criterion in shaping effective and engaging experiences of music education, … [and that] enjoyment is critical to music education" (p. 227). Music teachers need to seek ways to build on inherent interest in music, and to create interest, particularly when they may be dealing with musical styles that may not be preferred by the students. Providing opportunities for competence through optimal challenges, as well as incorporating relatedness and autonomy, will serve to enhance potential enjoyment. Class music making abounds with such opportunities. For example, ensemble playing can incorporate varying degrees of difficulty yet still enable active involvement and social interaction with peers. Small-group composition tasks allow opportunities for self-expression and collaborative work with peers. Making use of the types of informal learning practices used by popular musicians has the potential to provide enjoyment, as students are motivated to learn using aural means through active processes in collaboration with peers. According to

.

Hargreaves and Marshall (2003), students' "engagement, and level of motivation, depends on the level of *ownership* of their music making: on their autonomy within it, and the extent to which they can exert control" (p. 272).

Encouraging students to attribute musical achievement to effort rather than ability is desirable. Unfortunately, music is perceived to be an area where traditionally it has been mistakenly viewed as dependent on innate ability. McPherson (2007) suggests that

> the general public view of musical achievement as innate rather than environmentally determined demonstrates a serious lack of understanding about the nature of musical potential. This view is in stark contrast to research in music and psychology, which places a much greater emphasis on environmental factors in developing children's talent. … Great musicians consistently put a great deal of effort and practice into developing their craft. (pp. 21-22)

Children need to be encouraged to have an incremental view of their musical ability, otherwise they are likely to not even 'have a go'. This can be accomplished if children are encouraged to think of music as something that everyone can do, rather than as a specialised activity. "Self-identity is an inextricable part of the process of development itself: thinking of oneself as a musician can be an important step on the road to becoming one" (Hargreaves & Marshall, 2003, p. 272). Children need to develop a positive music self-concept which is likely to occur when they have opportunities for active music making using various instruments in classes. Developing such attitudes needs to occur early on, such as in junior primary and primary, otherwise negative views are more likely to develop and set up barriers to potentially rewarding musical experiences. Hargreaves and Marshall (2003, p. 265) suggest that "children actively *construct* their own musical identities which can determine skill, confidence and achievement". This directly impacts upon the enjoyment likely to be experienced and therefore the motivation to persist.

Within music classes, opportunities abound for learning experiences based on interactions with others, thus reflecting the view of social constructivist learning theory. Although the areas of listening, composing and performing can be highly individual activities, they also lend themselves to shared classroom experiences in different ways. Listening can be a shared experience, for example, when the whole class listens to the same music collectively. Listening can also be an individual, personalised activity

.

(assuming access to individual playback equipment) which can later be shared and discussed with classmates. Small group composing activities can provide support for the collaborative development of creative ideas, and may generate individual interest in further composing activity. Playing music in ensembles offers scope for varying levels of skill while providing the medium for working collectively on projects with a common goal, that is, playing pieces. If students have some say in the repertoire being played and are encouraged to contribute by thinking critically about the sound and how to improve it, then this contributes to the aspects of relatedness and autonomy. Having an audience as a goal, whether it is to visit a residence for elderly people, to invite parents to a class performance, or to burn a CD of the school term's pieces, can enhance motivation and generate a sense of purpose for the class ensemble.

New technologies have the potential to enhance learning, and within music, there are many opportunities to incorporate new technologies in all facets of music learning. Even though music technology is coming to be viewed as an area of study within music (just like clarinet or composition), there are many aspects of music technology which can be a vehicle to enhance all facets of music learning. In particular, digital recording and sequencing software, notation software, and software to support the traditional areas of theory, aural work, history and listening, all have the potential to facilitate music learning. Most of these incorporate the possibility of working directly with sound, even though technical facility on an instrument may be lacking. This is evident with digital recording and sequencing software, nevertheless, it provides access to making music which may otherwise not be available and to providing an alternative means to developing a sense of competence in music.

7.4 Limitations of the research

In considering the limitations of this study, there are various levels to consider. The method of data collection via the *Survey of Musical Experiences and Self-concept* was a relatively efficient way of collecting responses, and provided a 'snapshot' across all of the areas. Such a method of data collection relies on participants to give truthful responses, and although the Survey was administered by teachers at each of the schools, the actual conditions in each classroom were not known; for example, whether the

.

Surveys were completed in silence or whether discussion was allowed. Having the researcher to either administer the Survey or to be present while it was administered by the teachers may have ensured more consistency, although this would have caused logistical problems for the researcher if the Survey was timetabled at a specific time in several different classrooms simultaneously. Having specific guidelines for teachers administering the Survey, such as, that participants respond individually and without discussion, could be helpful. Although the administration conditions are mentioned here, the raw data in this study does not appear to show any obvious signs of individuals discussing responses with each other. Surveys rely on self-reporting, and having follow-up structured interviews with a sample of participants could add another source of data and a means of confirming elements of the Survey. Having interviews with teachers could be another source of data collection.

Some limitations are evident in relation to the context of the study. The participants were drawn from three different government high schools, which enabled the analysis of data without the additional parameter of type of schooling (government or non-government) to be included. The three schools were selected on the basis of having at least two classroom music teachers and that Music was offered at Year 12 level. It may have been possible to increase the number of participating government schools to five or six, and therefore increase the size of the cohort of participants. Including both government and non-government schools, each with the minimum of two classroom music teachers and offering Year 12 Music, would add another dimension as data could be analysed based on the type of school. The context could also have been expanded by using a sample of schools from each state of Australia.

The overall concept of the study, as reflected in the *Survey of Musical Experiences and Self-concept,* included quite distinct areas, including the extent of involvement in various musical activities, attribution beliefs, self-esteem, perceived competence and academic achievement. However, the wide breadth of these areas may limit the depth in which they are each able to be explored. Within each of these distinct areas are various sub-groups which provide the next level of detail. The questions that were devised for the various types of musical activities generally provided clear responses and enabled useful data to be collated. Some of the questions could have been streamlined, such as, asking for the names of three favourite performers and three

.

favourite pieces of music could have been reduced to naming just one or two. Questions about learning to play a musical instrument could have more readily differentiated between learning for a short time (such as less than six months), and a more substantial period of time. Information could also have been sought about instrumental lessons, such as, whether they were in group lessons or individual lessons. The use of the SDQII (Marsh, 1999) instead of the Rosenberg Self-esteem Survey and the Chan Perceived Competence Scale would have enabled ready comparison with a growing bank of studies which have used the SDQII. The collection of academic results also had a 'snapshot' aspect, and this element of the data collection could have been strengthened by having access to student results for more than one assessment period; for example having both mid-year and end-of-year results could provide a clearer view of achievement.

7.5 Directions for future research

Rather than a survey which covers several distinct areas (musical activities, attribution beliefs, self-esteem, perceived competence and academic achievement) and is designed for both Music and non-Music participants, a more streamlined survey, focussing on musical experiences of listening, performing and creating, along with reasons for achieving, could be developed for a cohort of Music participants. This could be supplemented with a sample of teacher and student structured interviews thereby adding an additional source of data. Such a survey could be carried out across a range of schools in Australia (and perhaps beyond), and could contribute to gaining clearer perspectives about student attitudes to various facets of music learning.

Although the issue of gender differences was not originally envisaged as a main part of the research, there are a number of aspects where these became apparent, such as with academic achievement and with attribution beliefs. While similar trends are evident for Music as compared to non-Music participants (although to a less marked degree), identifying the characteristics of females and Music students which contribute to higher academic achievement is worthy of further investigation.

.

More detailed exploration about why music listening is important could be undertaken. It is clear that certain contemporary popular music styles (in this case, namely contemporary R&B, hip hop and rap) featured prominently in the music being listened to most frequently. An outstanding aspect of contemporary popular music styles is the reliance on lyrics and an underlying driving beat. The use of lyrics as a means of engaging students in learning (not just in Music) lends itself to future research, given the large proportion of students who relate to music in which the lyrics and rhythm are so prominent.

The aspect of enjoyment being perceived as a reason for achievement warrants further investigation, both through gathering more data from a wider sample on beliefs about reasons for success, and through investigating teaching and learning strategies which are designed to facilitate enjoyment. Such investigation would need to consider academic achievement, and would lend itself to longitudinal study. If there is evidence that the aspect of enjoyment contributes to academic achievement, there are considerable implications for teaching in general.

.

Appendix A

Constructivism and the SACSA Framework

Appendix B

Boston Globe article by Richard A. Knox:

Music makes you smarter, **October 14, 1993, p. 3.**

Appendix C

Selected music research reports included in the *Critical Links* report (Deasy, 2002)

.

The *Critical Links* report (Deasy, 2002) compiled research for each art form, with each research study reportedly demonstrating a causal relationship between the art form and learning. There were 15 studies in the section on Music, including the following:

Bilhartz, T.D., Bruhn, R.A., & Olson, J.E. (2000). The effect of early music training on child cognitive development. *Journal of Applied Developmental Psychology*, *20*(4), pp. 615-636.

Costa-Giomi, E. (1999). The effects of three years of piano instruction on children's cognitive development. *Journal of Research in Music Education, 47*(3), pp.198-212.

Graziano, A.B., Peterson, M., & Shaw, G.L. (1999). Enhanced Learning of Proportional Math Through Music Training and Spatial-Temporal Training. *Neurological Research*, *21*, pp.139-152.

Hetland, L. (2000). Listening to Music Enhances Spatial-Temporal Reasoning: Evidence for the "Mozart Effect". *The Journal of Aesthetic Education*, *34*(3-4), pp. 105-148.

Hetland, L. (2000). Learning to Make Music Enhances Spatial Reasoning
The Journal of Aesthetic Education, *34*(3-4), pp. 179-238.

Rauscher, F.H. & Zupan, M.A. (2000). Classroom Keyboard Instruction Improves Kindergarten Children's Spatial-Temporal Performance: A Field Experiment. *Early Childhood Research Quarterly*, *15(*2), pp. 215-228.

Rauscher, F.H., Shaw, G.L., Levine, L.J., Wright, E.L., Dennis, W.R., & Newcomb, R.L. (1997). Music training causes long-term enhancement of preschool children's spatial-temporal reasoning. *Neurological Research*, *19*(1), pp. 2-7.

The Music section of the *Critical Links* report concludes with an Essay by Larry Scripp entitled: An Overview of Research on Music and Learning (pp. 132-136).

Reference:

Deasy, R.J. (Ed.). (2002). *Critical Links: Learning in the Arts and Student Academic and Social Development.* Washington, DC: Arts Education Partnership.

.

Appendix D

Extract from Harland et al. (2000) report entitled:

Arts education in secondary schools: effects and effectiveness

Appendix E

Survey of Musical Experiences and Self-concept

See overleaf.

.

SURVEY OF MUSICAL EXPERIENCES
AND SELF-CONCEPT

Name: _____   **Class**: _____

Please indicate: ❑ Male   ❑ Female

Note: Your answers will be treated confidentially and you will not be identified. Your name is required so that the information you provide can be matched with your school results.

This Survey consists of 4 sections:

		Page Number
A:	Background Information	1
B:	Musical Experiences (listening, playing, creating)	2
C:	Self-Esteem	7
D:	Perceived Competence	8

Please write your answers or tick the box as needed on this survey form.

A. BACKGROUND INFORMATION

1. What subjects are you currently doing at school? (please √)

❑ English   ❑ Mathematics   ❑ Science   ❑ Society &
Environment

❑ Music   ❑ Drama   ❑ Dance   ❑ Art

❑ P.E.   ❑ Home Economics   ❑ Technology   ❑ Language other
than English

❑ Other/s (please specify) _____

2. What subject/s are you best at? Why do you think that this is the case?

3. Name some things that you are good at doing (either at school or outside of school).

4. Why do you think you are good at these things?

.

5. In what country were your parents born: Mother _____   Father _____

6. Do you speak a language other than English at home?   ❑ Yes   ❑ No

      If yes, please state name of the language: _____

7. What occupation/s do your parents have?

      Mother _____   Father _____

8. Indicate the highest level of education reached by your parents:

      Mother: ❑ high school   ❑ TAFE course   ❑ university degree

      Father: ❑ high school   ❑ TAFE course   ❑ university degree

B. MUSICAL EXPERIENCES

(i) LISTENING TO MUSIC

1. Do you spend time listening to music?   ❑ Yes   ❑ No

2. I listen to music via: (you may tick more than 1 box)

    ❑   recordings (e.g. CD's, mini-disk)

    ❑   radio

    ❑   internet, MP3 files on computer

    ❑   video clips on TV

    ❑   live shows or concerts

    ❑   other (please specify) _____

3. Estimate how often you listen to music: (tick only **1** box)

    ❑   very often - whenever I can

    ❑   several times each day

    ❑   once a day

    ❑   a few times each week

    ❑   rarely

.

4. Estimate how many hours you listen to music in a typical week:

- ❑ less than 1 hour per week

- ❑ between 1-2 hours per week

- ❑ between 3-5 hours per week

- ❑ between 5-10 hours per week

- ❑ between 10-20 hours per week

- ❑ more than 20 hours per week

5. When you are listening to music, are you also doing other things (e.g. homework, computer games etc.)?

❑ usually ❑ sometimes ❑ occasionally ❑ never

6. Name some of your favourite styles of music.

7. Name up to 3 of your favourite performers that you enjoy listening to.

8. Name up to 3 of your favourite songs/pieces.

9. How well do you know the words of your favourite songs?

❑ Very well ❑ Mostly ❑ Some ❑ Not at all

10. Estimate how much money you have spent in total buying music (e.g. CD's etc.) over the last month:

- ❑ haven't bought any in the last month

- ❑ less than $10

- ❑ between $10 - $20

- ❑ between $20 -$50

- ❑ over $50

.

11. Do you listen to music mostly on your own, with friends, or with other family members?

on my own: ❑ mostly ❑ sometimes ❑ never

with friends: ❑ mostly ❑ sometimes ❑ never

with other family members: ❑ mostly ❑ sometimes ❑ never

(ii) PERFORMING MUSIC (i.e. playing an instrument, singing)

12. Have you ever had lessons to learn to play a musical instrument/voice ?

❑ Yes ❑ No

If no, please go to question 13 on the next page.

If yes, please summarise below the name of each instrument, length of time learning each   instrument and whether you are still learning each instrument :

Instrument (Name)	Length of time learning (years)	Still having lessons Yes/No

What do you like best about playing a musical instrument?

What do you like least about playing a musical instrument?

If you are still having lessons:

How many times a week do you usually practise? _____

About how long do you practise for at each practice session? _____

When practising, what do you spend the most time playing? (tick only one)

❑ scales ❑ studies ❑ favourite pieces

❑ new pieces ❑ improvising ❑ playing by ear

❑ other (please specify)_____

.

Have you ever done any music exams (e.g. AMEB)?   ❑ Yes   ❑ No

   If so, please indicate exam type, highest grade and result obtained for each instrument.

If you are not still having lessons, why did you stop?

Even if you have stopped having lessons, do you still play the instrument? Please describe.

13. Did you ever play musical instruments in primary or high school music classes?

❑ Yes   ❑ No

If yes, which instrument/s? (You may tick more than one if applicable)

❑ tuned percussion   ❑ untuned percussion
   (e.g. xylophone)   (e.g. triangle, woodblock)

❑ drums   ❑ recorder   ❑ keyboard   ❑ guitar

❑ other (specify) _____

14. Do you play any musical instruments that you have taught yourself or a friend has taught you?

If yes, please specify which instrument/s._____

15. Do any members of your family at home play musical instruments?

If yes, please specify family members and instrument/s. _____

16. Do you **play** in any ensembles/groups?   ❑ Yes   ❑ No

If yes, please specify: ❑ at school - type of ensemble

                       ❑ outside of school - type of ensemble

17. Do you **sing** in any ensembles/groups?   ❑ Yes   ❑ No

If yes, please specify: ❑ at school - type of ensemble

                       ❑ outside of school - type of ensemble

.

18. In primary school, did you participate in the Public Primary Schools Music Festival?

❑ Yes   ❑ No

19. Do you do Music as a school subject?   ❑ Yes   ❑ No
   If yes, what do you like most about Music as a subject?

   What do you like least about Music as a subject?

   In which aspects of Music do you do well? (You may tick more than 1 box):

❑ theory   ❑ practical   ❑ aural   ❑ history   ❑ composition   ❑ other (specify) _____

(iii) CREATING MUSIC (i.e. making up your own music)

20. Do you ever make up your own music?

❑ No (please go to Section C on the next page)   ❑ Yes

If yes, do you usually: ❑ only remember it in your head

❑ write it down

❑ remember it and write it down too

Please describe what you do when making up your own music. For example: what instrument/s you have composed for, how many pieces you have made up, how you go about making up your own music, etc.

21. Do you ever improvise music (make it up on the spot without trying to remember it exactly)?

❑ Yes   ❑ No

Any comments?

22. Do you ever use a sequencer or computer program to make up your own music?

❑ Yes   ❑ No

If so, please describe (e.g. software used, etc.):

.

C: SELF-ESTEEM

In this section, *Rosenberg's "Self-Esteem Scale" [SES] is being employed. This scale has been widely used in many parts of the world to measure individuals' levels of self-esteem.

* (Rosenberg, M. 1965. Society and the adolescent self-image. Princeton University Press. pp.17-18)

*Please indicate whether you strongly agree, agree, disagree, or strongly disagree with each of the following statements by ticking just **one** box for each statement.*

1) On the whole, I am satisfied with myself.

❏	❏	❏	❏
Strongly Agree	Agree	Disagree	Strongly Disagree

2) At times I think I am no good at all.

❏	❏	❏	❏
Strongly Agree	Agree	Disagree	Strongly Disagree

3) I feel that I have a number of good qualities.

❏	❏	❏	❏
Strongly Agree	Agree	Disagree	Strongly Disagree

4) I am able to do things as well as most other people.

❏	❏	❏	❏
Strongly Agree	Agree	Disagree	Strongly Disagree

5) I feel I do not have much to be proud of.

❏	❏	❏	❏
Strongly Agree	Agree	Disagree	Strongly Disagree

6) I certainly feel useless at times.

❏	❏	❏	❏
Strongly Agree	Agree	Disagree	Strongly Disagree

7) I feel that I am a person of worth, at least on an equal plane with others.

❏	❏	❏	❏
Strongly Agree	Agree	Disagree	Strongly Disagree

8) I wish I could have more respect for myself.

❏	❏	❏	❏
Strongly Agree	Agree	Disagree	Strongly Disagree

.

9) All in all, I am inclined to feel that I am a failure.

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

10) I take a positive attitude toward myself.

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

D: PERCEIVED COMPETENCE

In this section, Chan's (1993) Perceived Competence Scale is used.

This section measures what people think about how well they can do various things.
• *Following is a list of sentences which describe what students are like.*
• *Read each sentence carefully. There are two parts to each sentence.*
• *For each sentence, decide which part describes you best, the one on the left or the one on the right.*
• *Then, put a tick in the appropriate box to indicate whether that description is "really true for you" or "sort of true for you". .*
Only put ONE tick out of the 4 boxes for each sentence.

For example:

Really True For Me	*Sort of True For Me*			*Sort of True For Me*	*Really True For Me*
☐	☐	Some students hate vegetables **but**	Other students like vegetables	☐	☑

Here is a sample sentence for you to try:

Really True For Me	*Sort of True For Me*			*Sort of True For Me*	*Really True For Me*
☐	☐	Some students hate homework **but**	Other students like homework	☐	☐

Now, complete the following sentences in the same way.

.

	Really True For Me	*Sort of True For Me*				*Sort of True For Me*	*Really True For Me*
1	❏	❏	Some students find it difficult to do things with their classmates	**but**	Other students find it easy to do things with their classmates	❏	❏
2	❏	❏	Some students have trouble understanding what they read	**but**	Other students can understand what they read easily	❏	❏
3	❏	❏	Some students are always good at new games	**but**	Other students are never good at new games	❏	❏
4	❏	❏	Some students have trouble making friends	**but**	Other students find it easy to make new friends	❏	❏
5	❏	❏	Some students are happy the way they are	**but**	Other students are not happy the way they are	❏	❏
6	❏	❏	Some students are just as smart as their classmates	**but**	Other students are not as smart as their classmates	❏	❏

.

	Really True For Me	*Sort of True For Me*					*Sort of True For Me*	*Really True For Me*
7	❑	❑	Some students cannot do well at any sport	**but**	Some students can do well at all sports		❑	❑
8	❑	❑	Some students like school and enjoy going there	**but**	Other students dislike school and hate having to go there		❑	❑
9	❑	❑	Some students have few friends	**but**	Other students have lots of friends		❑	❑
10	❑	❑	Some students can never do things well	**but**	Other students can always do things well		❑	❑
11	❑	❑	Some students are good at school-work	**but**	Other students are not good at school-work		❑	❑
12	❑	❑	Some students are not easy to like	**but**	Other students are easy to like		❑	❑
13	❑	❑	Some students are good people	**but**	Other students are not good people		❑	❑

	Sort of True For Me	*Really True For Me*

.

Really True For Me	*Sort of True For Me*				*Sort of True For Me*	*Really True For Me*
14						
❑	❑	Some students are disliked by most of their classmates	**but**	Other students are liked by most of their classmates	❑	❑
15						
❑	❑	Some students prefer to play rather than watch sport	**but**	Other students prefer to watch sport rather than to play	❑	❑
16						
❑	❑	Some students are not important to their classmates	**but**	Other students are important to their classmates	❑	❑
17						
❑	❑	Some students are always sure they are doing the right thing	**but**	Other students are never sure if they are doing the right thing	❑	❑
18						
❑	❑	Some students are good enough at sport	**but**	Other students are not good enough at sport	❑	❑
19						
❑	❑	Some students have trouble finishing their schoolwork on time	**but**	Other students can always finish schoolwork quickly	❑	❑
20						
❑	❑	Some students are not popular with their classmates	**but**	Other students are popular with their classmates	❑	❑

Really True For Me	*Sort of True For Me*				*Sort of True For Me*	*Really True For Me*

.

Really True For Me	*Sort of True For Me*			*Sort of True For Me*	*Really True For Me*

21

❏	❏	Some students are always sure of themselves	**but**	Other students are never sure of themselves	❏	❏

22

❏	❏	Some students are not as good at sport as their classmates	**but**	Other students are better at sport than their classmates	❏	❏

23

❏	❏	Some students want to stay the way they are	**but**	Other students would like to change the way they are	❏	❏

24

❏	❏	Some students have a lot of trouble figuring out answers	**but**	Other students can always figure out answers easily	❏	❏

25

❏	❏	Some students always do badly at new activities	**but**	Other students always do well at new activities	❏	❏

26

❏	❏	Some students always always feel good about the way they act	**but**	Other students always feel bad about the way they act	❏	❏

27

❏	❏	Some students are never chosen first for games	**but**	Other students are always chosen first for games	❏	❏

28

❏	❏	Some students can remember things easily	**but**	Other students often forget what they learn	❏	❏

Thank you for completing this survey - Jenny Rosevear.

.

Appendix F

Information sheet and consent form for Survey participants

.

INFORMATION SHEET:
Music and self-concept research

Dear Student and Caregiver,

My name is Jennifer Rosevear and I am a Senior Lecturer at the Elder School of Music, University of Adelaide, where I am also currently undertaking a Ph.D. I am conducting research about the musical experiences and self-concept attitudes of adolescents in high schools in Adelaide.

The research project involves students in Year 9 or 10 filling out a "Survey of Musical Experiences and Self-Concept". This 12-page Survey comprises four sections:

        A: Background Information
        B: Musical Experiences (listening, playing, creating)
        C: Self-Esteem
        D: Perceived Competence

In **Sections A and B**, I am seeking information about each student's background and musical experiences. Even if students have never learned an instrument or taken music as a subject, I would like to find out about their music listening habits.
Section C uses the Rosenberg (1965) "Self-Esteem Scale", which is the most widely used scale for measuring self-esteem, particularly with teenagers. Self-esteem means how you feel about yourself.
Section D uses the Chan (1993) "Perceived Competence Scale" which measures what students think about how well they can do various things.

Another aspect of the Project involves academic achievement. Each student's Survey responses will be compared with their school results as per the most recent Report issued by the school.

Below I have answered some of the questions you may raise:
• *When will my child complete the Survey?*   In school time, while supervised by a teacher.
• *How long will the Survey take to complete?*   Around 30 minutes.
• *Will my child be identified?*   Although your child will be expected to write his/her name on the Survey form, this is only so that I will be able to match Survey responses with school results. Responses will be coded and all information gathered will be kept confidential and no student or school will be identified at any stage.
• *What if my child does not wish to take part?*   That's fine. Even if your child starts the survey and wishes to withdraw, that will be okay. Students can withdraw from the Survey at any time without prejudice.
• *How can we find out about the results of the project?* I will submit a copy of my Ph.D. thesis to the DETE Research Council Unit. I am doing this research part-time and I hope to complete the thesis before December, 2005.

This research has been approved by the Elder School of Music at the University of Adelaide, and the Department of Education, Training and Employment.
If you are prepared for your child to take part, a Consent Form is attached for you to sign. Should you require additional information regarding this research, please contact Jennifer Rosevear, 51 Beach Street, Grange, 5022, telephone 8303 3679 (w) or 8235 2659 (h).
Thank you for considering this request.

.

CONSENT FORM:

Music and self-concept research

I, _____ hereby consent to my child's involvement in the research project entitled "Music and self-concept research" being carried out by Jennifer Rosevear from the University of Adelaide.

I have read and understood the Information Sheet on the above project and understand that my child is being asked to complete the written "Survey of Musical Experiences and Self-Concept".

I understand that access to my child's last School Report is also required by the researcher.

I understand that my child may not directly benefit by taking part in this research.

I understand that while information gained in the study may be published, my child will not be identified and all individual information will remain confidential.

I understand that I can withdraw my child from the study at any stage up until the end of the collection of data.

I understand that there will be no payment for my child taking part in this study.

I am aware that I should retain a copy of the Information Sheet and Consent Form for future reference.

I consent to my child being involved in this project.

Signed:_____   Date: /   /

Relationship to child:_____

Name of child: _____   Home Class: _____

.

Bibliography

Abeles, H. F., Hoffer, C., & Klotman, R. H. (1984). *Foundations of music education.* New York: Schirmer.

Adelaide Festival of Arts. (2007). *History – how it started.* Retrieved December 21, 2007 from http://www.adelaidefestival.org.au/Content.aspx?p=78

Anderson, R. (2007). *Instrumental music program examination report.* Adelaide, SA: Department for Education and Children's Services.

Appleyard, B. (2002, September 21-22). Confidence trick. *The Australian Weekend Magazine,* 25-27.

Arnett, J. (1991). Heavy metal music and reckless behavior among adolescents. *Journal of Youth and Adolescence, 20*(6), 573-592.

Arnett, J. (1992). The soundtrack of recklessness: musical preferences among adolescents. *Journal of Adolescent Research, 7*(3)*,* 13-31.

Asmus, E. P. (1986). Student beliefs about the causes of success and failure in music: a study of achievement motivation. *Journal of Research in Music Education, 34*(4), 262-278.

Asmus, E. P. (1989). The effect of music teachers on students' motivation to achieve in music. *Canadian Music Educator, 30*, 14-21.

Austin, J. R. (1988). The effect of music contest format on self-concept, motivation, achievement, and attitude of elementary band students. *Journal of Research in Music Education, 36*(2), 95-107.

Austin, J., Renwick, J. & McPherson, G. E. (2006). Developing motivation. In G. E. McPherson (Ed.), *The child as musician* (pp. 213-237). Oxford: Oxford University Press.

Austin, J. R. & Vispoel, W. P. (1992). Motivation after failure in school music performance classes: the facilitative effects of strategy attributions. *Bulletin of the Council for Research in Music Education, 111,* 1-23.

Austin, J. R. & Vispoel, W. P. (1998). How American adolescents interpret success and failure in classroom music: relationships among attributional beliefs, self-concept and achievement. *Psychology of Music*, *26*(1), 26-45.

Austin, J. R. & Vispoel, W. P. (2000). Children's ability self-perceptions and interests: grade level, gender and race differences for music reading and math. In R. G. Craven & H. W. Marsh (Eds.), *Self-concept theory, research and practice: advances from the new millenium conference proceedings* (pp.133-142). Sydney: SELF Research Centre, University of Western Sydney.

.

Australian Bureau of Statistics (1997). *1220.0 Australian Standard Classification of Occupations (ASCO)* (2nd ed.). Retrieved 23 December, 2007 from http://www.abs.gov.au/AUSSTATS/abs@.nsf/Previousproducts/1220.0Contents 11997?opendocument&tabname=Summary&prodno=1220.0&issue=1997&num =&view=

Australian Bureau of Statistics (1998). *1232.0 Information paper. 1996 Census of population and housing. Link between first and second editions of Australian Standard Classification of Occupations (ASCO)*. Retrieved 23 December, 2007 from http://www.abs.gov.au/AUSSTATS/abs@.nsf/productsbyCatalogue/87FE26779 1E14F43CA2570AF003F52EE?OpenDocument

Australian Society for Music Education [ASME]. (1999). *Principles, policy and guidelines for music education*. Parkville, Victoria: ASME.

Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review, 84*, 191-215.

Bandura, A. (1986). *Social foundations of thought and action: a social cognitive theory*. Englewood Cliffs, N.J : Prentice-Hall

Bandura, A. (1989). Self-regulation of motivation and action through internal standards and goal systems. In L. A. Pervin (Ed.), *Goal concepts in personality and social psychology* (pp.19-85). Hillsdale, NJ: Lawrence Erlbaum Associates.

Bandura, A. (1997). *Self-efficacy: the exercise of control.* New York: Freeman.

Bangerter, A.& Heath, C. (2004). The Mozart effect: Tracking the evolution of a scientific legend. *British Journal of Social Psychology, 43*, 605–623.

Bannan, N. (2002). Developing vocal skills in the secondary classroom. In G. Spruce (Ed.), *Aspects of teaching secondary music* (pp. 106-120). London: RoutledgeFalmer.

Barry, N. H. & Hallam, S. (2002). Practice. In R. Parncutt & G. E. McPherson (Eds.), *The science and psychology of music performance* (pp. 151-165). Oxford: Oxford University Press.

Battle, J. (1981). *Culture-free self-esteem inventories for children and adults*. Chicago, IL: Special Child Publishers.

Baum, S., Owen, S., & Oreck, B. (1997). Transferring individual self-regulation processes from arts to academics. *Arts Education Policy Review, 98* (4), p. 32(1). Retrieved August 19, 2007, from http://find.galegroup.com.proxy. library.adelaide.edu.au/itx/start.do?prodId=AONE

Baumeister, R. F., & Vohs, K. D. (Eds.). (2004). *Handbook of self-regulation: research, theory, and applications*. New York: Guilford Press.

.

Beane, J. A. & Lipka, R. P. (1984). *Self-concept, self-esteem and the curriculum*. Boston: Allyn and Bacon.

Bessom, M., Tatarunis, A. & Forcucci, S. (1980). *Teaching music in today's secondary schools*. New York: Holt, Rinehart & Winston.

Blake, F. (1989). *Self-esteem, learning style, achievement, and socio-economic status of primary school children*. B.Sc. Honours thesis, University of Adelade.

Blascovich, J. & Tomaka, J. (1991). Measures of self-esteem. In J. P. Robinson, P. R. Shaver, & L. S. Wrightsman (Eds.), *Measures of personality and social psychological attitudes* (pp. 115-160). San Diego: Academic Press.

Boal-Palheiros, G. & Hargreaves, D. (2001). Listening to music at home and at school. *British Journal of Music Education, 18(2),* 103-118.

Borkowski, J. G., Carr, M., Rellinger, E., & Pressley, M. (1990). Self-regulated cognition: interdependence of metacognition, attributions and self-esteem. In B. F. Jones & L. Idol (Eds.), *Dimensions of thinking and cognitive instruction* (pp. 53-92). Hillsdale, NJ: Lawrence Erlbaum.

Bong, M. & Clark, R. E. (1999). Comparison between self-concept and self-efficacy in academic motivation research. *Educational Psychologist, 34*(3), 139-153.

Bresler, L. Research: a foundation for arts education. In R. Colwell & C. P. Richardson (Eds.), *The new handbook of research on music teaching and learning* (pp. 1066-1083). Oxford: Oxford University Press.

Bridges, D. (1956). A new approach to basic musicianship. In M. Comte (Ed.), (1992), *Doreen Bridges: music educator* (pp. 67-69). Parkville, Victoria: Australian Society for Music Education.

Bridges, D. (1984). Some misconceptions about music literacy. In *ASME conference report 1984* (pp. 56-58). Sydney: Australian Society for Music Education.

Bridges, D. (1994). *Music, young children and you*. Alexandria, NSW: Hale & Iremonger.

Bruner, J. (1963). *The process of education*. New York: Vintage Books.

Bruner, J. (1966). *Toward a theory of instruction*. Cambridge, MA: Belknap Press of Harvard University Press.

Bruner, J. (1996). *The culture of education*. Cambridge, MA: Harvard University Press.

Bunting, T. (2002). The place of composing in the music curriculum. In G. Spruce (Ed.), *Teaching music in secondary schools: a reader* (pp. 166-180). London: RoutledgeFalmer.

.

Burnard, P. (2004). Adolescent realities and changing perspectives on school music. In P. M. Shand (Ed.), *Music education entering the 21st century* (pp. 91-96). Nedlands, WA: ISME.

Burton, D. (2005). Ways pupils learn. In S. Capel, M. Leask & T. Turner (Eds.), *Learning to teach music in the secondary school* (4th ed., pp. 244-257). London: Routledge.

Byrne, C., MacDonald, R. & Carlton, L. (2003). Assessing creativity in musical compositions: flow as an assessment tool. *British Journal of Music Education, 20*(3), 277-290.

Campbell, J. (1990). Self-esteem and the clarity of the self-concept. *Journal of personality and Social Psychology, 59*(3), 538-549.

Campbell, P. S. (2004). *Teaching music globally: experiencing music, expressing culture.* New York: Oxford University Press.

Campbell, P. S. (2005). Deep listening to the musical world. *Music Educators Journal, 92*(1), 30-36.

Campbell, P. S. & Scott-Kassner, C. (1995). *Music in childhood.* New York: Schirmer.

Campbell, R. N. (1984). *The new science: self-esteem psychology.* Lanham, MD: University Press of America.

Caslyn, R. J. & Kenny, D. A. (1977). Self-concept of ability and perceived evaluation of others: cause or effect of academic achievement? *Journal of Educational Psychology, 69,* 136-145.

Catterall, J. S. (2002). The arts and the transfer of learning. In R.J. Deasy, (Ed.), *Critical links: learning in the arts and student academic and social development* (pp. 151-157). Washington, DC: Arts Education Partnership.

Chaffin, R. & Lemieux, A. F. (2004). General perspectives on achieving musical excellence. In A. Williamon (Ed.), *Musical excellence: strategies and techniques to enhance performance* (pp. 19-40). Oxford: Oxford University Press.

Chan, L. (1988). The perceived competence of intellectually talented students. *Gifted Child Quarterly, 32*(3), 310-314.

Chan, L. K. S. (1993). Perceived competence scale. In P. G. Cole & L. K. S. Chan (1994), *Teaching principles and practice* (2nd ed., pp. 371-376). New York: Prentice Hall.

Choksy, L., Abramson, R., Gillespie, A., & Woods, D. (1986). *Teaching music in the twentieth century.* Englewood Cliffs, NJ: Prentice Hall.

Clay, D., Vignoles, V. L. & Dittmar, H. (2005). Body image and self-esteem among

.

adolescent girls: testing the influence of sociocultural factors. *Journal of Research on Adolescence*, *15*(4), 451–477.

Cole, P. G. & Chan, L. K. S. (1994). *Teaching principles and practice*. (2nd ed.). New York: Prentice Hall.

Commission on Behavioral and Social Sciences and Education (CBASSE). (2000). *How people learn: brain, mind, experience, and school: expanded edition* Retrieved December 10, 2007 from National Academies Press Web site: http://books.nap.edu/openbook.php?record_id=9853&page=R1Washington, DC:

Coopersmith, S. (1967). *The antecedents of self-esteem*. San Francisco: W. H. Freeman.

Cope, P. (1998). Knowledge, meaning and ability in musical instrument learning. *British Journal of Music Education, 15*(3), 263-270.

Cope, P. (2002). Informal learning of musical instruments: the importance of social context. *Music Education Research, 4*(1)*,* 93-104.

Cope, P. (2003). OFSTED, fun and learning: a case study of a school music inspection. *British Journal of Music Education, 20*(3), 307-315.

Cope, P. & Smith, H. (1997). Cultural context in musical instrument learning. *British Journal of Music Education, 14*(3), 283-289.

Corno, L. & Mandinach, E. B. (1983). The role of cognitive engagement in classroom learning and motivation. *Educational Psychologist, 18*(2), 88-108.

Costa-Giomi, E. (1999). The effects of three years of piano instruction on children's cognitive development. *Journal of Research in Music Education, 47(3)*, 198-212.

Costantoura, P. (2001). *Australians and the arts.* Leichhardt, NSW: Federation Press.

Covington, M. V. (1983). Musical chairs: Who drops out of music instruction and why? In *Documentary Report of the Ann Arbor symposium on the applications of psychology to the teaching and learning of music: Session III. Motivation* (pp. 49-54). Reston, VA: MENC.

Covington, M. V. (1998). *The will to learn. A guide for motivating young people.* Cambridge: Cambridge University Press.

Cox, G. & Pitts, S. (2003). Editorial. *British Journal of Music Education, 20*(3), 227.

Csikszentmihalyi, M. (1988). The *flow experience and its significance for human psychology.* In M.C. & I.S. Csikszentmihalyi (Eds.) *Optimal experience.Psychological studies of flow in consciousness* (pp. 34-35). Cambridge: Cambridge University Press.

.

Csikszentmihalyi, M. (1990). *Flow: the psychology of optimal experience.* New York: Harper and Row.

Dart, T. & Morehen, J. (1980). Tablature. In S. Sadie (Ed.), *The new Grove dictionary of music and musicians* (Vol. 18, pp. 506-515). London: Macmillan.

Davidson, J. W. (1999). Self and desire: A preliminary exploration of why students start and continue with music learning. *Research Studies in Music Education, 12,* 30-37.

Davidson, J. W., Sloboda, J. A., & Howe, M. J. A., (1995/1996). The role of parents and teachers in the success and failure of instrumental learners. *Bulletin of the Council for Research in Music Education, 127,* 40-44.

Davies, J. B. (1994). Seeds of a false consciousness. *The Psychologist, 7*, 355-356.

Deasy, R. J. (Ed.). (2002). *Critical links: learning in the arts and student academic and social development.* Washington, DC: Arts Education Partnership.

Deci, E. L. & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York : Plenum.

Deci, E. L. & Ryan, R. M. (1992). The initiation and regulation of intrinsically motivated learning and achievement. In A. K. Boggiano & T. S. Pittman (Eds.), *Achievement and motivation* (pp. 9-36). Cambridge: Cambridge University Press.

Demo, D. H. (1985). The measurement of self-esteem: refining our methods. *Journal of Personality and Social Psychology, 48*, 1490-1502.

Demorest, S. M. & Morrison, S. J. (2000). Does music make you smarter? *Music Educators Journal*, *87(2),* 33-39, 58.

Department for Children, Schools and Families. (2007). *Instrumental and vocal tuition at KS2: making it work. (Revised Guidance 2007).* Retrieved December 3, 2007 from Teachernet Web site: www.teachernet.gov.uk/publications

Department for Education and Skills [DfES], (2005). *Music manifesto report no. 1.* Nottingham: DfES.

Department for Education and Skills [DfES]. (2006a). *Instrumental and vocal tuition at KS2: making it work.* Nottingham: DfES Publications.

Department for Education and Skills [DfES], (2006b). *Music manifesto report no. 2.* Nottingham: DfES.

Department of Education, Science and Training. (2005). *National review of school music education. Augmenting the diminished.* Perth: Australian Government & Centre for Learning, Change and Development, Murdoch University.

.

Department of Education, Training and Employment. (2001). *South Australian curriculum standards and accountability framework.* Adelaide: DETE.

Dunbar-Hall, P. (2000). World music, creativity and Orff pedagogy. In A. de Quadros (Ed.), *Many seeds, different flowers: the music education legacy of Carl Orff* (pp. 58-66). Perth: Callaway International Resource Centre for Music Education.

Dunbar-Hall, P. (2002a). [Review of the book *Musical identities*, by R. MacDonald, D. Hargreaves & D. Miells (Eds.)]. *Music Forum, 9*(1), 45-46.

Dunbar-Hall, P. (2002b). Designing a teaching model for popular music. In G. Spruce (Ed.), *Aspects of teaching secondary music* (pp. 173-181). London: RoutledgeFalmer.

Dunn, A. (2002). *Adelaide Festival, March 1-17, 2002*. Retrieved December 23, 2007 from http://www.festivals.on.net/adelaide.html

Durrant, C. (2000). Making choral rehearsing seductive: Implications for practice and choral education. *Research Studies in Music Education, 15,* 40-49.

Durrant, C. & Welch, G. (1995). *Making sense of music. Foundations for music education.* London: Cassell.

Dweck, C. S. (1986). Motivational processes affecting motivation. *American Psychologist, 41,* 1040-1048.

Dweck, C. S. (2000). *Self-theories: their role in motivation, personality and development*. Philadelphia, PA: Psychology Press.

Dweck, C. S. & Elliott, E. S. (1983). Achievement motivation. In P. H. Mussen (Ed.), *Handbook of child psychology: Vol. IV. Socialization, personality and social development* (4th ed., pp. 643-691). New York: Wiley.

Dweck, C. S. & Molden, D. C. (2005). Self-theories: their impact on competence motivation and acquisition. In A. J. Elliott & C. S. Dweck. (Eds.), *Handbook of competence and motivation* (pp. 122-140). New York: Guilford Press.

Eccles (Parsons), J. (1983a). Children's motivation to study music. In *Documentary Report of the Ann Arbor symposium on the applications of psychology to the teaching and learning of music: Session III. Motivation and creativity* (pp. 31-39). Reston, VA: MENC.

Eccles (Parsons), J. (1983b). Expectancies, values, and academic behaviors. In J. T. Spence (Ed.), *Achievement and achievement motives* (pp. 75-146). San Francisco: Freeman.

.

Eccles, J. & Wigfield, A. (1995). In the mind of the actor: the structure of adolescents' academic achievement-related beliefs and self-perceptions. *Personality and Social Psychology Bulletin*, *21,* 215-225.

Eccles, J., Wigfield, A., Flanagan, C., Miller, C., Reuman, D., & Yee, D. (1989). Self-concepts, domain values, and self-esteem: relations and changes at early adolescence. *Journal of Personality*, *57*(2), 283-310.

Education Department of South Australia. (1982). *Time for music*. Adelaide: Author.

Education Department of South Australia. (1986). *Secondary music guide*. Adelaide: Author.

Elliott, A. J. & Dweck, C. S. (Eds.). (2005). *Handbook of competence and motivation.* New York: Guilford Press.

Elliott, D. J. (1995). *Music matters: a new philosophy of music education*. New York: Oxford University Press.

Ellis, V. (Ed.). (2007). *Learning and teaching in secondary schools* (3rd ed.). Exeter, UK: Learning Matters.

Fitzgerald, M., Joseph, A. P., Hayes, M. & O'Regan, M. (1995). Leisure activities of adolescent school children. *Journal of Adolescence*, *18,* 349-358.

Fitzpatrick, K. R. (2006). The effect of instrumental participation and socioeconomic status on Ohio fourth-, sixth0, and ninth-grade proficiency test performance. *Journal of Research in Music Education, 54*(1), 73-84.

Folkestad, G. (1998). Musical learning as cultural practice: as exemplified in computer-based creative music making. In B. Sundin, G. McPherson & G. Folkstad (Eds.), *Children composing* (pp. 97-134). Malmö: Lund University, Malmö Academy of Music.

Folkestad, G. (2005). Here, there and everywhere: music education research in a globalised world. *Music Education Research, 7*(3), 279-287.

Folkestad, G. (2006). Formal and informal learning situations or practices vs formal and informal ways of learning. *British Journal of Music Education, 23*(2), 135-145.

Fontana, D. (1995). *Psychology for teachers* (3rd ed.). London: Macmillan Press.

Fox, M. (1988). Music education in South Australia 1836-1984. In A. McCredie (Ed.), *From Colonel Light into the footlights* (pp. 383-410). Norwood, SA: Pagel Books.

Francis, L. J. (1998). Is there bias in the short-form Coopersmith Self-Esteem Inventory? *Educational Research, 40*(1), 83-89.

.

Friss, G. (1975). The music primary school. In F. Sandor (Ed.), *Music Education in Hungary* (pp. 145-192). London: Boosey & Hawkes.

Frith, S. (1981). *Sound effects: youth, leisure, and the politics of rock'n'roll.* New York: Pantheon Books

Gardner, H. (1983). *Frames of mind: the theory of multiple intelligences.* New York: Basic Books.

Gardner, H. (1991a). *The unschooled mind.* New York: Basic Books.

Gardner, H. (1991b). Assessment in context: the alternative to standardized testing. In H. Gardner (2006), *The development and education of the mind. The selected works of Howard Gardner* (pp. 171-192). London: Routledge.

Gardner, H. (1996). The age of innocence reconsidered. In H. Gardner (2006), *The development and education of the mind. The selected works of Howard Gardner* (pp. 193-212). London: Routledge.

Goldberg, M. & Scott-Kassner, C. (2002). Teaching other subjects through music. In R. Colwell & C. P. Richardson (Eds.), *The new handbook of research on music teaching and learning* (pp. 1053-1065). Oxford: Oxford University Press.

Gordon, E. E. (1981). Music learning and learning theory. In *Documentary report of the Ann Arbor symposium* (pp. 62-68). Reston, VA: Music Educators National Conference.

Gouzouasis, P., Guhn, M. & Kishor, N. (2007). The predictive relationship between achievement and participation in music and achievement in core Grade 12 academic subjects. *Music Education Research, 9*(1), 81-92.

Grande, C. G. (1988). Delinquency: The learning disabled student's reaction to academic school failure? *Adolescence, 23*(89), 209-219.

Grant, J. & Kohut, D. (1992). Performance teachers for the future. *Music Educators Journal, 79*(2), 35-36, 50, 64.

Green, L. (2002). *How popular musicians learn.* Hants, England: Ashgate.

Green, L. (2002). From the Western classics to the world: secondary music teachers' changing attitudes in England, 1982 and 1998. *British Journal of Music Education, 19*(1), 5-30.

Green, L. (2005). The music curriculum as lived experience: children's "natural" music-learning processes. *Music Educators Journal, 91*(4), 27-32.

Green, L. (2006). Popular music education in and for itself, and for 'other' music: current research in the classroom. *International Journal of Music Education, 24*(2), 101-118.

.

Green, L. & Walmsley, A. (n.d.). *Classroom music resources for informal music learning at Key Stage 3.* Open access: Musical Futures Paul Hamlyn Foundation Special Project (www.musicalfutures.org.uk).

Greenberg, M. (1970). Musical achievement and self-concept. *Journal of Research in Music Education, 18*, 57-64.

Gromko, J. E. & Poorman, A. S. (1998). The effect of music training on preschooler's spatial-temporal task performance. *Journal of Research in Music Education, 46*(3), 198-212.

Hagborg, W. J. (1993). The Rosenberg self-esteem scale and Harter's self-perception profile for adolescents: a concurrent validity study. *Psychology in the Schools, 30*(2), 132-136.

Hall, C. S., Lindzey, G., & Campbell, J. B. (1998). *Theories of personality* (4th ed.). New York: John Wiley.

Hallam, S. (1997). What do we know about practicing? Towards a model synthesizing the research literature. In H. Jørgensen and A. C. Lehmann (Eds.) *Does practice make perfect? Current theory and research on instrumental music practice* (pp. 179-231). Oslo, Norway: Norges musikkhøgskole.

Hallam, S. (1998a). *Instrumental teaching. A practical guide to better teaching and learning.* Oxford: Heinemann.

Hallam, S. (1998b). The predictors of achievement and dropout in instrumental tuition. *Psychology of Music, 26*, 116–132.

Hallam, S. (2006a). *Music psychology in education.* London: Institute of Education, University of London.

Hallam, S. (2006b). Musicality. In G. E. McPherson (Ed.), *The child as musician* (pp. 93-110). Oxford: Oxford University Press.

Hargreaves, D. J. (1986a). Developmental psychology and music education. *Psychology of Music, 14*, 83-96.

Hargreaves, D. J. (1986b). *The developmental psychology of music*. Cambridge: Cambridge University Press.

Hargreaves, D. J. (1994). Music education for all. *The Psychologist, 7*, 357-358.

Hargreaves, D. J. (1996). The development of artistic and musical competence. In I. Deliége & J. Sloboda (Eds.), *Musical beginnings: origins and development of musical competence* (pp. 145-170). Oxford: Oxford University Press.

Hargreaves, D. J., Lamont, A., Marshall, N. & Tarrant, M. (2003). The contexts of musical engagement. Retrieved October 11, 2007, from Keele University,

.

School of Psychology Web site,
http://www.keele.ac.uk/depts/ps/ResearchReport.htm

Hargreaves, D. J. & Marshall, N. (2003). Developing identities in music education. *Music Education Research*, *5*(3), 263-274.

Hargreaves, D. J., Marshall, N. & North, A. (2003). Music education in the 21st century: a psychological perspective. *British Journal of Music Education, 20*(2), 147-164.

Hargreaves, D. J., Miell, D. & MacDonald, R. A. R. (2002). What are musical identities and why are they important? In R. A. R. MacDonald, D. J. Hargreaves & D. Miell (Eds.), *Musical identities* (pp. 1-20). Oxford: Oxford University Press.

Hargreaves, D. J., North, A. C., & Tarrant, M. (2006). Musical preference and taste in childhood and adolescence. In G. McPherson (Ed.), *The child as musician* (pp. 135-154). Oxford: Oxford University Press.

Harland, J., Kinder, K., Lord, P., Stott, A., Schagen, I., & Haynes, J. (2000). *Arts education in secondary schools: effects and effectiveness*. Slough: NFER.

Harter, S. (1982). The perceived competence scale for children. *Child Development*, *53,* 87-97.

Harter, S. (1983). Developmental perspectives on the self-system. In P. H. Mussen (Ed.), *Handbook of child psychology: Vol. IV. Socialization, personality and social development* (4th ed., pp. 275-385). New York: Wiley.

Harter, S. (1992). The relationship between perceived competence, affect, and motivational orientation within the classroom: processes and patterns of change. In A. K. Boggiano & T. S. Pittman (Eds.), *Achievement and motivation. A social-developmental perspective* (pp. 77-114). Cambridge: Cambridge University Press.

Harter, S. (1997). The personal self in social context: Barriers to authenticity. In R. D. Ashmore & L. Jussin (Eds.), *Self and identity. Fundamental issues* (pp. 81-105). New York: Oxford University Press.

Haward, L.W. (1980). Jaques-Dalcroze, Emile. In S. Sadie (Ed.), *The new Grove dictionary of music and musicians* (Vol. 9, pp. 554-555). London: Macmillan.

Hiatt, J. & Cross, S. (2006). Teaching and using audiation in classroom instruction and applied lessons with advanced students. *Music Educators Journal*, *92*(5), 46-49.

Hietolahti, A. (1991). Self-esteem and empathy among children. *Perceptual and Motor Skills, 71*(3), 1364-1366.

Hoermann, D & Herbert, G. (1979). *Report and evaluation. A developmental programme of music education for primary school (Kodaly-based)*. Brookvale, NSW: Dominie.

.

Hoffer, C. R. (2001). *Teaching music in the secondary schools* (5th ed.). Belmont, CA: Wadsworth Thomson Learning.

Ivaldi, A., & O'Neill, S. (2002). The influence of role models for adolescents' involvement and aspirations in music. In C. Stevens, D. Burnham, G. McPherson, E. Schubert, J. Renwick (Eds.). *Proceedings of the 7th international conference of music perception and cognition, Sydney, 2002* (pp. 59-62). Adelaide: Causal Productions.

Jeanneret, N. (1995). *Developing preservice primary (elementary) teachers' confidence to teach music through a music fundamentals course*. Ph. D. dissertation, University of Sydney, Australia.

James, William. (1890). *The principles of psychology*. [Vol. 1] New York: Henry Holt.

Jones, B. F. & Idol, L. (Eds.). (1990). *Dimensions of thinking and cognitive instruction*. Hillsdale, NJ: Lawrence Erlbaum.

Kalandyk, J. (1996). *Music and the self-esteem of young children*. Lanham: University Press of America.

Kalandyk, J. (1997). Can we improve the self-esteem of young children through music? *Australian Journal of Music Education, 1,* 31-41.

Kamptner, N. L. (1995). Treasured possession and their meanings in adolescent males and females. *Adolescence, 30,* 301-308.

Katz, L. G. (1993). All about me. *American Educator, Summer 1993,* 18-23.

Kazimierczak, P. (2004). *Simply music! Innovative music experiences for children under five*. Croydon, VIC: Tertiary Press.

Kendall, J. (1996). Suzuki's mother tongue method. *Music Educators Journal, 83*(1), 43-46.

Kernis, M.H. (1995). Emerging themes and future directions. In M.H. Kernis (Ed.), *Efficacy, agency and self-esteem* (pp. 237-252). New York: Plenum Press.

Kinchin, G. (2007). Understanding learning. In V. Ellis (Ed.). *Learning and teaching in secondary schools* (3rd ed., pp. 30-42). Exeter, UK: Learning Matters.

Knox, R. A. (1993, October 14). Mozart makes you smarter Calif. researchers suggest. *Boston Globe*, p. 3.

Kohut, D. (1985). *Musical performance. Learning theory and pedagogy.* Englewood Cliffs, NJ: Prentice-Hall.

Kratus, J. (1996). A developmental approach to teaching music improvisation. *International Journal of Music Education, 26,* 27-38.

.

Lamont, A. (2002a). Musical identities and the school environment. In R. MacDonald, D. Hargreaves, D. Miell (Eds.), *Musical identities* (pp.41-59). Oxford: Oxford University Press.

Lamont, A. (2002b). Music psychology and the secondary music teacher. In G. Spruce (Ed.), *Teaching music in secondary schools: a reader* (pp. 63-79). London: RoutledgeFalmer.

Lamont, A.M., Hargreaves, D. J., Marshall, N. & Tarrant, M. (2003). Young people's music in and out of school. *British Journal of Music Education, 20*(3), 229-241.

Lane, J. & Lane, A. (2001). Self-efficacy and academic performance. *Social Behavior and Personality*, 29(7), 687-694.

Larson, R. (1995). Secrets in the bedroom: adolescents' private use of media. *Journal of Youth & Adolescence, 24*(5)*,* 535-550.

Lawrence, D. (1988). *Enhancing self-esteem in the classroom*. London: Paul Chapman.

Leary, M. R. (2004). The sociometer, self-esteem, and the regulation of interpersonal behavior. In R. F. Baumeister & K. D. Vohs (Eds.), *Handbook of self-regulation: research, theory, and applications* (pp. 373-391)*.* New York: Guilford Press.

Lehmann, A. C. (1997). The acquisition of expertise in music: efficiency of deliberate practice as a moderating variable in accounting for sub-expert performance. In I. Deliège & J. Sloboda (Eds.), *Perception and cognition of music* (pp. 161-187). East Sussex, UK: Psychology Press.

Leonhard, C. & House, R. W. (1959). *Foundations and principles of music education.* New York: McGraw-Hill.

Lerner, R. M., Brentano, C., Dowling, E. M., Anderson, P. M. (2002). Positive youth development: Thriving as the basis of personhood and civil society. *New Directions for Youth Development***,** *95*, 11-33.

Letkemann, J. (Ed.). (2007). *About us*. Retrieved December 21, 2007 from Billboard Magazine Web site at: http://www.billboard.com/bbcom/about_us/index.jsp

Liebkind, K. (1992). Ethnic identity - challenging the boundaries of social psychology. In G. M. Breakwell (Ed.), *Social psychology of identity and the self concept* (pp. 147-185). London: Academic Press.

Linch, S. A. (1993). *Differences in academic achievement and level of self-esteem among high school participants in instrumental music, non-participants, and students who discontinue instrumental music education*. Unpublished dissertation: University of Northern Colorado.

Locke, E. A. & Latham, G. P. (1990). *A theory of goal setting and task performance.* Englewood Cliffs, NJ: Prentice Hall.

.

Lorr, M. & Wunderlich, R. A. (1986). Two objective measures of self-esteem. *Journal of Personality Assessment, 50*, 18-23.

MacDonald, R. A. R., Hargreaves, D. J., & Miell, D. (Eds.). (2002). *Musical identities* Oxford: Oxford University Press.

MacDonald, R. A. R. & Miell, D. (2000). Creativity and music education: the impact of social variables. *International Journal of Music Education, 36*, 58-68.

MacDonald, R. A. R., Miell, D. & Hargreaves, D. (2002). What are musical identities and why are they important? In C. Stevens, D. Burnham, G. McPherson, E. Schubert, & J. Renwick (Eds.) *Proceedings of the 7th international conference on music perception and cognition, Sydney* (pp. 49-52). Adelaide: Causal Productions.

Maehr, M. L., Pintrich, P. R., & Linnenbrink, E. A. (2002). Motivation and achievement. In R. Colwell & C. P. Richardson (Eds.), *The new handbook of research on music teaching and learning* (pp. 348-372). Oxford: Oxford University Press.

Mansell, M. (2005, April 13). Putting fun back into the three Rs. *The Advertiser*, p. 16.

Marjoribanks, K. (2002). *Family and school capital: towards a context theory of students' school outcomes*. Dordrecht, The Netherlands: Kluwer Academic Publishers.

Marsh, C. (2004). *Becoming a teacher. Knowledge, skills and issues* (3rd ed.). Frenchs Forest, NSW: Pearson Education Australia.

Marsh, H. W. (1999). *Self-description questionnaire II*. Sydney: SELF Research Centre, University of Western Sydney.

Marsh, H. W. (2000). Director's Welcome Address. In R. G. Craven & H. W. Marsh (Eds.), *Self-concept theory, research and practice: advances from the new millenium conference proceedings* (pp.1-15). Sydney: SELF Research Centre, University of Western Sydney.

Martinez, R. & Dukes, R. L. (1991). Ethnic and gender differences in self-esteem. *Youth and Society, 22*(3), 318-338.

Mason, T. D. (1993). The advantage of jazz training and techniques for the classical musician. In K. Logie (Ed.), *Proceedings of the IXth national conference* (pp. 155-158). Perth: Australian Society for Music Education.

Maslow, A. H. (1954). *Motivation and personality*. New York: Harper & Row.

McCormick, J. & McPherson, G. E. (2003). The role of self-efficacy in a musical performance examination: an exploratory structural equation analysis. *Psychology of Music, 31*(1), 37-51.

.

McPherson, G. E. (1989). "Cognitive mediational processes and positive motivation: implications of educational research for music teaching and learning." *Australian Journal of Music Education, 1,* 3-19.

McPherson, G. E. (1993). *Factors and abilities influencing the development of visual, aural and creative skills in music and their educational implications.* Doctor of Philosophy, University of Sydney, Australia. *Dissertation Abstracts International,* 54/04-A, 1277. (University Microfilms No. 9317278).

McPherson, G. E. (1994). Improvisation: past, present and future. In H. Lees (Ed.), *Musical connections: tradition and change* (pp. 170-178). Tampa, Florida: ISME.

McPherson, G. E. (1995). Redefining the teaching of musical performance. *The Quarterly Journal of Music Teaching and Learning, 6*(2), 56-64.

McPherson, G. E. (1996). Catering for the musically gifted and talented. *Canadian Music Educator*, *37*(3), 25-30.

McPherson, G. E. (1997). Cognitive strategies and skill acquisition in music performance. *Bulletin of the Council for Research in Music Education, 133,* 64-71.

McPherson, G. E. (2001). Commitment and practice: Key ingredients for achievement during the early stages of learning a musical instrument. *Bulletin of the Council for Research in Music Education, 147,* 122-127.

McPherson, G. E. (2007). Children's motivation to study music in schools. In A. Sternberg, J. McIntosh & R. Faulkner (Eds.), *Proceedings of the XVI national conference of the Australian Society for Music Education* (pp. 21-25). Perth: ASME.

McPherson, G. E. & Davidson, J. W. (2006). Playing an instrument. In G. McPherson (Ed.), *The child as musician* (pp. 331-354). Oxford: Oxford University Press.

McPherson, G. E. & Gabrielsson, A. (2002). From sound to sign. In R. Parncutt & G. E. McPherson (Eds.), *The science and psychology of music performance* (pp. 99-116). Oxford: Oxford University Press.

McPherson, G. E. & Renwick, J. (2001). A longitudinal study of self-regulation in children's musical practice. *Music Education Research, 3*(2), 169-186.

McPherson, G. E. & Zimmerman, B. (2002). Self-regulation of musical learning: a social cognitive perspective. In R. Colwell and C. P. Richardson (Eds.), *The new handbook of research on music teaching and learning* (pp. 327-347). Oxford: Oxford University Press.

Merrick, B. (2006). Shifting the focus from 'product' to 'process': an investigation of the behaviors of skilled and naïve self-regulators while creating music in a classroom setting. In P. de Vries & J. Southcott (Eds.), *Proceedings of the*

.

XXVIIIth annual conference (pp. 71-78). Melbourne: Australian Association for Research in Music Education.

Michel, D. E. & Martin, D. (1970). Music and self-esteem research with disadvantaged problem boys in an elementary school. *Journal of Music Therapy, 7*(4), 124-127.

Michel, D. E. (1971). Self-esteem and academic achievement in black junior high school students: effects of automated guitar instruction. *Bulletin of the Council for Research in Music Education, 24*, 15-23.

Michel, D. E. & Farrell, D. M. (1973). Music and self-esteem: disadvantaged problem boys in an all black elementary school. *Journal of Research in Music Education, 21*(1), 80-84.

Mills, J. (2005). *Music in the school*. Oxford: Oxford University Press.

Mills, J. & McPherson, G. E. (2006). Musical literacy. In G. E. McPherson (Ed.), *The child as musician* (pp. 155-171). Oxford: Oxford University Press.

Mueller, R. (2002). Perspectives from the sociology of music. In R. Colwell and C. P. Richardson (Eds.), *The new handbook of research on music teaching and learning* (pp. 584-603). Oxford: Oxford University Press.

Multon, K. D., Brown, S. D., & Lent, R. W. (1991). Relation of self-efficacy beliefs to academic outcomes: a meta-analytic investigation. *Journal of Counseling Psychology, 38*(1), 30-38.

National Trust of South Australia. (2007). *BankSA heritage icons list*. Retrieved December 21, 2007, from National Trust of South Australia Web site: http://www.nationaltrustsa.org.au/heritage_icons.htm

North, A. C., Hargreaves, D. J. & O'Neill, S. A. (2000). The importance of music to adolescents. *British Journal of Educational Psychology, 70,* 255-272.

North, A. C., Hargreaves, D. J. & Hargreaves, J. J. (2004). Uses of music in everyday life. *Music Perception, 22,* 41-77.

North, A. C., Hargreaves, D. J. & Tarrant, M. (2002). Social psychology and music education. In R. Colwell and C. P. Richardson (Eds.), *The new handbook of research on music teaching and learning* (pp. 604-625). Oxford: Oxford University Press.

Odam, G. (1995). *The sounding symbol: music education in action*. Cheltenham, Glos: Stanley Thornes.

Odam, G. (2002). Teaching composing in secondary schools. The creative dream. In G. Spruce (Ed.), *Aspects of teaching secondary music* (pp. 121-139). London: RoutledgeFalmer.

.

O'Neill, S. (2001). *Young people and music participation project: practitioner report and summary of findings.* Retrieved October 20, 2007, from Keele University, Unit for the Study of Musical Skill and Development Web site: http://www.keele.ac.uk/depts/ps/ESRC/Practitionerimp.doc

O'Neill, S.A. (2002). The self-identity of young musicians. In R. MacDonald, D. Hargreaves, D. Miell (Eds.), *Musical identities* (pp. 79-96). Oxford: Oxford University Press.

O'Neill, S.A. (2006). Positive youth music engagement. In G. McPherson (Ed.), *The child as musician* (pp. 461-474). Oxford: Oxford University Press.

O'Neill, S.A. & McPherson, G.E. (2002). Motivation. In R. Parncutt & G.E. McPherson (Eds.), *The science and psychology of music performance* (pp. 31-46). Oxford: Oxford University Press.

Parenting SA. (1996). *Self esteem. Parenting easy guide #28.* Adelaide: SA Department of Human Services.

Parncutt, R. (2006). Prenatal development. In G. E. McPherson (Ed.), *The child as musician* (pp. 1-31). Oxford: Oxford University Press.

Parncutt, R. & McPherson, G.E. (Eds.). (2002). *The science and psychology of music performance.* Oxford: Oxford University Press.

Pintrich, P. R. (2000). An achievement goal theory perspective on issues in motivation terminology, theory, and research. *Contemporary Educational Psychology 25,* 92–104

Pitts, S., Davidson, J. & Mcpherson, G. E. (2000). Developing effective practise strategies: case studies of three young instrumentalists. *Music Education Research, 2*(1), 45-56.

Pitts, S. E., Davidson, J. W., & McPherson, G. E. (2000). Models of success and failure in instrumental learning: case studies of young players in the first 20 months of learning. *Bulletin of the Council for Research in Music Education, 146,* 51-69.

Plummeridge, C. (1997). The rights and wrongs of school music: a brief comment on Malcolm Ross's paper. *British Journal of Music Education, 14*(1), 23-27.

Pratt, G. (1990). *Aural awareness: principles and practice.* Milton Keynes, PA: Open University Press.

Priest, P. (2002). Putting listening first: a case of priorities. In G. Spruce (Ed.), *Aspects of teaching secondary music* (pp. 97-105). London: RoutledgeFalmer.

Pritchard, G. (Ed.). (2002). *Improving learning with information technology.* Washington, DC: National Academies Press.

.

Qualifications and Curriculum Authority (n.d.). *Music: responding to pupils' needs*. Retrieved December 3, 2007 from http://www.qca.org.uk/qca_1922.aspx

Rainbow, B. (1988). The new Curwen method: a partnership of ear, eye and voice. *Music Teacher*, *67*(5), 9-10; *67*(6), 19-21; *67*(8), 15-16.

Rauscher, F., Shaw, G., & Ky, K. (1993). Music and spatial task performance. *Nature, 365,* 611.

Rauscher, F., Shaw, G., & Ky, K. (1995). Listening to Mozart. *Neuroscience Letters*, *15,* 44-47.

Rauscher, F., Shaw, G., Levine, L., Wright, E., Dennis, W., & Newcomb, R. (1997). Music training causes long-term enhancement of preschool children's spatial-temporal reasoning. *Neurological Research*, *19*(1), 2-8.

Reasoner, R. (1982). *Building self-esteem. Teachers' guide and classroom materials*. Palo Alto, CA: Consulting Psychologists Press.

Reimer, B. (1989). *A philosophy of music education* (2nd ed.). Engelwood Cliffs, NJ: Prentice Hall.

Reimer, B. (1999). Facing the risks of the "Mozart effect". *Music Educators Journal*, *86*(1), 37-43.

Renwick, J. M., McPherson, G. E., & McCormick, J. (2002). Motivational influences on children's self-regulated learning and musical performance achievement. In C. Stevens, D. Burnham, G. McPherson, E. Schubert, & J. Renwick (Eds.), *Proceedings of the 7th International conference of music perception and cognition, Sydney* (pp. 377-380)*.* Adelaide: Causal Productions.

Rieber, R. W. (Ed.). (1998). *The collected works of L. S. Vygotsky. Volume 5: Child psychology*. New York: Kluwer Academic/Plenum Publishers.

Rife, N. A., Shnek, Z. M., Lauby, J. L., Lapidus, L. B. (2001). Children's satisfaction with private music lessons. *Journal of Research in Music Education, 49*(1), 21-32.

Roberts, D. & Foehr, U. (2004). *Kids and media in America*. Cambridge: Cambridge University Press.

Rogoff, B. (1990). *Apprenticeship in thinking*. Oxford: Oxford University Press.

Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.

Rosenberg, M. (1979). *Conceiving the self*. Malabar, FA: Robert E. Kreiger.

.

Rosenshine, B., Froehlich, H. & Fakhouri, I. (2002). In R. Colwell & C. P. Richardson (Eds.), *The new handbook of research on music teaching and learning* (pp. 299-314). Oxford: Oxford University Press.

Rosevear, J. (2005). Factors affecting the engagement of high school students in music. On S. Morrison (Ed.), CD-ROM *Proceedings of Asia-Pacific Music Education Research Symposium (APSMER05)*, University of Washington, Seattle, USA. http://depts.washington.edu/apsmer05/APSMER2005.htm

Ross, M. (1995). What's wrong with school music? *British Journal of Music Education*, *12*, 185-201.

Rostvall, A. & West, R. (2003). Analysis of interaction and learning in instrumental teaching. *Music Education Research, 5*(3), 213-226.

Rothman, A. J., Baldwin, A. S., & Hertel, A. W. (2004). Self-regulation and behavior change. In R. F. Baumeister & K. D. Vohs (Eds.), *Handbook of self-regulation: research, theory, and applications* (pp. 130-148). New York: Guilford Press.

Rousseau, J. (1963). *Émile.* (B. Foxley, Trans.). London: Dent. (Original work published in 1762)

Ryan, R. M. & Deci, E. L. (2000a). Intrinsic and extrinsic motivations: classic definitions and new directions. *Contemporary Educational Psychology, 25*(1)*, 54–67.

Ryan, R. M., & Deci, E. L. (2000b). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, *55*(1), 66-78.

Salter, C. (2005, April, 13). A+: how one high school became a centre of success. *The Advertiser*, p. 4.

Santrock, J. W. (2001). *Adolescence* (8th ed.). New York: McGraw-Hill.

Schleuter, S. L. (1997). *A sound approach to teaching instrumentalists* (2nd ed.). New York: Schirmer.

Schmidt, C. P. (2005). Relations among motivation, performance achievement, and music experience variables in secondary instrumental music students. *Journal of Research in Music Education, 53*(2), 134-147.

Schwartz, K. D. & Fouts, G. T. (2003). Music preferences, personality style, and developmental issues of adolescents. *Journal of Youth and Adolescence, 32*(3), 205–213.

Schunk, D. (1990). Introduction to the special section on motivation and efficacy. *Journal of Educational Psychology*, *82*(1), 3-6.

.

Self-Concept Enhancement and Learning Facilitation [SELF] Research Centre. (2001). *Director's annual report.* (Director: Professor Herbert W. Marsh). Sydney: SELF Research Centre, University of Western Sydney.

Self-Concept Enhancement and Learning Facilitation [SELF] Research Centre. (2002). *Director's annual report.* (Director: Professor Herbert W. Marsh). Sydney: SELF Research Centre, University of Western Sydney.

Shavelson, R. J. & Bolus, R. (1982). Self-concept: the interplay of theory and methods. *Journal of Educational Psychology*, *74*(1*),* 3-17.

Shibata, M. (1980). Suzuki, Shin'ichi. In S. Sadie (Ed.), *The New Grove Dictionary of Music and Musicians* (Vol. 18, pp. 386-387). London: Macmillan.

Shrauger, J. S. & Rosenberg, S. E. (1970). Self-esteem and the effects of success and failure feedback on performance. *Journal of Personality*, *38,* 404-414.

Simmons, R. G. (1987). Self-esteem in adolescence. In T. Honess & K. Yardley (Eds.), *Self and identity. Perspectives across the lifespan* (pp. 172-192). London: Routledge & Kegan Paul.

Skinner, E., Wellborn, J. & Connell, J. (1990). What it takes to do well in school and whether I've got it: a process model of perceived control and children's engagement and achievement in school. *Journal of Educational Psychology*, *82*(1), 22-32.

Sloboda, J. A. (2001) Emotion, functionality, and the everyday experience of music: where does music education fit? *Music Education Research, 3*(2), 243-254.

Sloboda, J. (2006). Mozart in psychology. Lecture presented at British Academy symposium on "Mozart 2006: Classical Music and the Modern World", 28th January.

Sloboda, J. A., Davidson, J. & Howe, M. (1994a). Is everyone musical? *The Psychologist, 7,* 349-354.

Sloboda, J. A., Davidson, J. & Howe, M. (1994b). Musicians: experts not geniuses. *The Psychologist, 7,* 363-364.

Soderman, J. & Folkestad, G. (2004). How hip-hop musicians learn: strategies in informal creative music making. *Music Education Research, 6*(3), 313-326.

South Australian Department of Education & Children's Services (2007*). South Australian curriculum standards and accountability (SACSA) framework.* Retrieved 12 December, 2007 from http://www.sacsa.sa.edu.au

South Australian Public Primary Schools' Music Society. (2007). *About the S.A. Public Primary Schools' Music Society.* Retrieved December 23, 2007 from http://www.musicfest.sa.edu.au/about.htm

.

Southcott, J. (1995). The establishment of the music curriculum in South Australia: the role of Alexander Clark. *Research Studies in Music Education, 5*, 1-10.

Spruce, G. (2001). Music assessment and the hegemony of musical heritage. In C. Philpott & C. Plummeridge (Eds.), *Issues in music education* (pp. 118-130). London: Routledge.

Spruce, G. (2002). Ways of thinking about music – political dimensions and educational consequences. In G. Spruce (Ed.), *Teaching music in secondary schools. A reader* (pp. 3-24). London: RoutledgeFalmer.

Stauffer, S. L. (2002). Connections between the musical and life experiences of young composers and their compositions. *Journal of Research in Music Education, 50*(4), 301-322.

Steele, K., Bass, K. & Crook, M. (1999). The mystery of the Mozart effect: Failure to replicate. *Psychological Science, 10*(4), 366-369.

Steinberg, L. (2002). *Adolescence* (6th ed.). New York: McGraw-Hill.

Stipek, D. (2002). Good instruction is motivating. In A. Wigfield & J. Eccles (Eds.), *Development of achievement motivation* (pp. 309-332). San Diego, CA: Academic Press.

Stowasser, H. (1995). Honing the craft of audiation: music is an aural art. In H. Lee & M. Barrett (Eds.), *Proceedings of the X national conference of the Australian Society for Music Education* (pp. 257-261). Hobart: ASME.

Susman, E. & Rogol, A. (2004). Puberty and psychological development. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology* (2nd ed., pp. 15-44). Hoboken, NJ: John Wiley & Sons.

Swann, W. B. (1996). *Self-traps - the elusive quest for higher self-esteem.* New York: W.H. Freeman.

Swanwick, K. (1979). *A basis for music education.* Windsor: NFER Publishing.

Swanwick, K. (1999). *Teaching music musically.* London: Routledge

Swanwick, K. (2002). Instrumental teaching as music teaching. In G. Spruce (Ed.), *Teaching music in secondary schools. A reader* (pp. 193-208). London: RoutledgeFalmer.

Taetle. L. & Cutietta, R. (2002). Learning theories as roots of current musical practice and research. In R. Colwell & C. P. Richardson (Eds.), *The new handbook of research on music teaching and learning* (pp. 279-298). Oxford: Oxford University Press.

Tait, M. J. (1981). Motivation and effort. In *Documentary report of the Ann Arbor symposium* (pp. 121-128). Reston, VA: MENC.

.

Tarrant, M., North, A., & Hargreaves, D. (2001). Social categorization, self-esteem, and the estimated musical preferences of male adolescents. *Journal of Social Psychology, 141*(5), 565-581.

Tarrant, M., North, A., & Hargreaves, D. (2002). Youth identity and music. In R. MacDonald, D. Hargreaves, & D. Miell (Eds.), *Musical identities* (pp. 134-150). Oxford: Oxford University Press.

Thackray, R. (1978). *Aural awakening: a course of aural training and general musicianship for students and teachers.* Perth, WA: University of Western Australia, Department of Music.

Torff, B. & Winner, E. (1994). Don't throw out the baby with the bath water. *The Psychologist, 7*, 361-362.

Toward a state of esteem. The final report of the California task force to promote self-esteem and personal and social responsibility. (1990). CA: California State Department of Education.

Van der Veer, R. & Valsiner, J. (Eds.). (1994). *The Vygotsky reader*. Oxford: Blackwell.

VanderArk, S. (1989). Self-esteem, creativity and music: implications and directions for research. In J. E. Richmond (Ed.), *Suncoast music education forum on creativity* (pp. 105-121). Tampa, FA: University of South Florida.

VanderArk, S., Nolin, W. H., & Newman, I. (1980). Relationships between musical attitudes, self-esteem, social status, and grade level of elementary children. *Bulletin of the Council for Research in Music Education, 62*, 31-41.

Vispoel, W. P. (2000). Music self-concept: Instrumentation, structure and theoretical linkages. In R. G. Craven & H. W. Marsh (Eds.), *Self-concept theory, research and practice: advances from the new millenium conference proceedings* (pp. 100-107). Sydney: SELF Research Centre, University of Western Sydney.

Vispoel, W.P. & Austin, J.R. (1993). Constructive response to failure in music: the role of attribution feedback and classroom goal structure. *British Journal of Educational Psychology, 63*, 110-129.

Vispoel, W.P. & Austin, J.R. (1998). How American adolescents interpret success and failure in classroom music: relationships among attributional beliefs, self-concept and achievement. *Psychology of Music, 26*(1), 26-45.

Walsh, W. A. & Banaji, M. R. (1997). The collective self. In J. G. Snodgrass & R. L. Thompson (Eds.), *The self across psychology: self-recognition, self-awareness and the self concept* (pp. 193-214). New York: New York Academy of Sciences.

.

Webb, M. (2007). Music analysis down the (You) tube? Exploring the potential of cross-media listening for the music classroom. *British Journal of Music Education, 24*(2), 147-164.

Webster, P. (1994). Thinking in sound: studying children's improvisation. In H. Lee (Ed.), *Proceedings of the 21ˢᵗ world conference of the International Society for Music Education* (pp. 146-153). Tampa, FA: ISME.

Webster, P. & Hickey, M. (2006). Computers and technology. In G. E. McPherson (Ed.), *The child as musician* (pp. 375-395). Oxford: Oxford University Press.

Webster, P. & Richardson, C. (1994). Asking children to think about music. *Research Studies in Music Education, 2,* 8-14.

Weiner, B. (1985). *Human motivation*. New York: Springer-Verlag.

Weiner, B. (1986). *An attributional theory of motivation and emotion*. New York: Springer-Verlag.

Welch, G. (2006). Singing and vocal development. In G. McPherson (Ed.), *The child as musician* (pp. 311-329). Oxford: Oxford University Press.

Welch, G. & Sundberg, J. (2002). Solo voice. In R. Parncutt & G. E. McPherson (Eds.), *The science and psychology of music performance* (pp. 253-268). Oxford: Oxford University Press.

Wells. L. & Marwell, G. (1976). *Self-esteem: its conceptualisation and measurement*. London: Sage.

Westen, D. (1996). *Psychology. Mind, brain and culture*. New York: John Wiley & Sons.

Wickens, C. (2007). Teaching ICT across the curriculum. In V. Ellis (Ed.), *Learning and teaching in secondary schools* (3ʳᵈ ed., pp. 113-123). Exeter, UK: Learning Matters.

Wigfield, A. & Eccles, J. S. (2000). Expectancy-value theory of achievement motivation. *Contemporary Educational Psychology, 25,* 68-81.

Wiggins, J. (1999/2000). The nature of shared musical understanding and its role in empowering independent musical thinking. *Bulletin of the Council for Research in Music Education, 143*, 65-90.

Wiggins, J. (2001). *Teaching for musical understanding*. New York: McGraw-Hill.

Wylie, R. C. (1974). *The self-concept. A review of methodological considerations and measuring instruments*. Lincoln: University of Nebraska Press.

Youth Music (2007). *Youth Music – how we work*. Retrieved November 23, 2007, from http://www.youthmusic.org.uk/How_we_work.jsp

.

Zillman, D. & Gan, S. (1997). Music taste in adolescence. In D. J. Hargreaves & A. C. North (Eds.), *The social psychology of music* (pp. 161-187). Oxford: Oxford University Press.

Zimmerman, B. J. (2000). Self-efficacy: an essential motive to learn. *Contemporary Educational Psychology, 25*, 82-91.

Zimmerman, B. J. & Kitsantas. (Eds.). (2005). The hidden dimension of personal competence: self-regulated learning and practice. In A. J. Elliott & C. S. Dweck (Eds.), *Handbook of competence and motivation*, (pp. 509-526). New York: Guilford Press.

.