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Keynote Speaker

Emeritus Professor Barry Conyngham A.M.

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The Influence of Culture on Music Teaching and Learning

Dr Georgina Barton, *Griffith University*

Music tells us something of the particular culture from which it comes…and each musical culture also has its own way of being processed…[The] musical culture of a society is very much affected by the way it is transmitted, learned and taught. If we wish to know why a music is as it is, one place to look is the system of transmission (Nettl, 1998, p. 27).

There are many ways that teachers approach the transmission of music knowledge. This diversity is often the result of cultural influence. Differences between teaching styles can be evident in both the methods of teaching and the modes of communication used. The choice of specific teaching methods such as demonstration, rote learning, repetition, visual or verbal cues; and communication styles such as aural/oral or written modes can be determined by the cultural context in which the music is taught.

This paper explores the extent to which culture influences the methods of teaching and modes of communication used within the music teaching and learning context. It presents data from a comparative study between Queensland and Karnatic (South Indian)[1] instrumental music teachers. Both the similarities and differences between these two contexts will be discussed paying particular attention to how culture influences the ways in which these teachers teach. The paper will then suggest how this knowledge may be relevant to developing a model of teaching in the Australian classroom context.

Introduction

In this paper I will explore how culture influences music teaching and learning in context. This investigation will present research from both an ethnomusicological and music education perspective. It is evident in the literature that both of these research paradigms have addressed the unique relationship that exists between culture, music, and teaching and learning. A number of examples from various music cultures will be presented, highlighting both the methods of transmission and modes of communication used in these teaching and learning contexts. A discussion in regard to educational theory will then occur focussing on literature that explores the notion of intercultural exchange and diversity in context. The paper will then outline data from a study that compared the teaching practices of teachers in both the Karnatic (South Indian) and Queensland instrumental music contexts. It will highlight that there are many similarities between these settings, and it will also display how the existing differences relate to cultural influence on the teachers, their teaching methods and contexts in which they teach. These findings will then be discussed in relation to implications for the contemporary Australian classroom context.

Methods of Music Teaching and Learning

Observing the way that people teach music can tell us a great deal about the cultural context,

[1] *Karnatic (Carnatic, Karnatak)* music is defined here as pertaining to the classical music tradition of states in the South of India including Tamil Nadu, Karnataka, Andhra Pradesh and Kerala (Viswanathan, 1977).

processes and structures in which the teaching takes place. In fact, the relationship that exists between culture, music and teaching and learning has been the focus of much music education research (Brennan, 1992; Campbell, 1991, 1996; Dunbar-Hall, 1999; Lundquist and Szego, 1998; Volk, 1998). Campbell (1991, p. 113) for example, states that "the style and purpose of music in a society greatly affects its manner of acquisition, teaching techniques and learning strategies". Integral to music education research is the influence of work carried out by ethnomusicologists.

Ethnomusicological Research

Research in the field of ethnomusicology primarily focuses on how the phenomena of both music and culture interact and influence each other (Barton, 2003b, p. 26). Although much ethnomusicological research has focused on both the cultural and sociological affect on music practices and structures, some ethnomusicologists have commented on the transmission processes used by musicians in these contexts (Blacking, 1973; Merriam, 1964; Nettl, 1998). In his seminal work *The Anthropology of Music,* Merriam (1964, pp. 145-163) presents a complete chapter on how the learning process is implicated in the interaction between music and culture. Merriam highlights that whatever the cultural context in which learning takes place, the way that music is taught, is shaped by the particular culture's "own ideals and values" (p.145). He discusses the concept of enculturation where learning is culture bound and a lifelong process.

> It is through education, enculturation, cultural learning, that culture gains its stability and is perpetuated, but it is through the same process of cultural learning that change takes place and culture derives its dynamic quality. What is true for culture as a whole is also true for music; the learning process in music is at the core of our understanding of the sounds men produce (p.163).

This paper also purports that culture is in fact reflected in the processes used by transmitters of music knowledge.

Further, other ethnomusicologists (Blacking, 1973; Ellis, 1985) have realised that there is a distinction between music practices that learn through the enculturation process or "immersion" (Corpateux, 2002, p. 11), and those that present information in more formally structured environments such as schools. These observations are extremely pertinent to the development and understanding of how culture influences music teaching and learning processes (Dunbar-Hall, 1999, p. 48).

Colin McPhee (1938) was perhaps one of the first to thoroughly explore learning processes in cultural context. McPhee's (1938) work has been quoted extensively in the area of Balinese *gamelan* (Lundquist, 1998; Merriam, 1964; and Walker, 1998). The specificity to which McPhee (1938) describes the transmission processes of music knowledge in Indonesian *gamelan* indicates the importance and impact of the Balinese culture, including the religious significance, on music learning processes. In particular, McPhee's (1938) work describes the way young Balinese children were exposed to *gamelan*, in that they just observed rather than participated until they were ready, as a natural style of learning. Similarly, once participating in the group learning process the 'teacher' exposed music knowledge phrase by phrase.

> The method of the teacher is strange. He says nothing, does not even look at the children. Dreamily he plays through the first movement. He plays it again. He then plays the first phrase alone, with more emphasis. He now indicates that the children are to commence... The phrase is repeated, and they try again... Bit by bit the children who are learning the melody go from phrase to phrase forgetting, remembering, gaining assurance... At the end

of an hour, however, several can play through the whole melody (1938, pp. 7-8).

Of note is McPhee's description of the group learning process. McPhee (1938, p. 12) believed that learning in a group rather than placing importance on the individual emphasises the construction of Balinese music itself stating that "the general effect does not depend so much upon the excellence of the individual as upon the unity of the group". This process of learning is present in the Indian music group context where the teacher plays new pieces to their students, phrase by phrase, gradually building up to the memorisation of an entire piece (V.Shankar, 1983, p. 171). This mode of learning and layering is reflected in musical form itself (See Feld, 1984; and Lomax, 1968).

Similarly, John Blacking (1973) discovered through his work with the *Venda* people that the most informative context in regard to learning was by observing children. Blacking (1973, p. 97) observed that children learnt through the imitation of elders. He (1967) observed earlier that games played an important role in the transmission of music knowledge amongst the *Venda*. Most learning in the *Venda* context appeared to be less rigid than in formal learning environments and acted as events to empower all children and young adults. Learning in this context can be said to be more cyclic in nature in that it is not time-dependant or product expectant (Blacking, 1973).

In Indigenous communities of Australia, these approaches have also been observed (Ellis, 1985; Bell, 2002; Moyle, 1992). It is evident that melody is learnt through imitation of members of a clan that are recognised to 'own' the songs being taught, concepts such as rhythm and text are consistently presented as a unified whole (Ellis, 1985, p. 115) and a recognition of the connection between songs and the land is consistent in the literature (Bell, 2002; Ellis, 1985; Hudson, 1997; Moyle, 1992; Payne, 1988). Ellis (1985) also highlights that music making may act as a way of communicating in context and says this is of particular importance in the Indigenous Australian context (1985, p. 15). She emphasises the significance that music itself can transmit important messages in the way that it is communicated. Similarly, McAllester's (1984) work with the *Inuit* in North America also highlights the importance that music has in the process of communication.

Additionally, Hughes and More (1997) in comparing Aboriginal (in particular *Yolgnu)* ways of learning with institutionalised forms, believe that the *Yolgnu* learn through observation and imitation rather than through verbal instruction. More specifically, Hughes and More (1997) argue that:

> The focus in Aboriginal learning is on mastering context-specific skills. Mastery of context-specific skills is in contrast to a school education system which seeks to teach abstract content free principles which can be applied in new previously inexperienced situation... *Yolgnu* learners are more person-oriented than information oriented, and there is no institutionalised officer of "teacher" in *Yolgnu* society (p. 10).

Merriam (1964, p. 146) also discusses the difference between formal and informal learning environments where more restrictive formal learning occurs in places such as schools and informal learning situations refer to more unstructured learning spaces where socialisation takes place. He describes this distinction in terms of viewing the phenomena of music as either – *Music IN Culture* (where practices associated with music are seen as a separate activity to other events in one's life) or *Music IS Culture* (where the act of participation in a musical event is integral to life and closely linked).

In her book *Aboriginal Music: Education for Living* (1985), Cath Ellis details the

experiences 'Western' tertiary music students had when learning music from traditional elders from the *Pitjantjatjara* region. In particular, Ellis notes that the students recognised that Western Art music practices operate as an exclusive tradition whereas the Aboriginal processes were based more on incorporation (p. 85); secondly that the students' own music education knowledge was enhanced as a result of their experience (p. 129); and lastly that a problem occurred in finding a balance between using oral and visual modes of communication whereby the visual focus was often disadvantageous particularly in memorisation (p. 131). Further, Ellis' (1985, p. 38) distinction between 'western' or more formal and informal learning environments concerns the style of learning, that is whether it is linear and constrained, or cyclic and more holistic in nature.

Stowasser (1995) aligns this with students' music experiences:

> Students come into the music class with a range of musical backgrounds but all of them have encountered a great deal of music by the time they reach adolescence. Much of their music learning may be intuitive rather than formal, in which case it will be holistic rather than analytical (p. 261).

Educational Research

In recent times, educational theory (Andersen, 1991; Campbell, 1996; Volk, 1998) has tried to address the concept of a more "contextual approach" (Walker, 1996 and 2001) to music teaching and learning. These have developed as a consequence of the large growth of multicultural education and the view that music education can be viewed as a globally unique form of communication. An ongoing problem however, rests with reaching an agreed definition of multiculturalism (Rizvi, 1986). Volk (1998, p. 3) highlights that the term multicultural has as many diverse meanings as music itself. Further, Dunbar-Hall (1992, p. 188) and Elliott (1995, p. 291) attempt to define multicultural music education concluding that as music itself is multicultural then so should music education.

While this may be the case, a number of authors (Leong, 1999; Stowasser, 1997; Walker, 2001) have continued to acknowledge the tendency of music education practices to reflect Western values and conceptions of music. Similarly, the perception that Western culture disconnects the meaning that student's desire in their music studies in institutionalised settings, is a consistent theme in the literature (Jansen, 1997; Wojtowicz, 1990).

> Music learning in schools [or formal situations], which is of an academic nature, is often decontextualized from children's realities. This is why children often learn songs that are never sung outside the classroom. These songs are simply not meaningful to them (Corpataux, 2002, p. 11).

Expanding this, Shankar (1969) and Glickman (1996) believe that the methods and resources used to teach music from cultures, which are predominantly aural/oral ones, by requiring students to read and write music from these cultures, loses the important meaning behind such musical cultures. Smith (1998) agrees that this focus ultimately limits students' learning experiences, especially if they are from culturally diverse backgrounds. With this view in mind, a number of intercultural approaches to music education have been offered in the literature (Boyce-Tillman, 1996; Rose, 1995; Smith, 1998; Walker, 1996) with many still acknowledging the need for further research.

To this end, Walker (1996) suggests a more contextual approach to music education where the socio-cultural meaning behind particular 'musics' becomes the focus, rather than the

meaning it may provide to the individual in the form of its contribution to the listener's emotional response. Walker (2001) consolidates this framework later.

> For a theory of music to underpin a philosophy of music education, it must, I argue, deal in what a culture believes music is and how music functions within the culture. A study of music in any culture requires no less than a thorough immersion into the value systems of that culture (p. 13).

In developing a theory by which to be "culturally inclusive" many have investigated the methods of transmission. It was shown earlier in many of the ethnomusicological examples that the teaching processes used were predominantly aural/oral. The methods and strategies used in communicating music knowledge can be varied and complex and Campbell (1991) discusses various ways of learning music knowledge such as rote learning, demonstration, imitation, memorisation and repetition. Campbell (1991, p. 214) comments that many contemporary teaching methods also focus on the development of aural/oral skills of children and believes that this is a result of changing values in the Western context.

In the contemporary education context Stowasser (1995) believes that high level audiation skills in music students are imperative (Barton, 2003a). She believes that this would "provide a means towards the musical ends of enhanced performance, enriched creativity, enlightened appreciation and, above all, imaginative teaching" (1995, p. 257). Stowasser (1995) also expresses concern that aural skills are, in the main, excluded from the music program, including both classroom and instrumental practices, due to high emphasis on assessment, but if taught well can make a great difference in the skills and understanding of the music student. Similarly, Leong (1999, p. 128) believes that any "aural education that is effective...needs to be inclusive...and integrated into the entire music curriculum". This observation was also made in a comparative study of a number of instrumental music teachers (Barton, 2003a).

A Comparative Case Study

A comparative study was carried out between teachers of music in both the Karnatic and Queensland instrumental music contexts. Through a participant-observation case study it was discovered that culture influenced these contexts in a number of ways. These include the influence of culture on the teachers themselves, the teaching methods used, and the contexts in which the teaching took place.

The Teachers

It was found that the teachers in each of these contexts were largely influenced by their past experiences of learning with their own teachers. Many of the teachers had a strong connection with, or memory of, their teachers whether positive or negative. In the Karnatic context lineage of one's teacher carried social, cultural and spiritual significance (Barton, 2003b, p. 152). In the main the Karnatic teachers tried to maintain the teaching processes of their own teachers both as a sign of respect as well as to continue the Karnatic music tradition in an authentic manner. The attitude the teachers had towards their *gurus* was aligned with their admiration of the Hindu deities that they worshipped.

Teachers in the Queensland instrumental music context were also influenced by their own teachers. The lineage of one teacher to a prominent violinist/composer was revealed in the data. Teachers in the Queensland context however, were not bound to maintain just one method of transmitting music knowledge. In fact, teachers in this context tried to generate various

approaches to teaching music. This was said to be necessary so that the teachers were more able to address each individual students' needs. In this context it was clear that teachers were exposed to a wider range of teaching methods throughout their music learning journey whereas teachers in the Karnatic music context were more likely to experience less eclectic music teaching methods, as well as had the expectation on them to uphold the traditional approach. Nevertheless, in both contexts the teachers were influenced greatly by their own teachers' practice when they were a student of music.

In a similar light, the choice of material to teach and the instruments used, were selected according to cultural influence and the experiences teachers had when they were learning. Teachers tended to teach musical works that they themselves studied. In the Karnatic context a number of teachers included compositions by particular composer-saints (*Tyagaraja* for example) in their repertoire as they were connected to them through their direct teacher lineage. In the Queensland context for example, teachers taught predominantly Western Art music and much of the repertoire taught was based largely on what was required for external music examinations. How does this then affect that ways that the teachers taught their music?

The Teaching Methods and Modes of Communication

The research highlighted that the influence of culture manifests in the teaching methods and modes of communication used by instrumental music teachers in a variety of ways. Despite the vast array of strategies chosen by teachers to convey music knowledge, there was considerable similarity in the teaching methods and modes of communication used in both the Karnatic music and Queensland instrumental music contexts. This could indicate that music knowledge is transmitted in similar ways across a number of cultural boundaries.

The data showed that teachers within the Karnatic and Western contexts reflected culture in:

- the range of strategies selected to convey music knowledge
- the modes of communication used during lessons including verbal and non-verbal interactions
- the use of aural/oral and/or written teaching strategies
- the aids employed to assist understanding in the learning process such as notation and sound recordings
- the nature and frequency of group and individual lessons
- the lesson structure and its link to song structure or form
- the way in which new material was introduced and taught
- the interrelationship between particular foundational concepts such as music and rhythm, and
- the relative value and importance afforded to technique and instrument specific skills (particularly in the Western context).

It is important to note that a number of strategies were common to both Western and Karnatic teaching contexts. As such it is difficult to conclude whether these methods are culturally determined. Rote learning, repetition and demonstration were observed in the teaching methods of all teachers in the study. Further to this, the teaching of new music material was similar in both contexts. Music content was typically taught phrase by phrase with the breakdown of a musical work. Therefore, these cases suggest that there are generic strategies which may be applied in different cultural contexts of teaching. With reference to common teaching strategies, it is important to acknowledge the subtle differences that occur between different teachers, their experiences of learning and exposure to training, and the contexts of

instrumental music teaching. This interplay is at the heart of cultural influence within instrumental music teaching processes and the modes of communication used by teachers.

Another point the data showed, was that increasingly Karnatic teachers are relying on printed material and notation placing an emphasis on music literacy as opposed to the pure use of aural/oral skills. Similarly, teachers in the Western context often reinforced musical concepts present in the written score via aural/oral modes. For example, the majority of teachers in this context would often sing, clap or play short examples to students in order for them to understand the melodic content further. These experiences are counter to persisting assumptions about the modes of communication that operate within the two teaching contexts. It is generally assumed that teaching within the Queensland instrumental music context is heavily reliant on music literacy and written modes of communication. Conversely, Karnatic teaching has been traditionally associated with an aural/oral mode of communication. The research demonstrates that these assumptions are incorrect and that the line between aural/oral and written modes of communication is somewhat arbitrary. Aural/oral modes of communication do not exist exclusive of written modes of communication but interact on a continuum within both Karnatic and Western teaching contexts albeit to a different degree.

Understanding the differences that exist between usage of aural/oral and written modes of communication within music cultures and students' needs and preferences to learning styles is integral in developing instrumental music programs in formal contexts such as schools (Barton, 2003a).

The Teaching Context

The research indicated that many aspects in the instrumental music teaching context are influenced by the culture in which it is immersed. This extends to both musical and non-musical elements. While the teachers' own experiences and methods of teaching and modes of communication have been presented, culture also has an impact on the meaning of music making within these practices. In both the Karnatic and Queensland instrumental music contexts, it was evident that culture contributed to the way that music knowledge was transmitted as well as the purpose of music teaching and learning in these contexts.

In the Karnatic context the Hindu religion permeated most aspects related to music teaching processes and practices. Devotion to various Hindu gods and/or goddesses was reflected through religious ritual and ceremony, adoration associated with the teachers' own guru, lineage as reflected in the teaching processes and ritual, and choice of music material for both learning and performance purposes. This devout spirituality undoubtedly influenced the context surrounding the Karnatic music teachers' practice, the inherently spiritual nature of the music, and the social function of teaching, learning and performance in the Karnatic tradition within a broader context of religious belief.

This cultural influence was seen strongly in a number of non-musical elements associated with the Karnatic teachers. Ritual was commonly used before and after lessons and reflected the spiritual and religious importance of the process of learning Karnatic music. It was expected that students would engage in these practices as a mark of respect for both the teacher and the Hindu deities to which they ascribed.

In the Queensland instrumental music context culture was reflected through a number of factors including: the way the teachers approached the structure of the lessons; the reason why they chose teaching as a profession; the participation in external examinations as a measure of

performance standard; the way that aspects of music such as practical and theoretical content were taught as separate ideas; the expectation by people in the school communities for regular public performance to validate outcomes and display the quality of programs being offered; and through the cost of learning an instrument. In this way religion and/or spirituality as an influencing force was superseded by other factors such as economic forces that influenced the way the teachers in this context approached music teaching and learning.

In a similar light, the purpose or function of maintaining the music tradition through the teaching practice varied between the Karnatic and Queensland instrumental music contexts. For Karnatic teachers, transmitting music knowledge to their students provided them with the opportunities to affirm their cultural tradition. As a result the teachers were committed to upholding the teaching tradition that they themselves had experienced. In the Australian/Indian context however, the teachers did claim that although they taught the same way in which they were taught slight alterations to either the music content, instrumentation or construction of lessons were on occasion made. The teachers attributed this to the constitution of Queensland audiences. As not all people engaging in performance practice were not 'South Indian' the teachers felt that a 'fusion' of styles and presentation was acceptable. If however, Karnatic teachers in the Queensland context were to teach how they teach in Australia, back in India, it would not necessarily be accepted as an 'authentic' approach to music teaching and learning processes. Ultimately though, playing and teaching Karnatic music enabled teachers to express their cultural identity as Indian people. This was particularly important for Karnatic teachers in Australia.

For the Queensland instrumental music teachers the main purpose of teaching was to generate income. Although this was also a purpose in the Karnatic tradition it was not the main reason given by these teachers to why they taught music. Some instrumental music teachers in the study referred to their teaching practice as a calling. Others were compelled out of personal reasons including high expectations of such a career given significant lineage in a family line of performers and teachers, familial obligations arising from significant investment in lessons and instruments over a number of years; and lastly, the importance of religious and spiritual commitment.

Another aspect of culture that was important in the both contexts was that of class. In the Karnatic context learning the classical music tradition was tied to the Brahmin (higher) caste of people. These practices have subsided over time but are still evident. Similarly, in the Western context due to the cost of learning, only people who are able to afford to learn an instrument and maintain learning over a period of time can continue to do so.

Through the data a number of experiences and comments made by the female Karnatic teachers reflected the social and cultural constructions associated with gender. As such, women were traditionally expected to pursue teaching careers in Karnatic music rather than pursue performance careers. Another related factor that reflected the influence of culture on gender roles was that of instrument choice. The learning of percussion instruments was male dominated although some women played them.

In addition, a number of traditional events were practised in the Karnatic tradition such as the musical debut, and elevation to teacher from student. The students, their parents and the community in which these events took place held each of these with respect and acceptance. In the Queensland instrumental context similar events occurred. Each of the teachers held performance events whose primary function was to consolidate what the students had learnt as a result of the lessons that they had attended. In the school context, individual and ensemble

performances were often displayed so as to provide evidence that the program should continue to be supported by the school community. These events also functioned as positive public image for prospective clients. In the private context, these events were replaced with external examinations so that parents could be provided substantive feedback on what their child had actually learnt. Once the student had reached a particular level in these examinations he or she was considered eligible to teach although none of the teachers from this study had students at this level.

The teacher/student relationship that was developed in each context reflected broader cultural influences. In the Karnatic context respect of one's guru is considered an integral part of the learning process. This materialised in the actual performance practice of music content and as previously mentioned, in ritual conducted in this context. In the Queensland instrumental music teaching context however, the teachers complained of students' poor attitude to learning. Lack of practice, unreliability, and lack of commitment to learning were aspects that teachers were consistently concerned about in this context. The relationship between teacher and student in the Western environment appeared to be more of an equal one than that observed in the Karnatic context where the teacher was viewed as having more knowledge and should therefore be respected for this.

The notion of what made a 'good' teacher was similar in both contexts also. This could indicate that although the music content being transmitted was different the ways in which to communicate this and gain positive results from students requires particular qualities from the teacher despite the context in which the teaching takes place. Above all the teachers agreed that patience and the ability to judge what each individual student needs in the teaching environment were qualities that successful teachers would require for effective teaching to take place. Again this may not be conceived as a 'cultural' distinction but may ultimately have implications in various contexts.

Therefore, the data confirmed that culture influenced not only the teachers' own learning experience and the methods of teaching chosen by the teachers in transmitting music knowledge but also in the construction and existence of the environment in which they taught. The influence on these practices from the cultural and social surrounds is an integral aspect of the teaching process but is often understated. This is due in part to the subtleness of the cultural influences as discussed above, and the teachers themselves not being fully aware of the impact that culture has on teaching practices. Understanding this affect however, may assist teachers in producing outcomes faster and more effectively in the instrumental music teaching context.

Implications for the Contemporary Australian Music Education Context

The findings of this research may have broader implications for the development of contemporary music teaching and learning practices. These include: providing insight into the way culture potentially influences how instrumental music is taught in other contexts and situations such as classroom music; enabling teachers to reflect on their instrumental music teaching practice and place it within a broader social and cultural context; providing teachers with a basis for a way of assessing and responding to cultural influence in instrumental teaching processes and practices; providing greater opportunities for teachers of instrumental music to utilise traditions other than their own to teach musical concepts – 'teaching music culturally'; and, providing teachers with a greater repertoire of skills and techniques to work more flexibly with the cultural backgrounds and experiences of learners in their tutelage.

In regard to formal music education practices, it is critical to note that music knowledge can

be demonstrated, recorded and assessed in various ways. These processes are integral to music teaching and learning practices and are grounded in a music's cultural genesis. Music teaching and learning practices in the Queensland instrumental music context may however, overlook the importance of culture as non-western musics are often interpreted from a west-centric perspective. Such an approach may diminish the capacity for students, whose cultural and social experience rests outside the narrow boundaries of Western Art music, to engage, interpret and understand instrumental music in Queensland. Moreover, such approaches could also limit the potential for teachers to convey instrumental music knowledge effectively to the learner and thereby reduce their fulfilment as professionals.

Being able to accept differences in the transmission and acquisition of music in various learning environments, as well as expanding the opportunities available for students to acquire music literacy skills in the Western Art music tradition are seen as necessary prerequisites for improving music education practices. This approach would respond to the unique interplay between culture and music as well as the requirement for monitoring, reporting and measurement of performance in the instrumental music context. In this way perhaps a more 'culturally-responsive' approach to the teaching and learning of music is made more possible.

About the Author

Dr Georgina Barton is a music educator who values the diversity that music brings into the teaching and learning context. Her area of expertise is inclusive pedagogy and the development of teachers' skills in addressing multi-modes of learning. She has had experience in a diverse range of music cultures. Dr Barton is currently on staff at Griffith University in Music and also works with Education Queensland.

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To Do Or Not To Do?

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In Queensland a new Arts Syllabus for Year 1-10 is currently being implemented. Teachers in the state system are expected to have fully implemented its philosophy, assessment, and report on the outcomes by 2006. In the private sector, however, use of this new document is optional. This paper explores the third stage of a continued research study involving how teachers in the creative arts cope with curriculum change. Teachers from private secondary schools were interviewed in regard to their philosophy on music education and how it relates to the new syllabus, and whether they will adopt this new curriculum. Teachers from both co-educational and single gender schools were invited to participate. The results of these interviews are discussed. A comparison is then made between the data collected from the early stage of the research project (from State School Music teachers) to the data collected from this next stage of the research (from Private secondary Music teachers).

Introduction

It is one thing for curriculum to be changed and expectations placed on teachers for its implementation, but when teachers have the choice to implement this change or not, what influences help them in making this decision? This question was raised to music teachers teaching in the private sector in Queensland. A new Years 1-10 Arts Syllabus is currently being implemented and this syllabus is mandatory for state school teachers but optional for private school teachers.

This research is an ongoing investigation into the creative arts curriculum in schools. Stage 1 of the research project commenced with an exploration into raising issues, that may be of concern, when teachers are confronted with a syllabus change. These discussions were raised by Hartwig at the 2003 ASME conference. They included:

1. How will each music teacher's own theoretical framework of music education fit with the philosophical underpinnings of the new document?
2. How will teachers with different teaching styles and beliefs interpret the new syllabus?
3. Will the new syllabus accommodate different schools made up of students with a wider variety of diverse characteristics and needs?
4. Is the core content relevant and contemporary?
5. What methodology will be the most effective method of implementing this syllabus?
6. How will music be assessed with this new framework – and from Years 1-10?
7. What relationships will former music curriculum documents have with the new document?
8. What in-service and resources will be provided to assist teachers understand and implement the syllabus?

In Stage 2 of this research eight music teachers from the state system were interviewed. This study reported (Hartwig and Barton, 2003) that there are many variables that have an effect on the teaching of music in schools especially at the time of the introduction of a new syllabus. There was a consistent agreement that the positive language of an outcomes based approach to learning was a strength, encouraging a focus on what students can do. Teachers liked the

possibility of working with a portfolio system of assessment stating that students' work would more likely be kept up to date and compact. There was also agreement that the focus on Kodaly language and the suggested repertoire was not appropriate for most state secondary school contexts. A common thread that emerged from the interviews was that teachers would attempt to maintain as much of their current program and practices as possible. This suggests that teachers were looking for ways to implement the new document with minimal disruption. "The pressures [for change] seem to subside with the act of adoption followed by the appearance of implementation" (Berman and McLaughlin, 1979, p. 1).

Teachers expressed concern when they were willing to adopt this new outcomes based philosophy, but the administration of the school was still requiring them to report using criteria (for example A-E marking scheme). These issues all have relevance for teachers when change in curriculum is expected.

Curriculum Change

> Change is a highly personal experience – each and every one of the teachers who will be affected by change must have the opportunity to work through this experience...if the change works, the individual teacher gets little of the credit; if it doesn't the teacher gets most of the blame (Fullan, 1991, p. 127).

Practices in schools often reflect the community that surrounds them. Many aspects of the educational environment change particularly in the area of curriculum (Fullan, 1991). This adds more pressure and expectations on teachers given the work that they are already doing in the classroom environment. Understandably, when a new approach to curriculum is introduced teachers feel overwhelmed. Fullan also comments on the need for the administration in schools to endorse any change that takes place for the "innovation to succeed" (1991, p. 138).

In regard to implementation Smith and Lovatt (2003) state that both the content of such a change and the processes whereby the change comes about need to be considered:

> Even though the change strategies used will need to include ways of providing the necessary content to teachers so that they can teach the new program, the most important part of the strategies will be to convince teachers that there is a need to change and to develop beliefs, perceptions and practices in accord with that change (p. 193).

They describe this as the change process. Stage 2 (Hartwig and Barton, 2003) of this research highlighted these issues.

Years 1-10 The Arts Syllabus

The new 1-10 Arts Syllabus has been drafted and trialled and the outcomes are due to be reported on by teachers in state schools by 2006. There are five strands within the Arts syllabus – Dance, Drama, Media, Music and Visual Arts. The philosophy underpinning the document is an outcomes based approach. This approach is learner-centred and focuses on providing opportunities for students to develop and demonstrate learning outcomes (The Arts: Initial in-service materials, 2002, p. 14). There are core learning outcomes and core content that form the basis of each strand (Appendix 1). These are presented in order of increasing complexity. In music the learning outcomes are: aurally and visually responding to music; singing and playing music; and reading and writing music. Discretionary outcomes may be written by the teacher in addition to the core outcomes.

Data – Interviews with Private Secondary Music Teachers

In this stage of the research, Stage 3, those questions asked of the state school teachers were again proposed to teachers in schools not considered part of the State Education Department. (See Appendix 2 and Table 1).

The Syllabus – A New Philosophy

Initially, the eight teachers were asked whether they were familiar with the syllabus and if so to what extent. Knowledge of the document varied quite extensively between each of the teachers. One teacher for example, said that:

> I have not seen it as I don't think it necessary given both the success of our existing music program and the fact that I don't need to implement it.

Others had a thorough knowledge of the core content and the document. One teacher for example, said that:

> I teach exactly according to the new syllabus. It is fantastic. It works really well in our school where singing is valued.

One teacher said he/she had not read the document properly but were interested to do so to see if it would be relevant for the students at his/her school. The teacher had been to one in-service and commented that the syllabus looked promising from what they learnt at this session.

In regard to whether the document provided a more effective approach than previous practices, the teachers agreed that the presence of one document for the state of Queensland was good, as it provided consistency from one school to another. In theory students could change schools without much difficulty as long as they could provide information on what level they were demonstrating in music. The teachers however, thought that this would only be possible if every teacher in the state was implementing and fully understanding the new philosophy.

Six of the eight teachers had begun to implement the syllabus in various ways and they felt it was a good basis on which to develop their Year 8-10 Music programs. The extent to which the teachers used the new syllabus was largely determined by the amount of time they had devoted to understanding the document and its philosophy.

It was evident from the interviews that each of the teachers had an independent view on what they both liked and disliked about the new syllabus. A number of similarities between the teachers' views arose however.

The teachers generally felt that the new syllabus fits their existing programs well. They liked the format of the document as well as the fact that the basic underlying philosophy was about what children could demonstrate in terms of outcomes, and not based on what they were unable to do (as in criteria based assessment). From what the teachers knew of the outcomes philosophy there was agreement that this approach for students was beneficial.

A concern from some of the teachers however, was whether teachers across the state would understand fully the concept of outcomes and be able to implement it the way in which it was intended. One teacher, for example, referred to other subject area's policy documents and the problems that arose within the implementation process as a comparison. They felt that the

department of education had not been clear enough about the significant change in the teaching and learning framework associated with outcomes.

Of the eight teachers four believed other strengths of the syllabus included the specificity of the core content. The teachers said that this was a good guide for planning and teaching for those who did not have enough time or experience in the music classroom. They were impressed with the overview layout of the core content provided in the syllabus (See Appendix 1). They believed this enabled teachers to gain an idea as to what was expected from students at the completion of each level.

Conversely, three of the teachers commented that to teach the core content only, could result in a more restricted approach to music teaching and learning and stifle creativity in both the teacher and the students. They argued that many teachers would interpret the language of the learning outcomes as clearly aligning with a Kodaly approach to teaching and learning (See Appendix 3 for an example), and although an effective method of teaching, it may not necessarily be relevant in all school contexts. They also said that it might force people to adopt this method of teaching if they were not already using it or assist in their decision not to implement the syllabus in their schools.

However, once again this is an interpretation of the syllabus by teachers. In fact the syllabus does not prescribe a particular methodology and allows for creativity by teachers and students by providing the opportunity for teachers to write discretionary learning outcomes. The syllabus states that these additional outcomes allow for diverse learning experiences for students in the music classroom. It continues that:

> Teachers can help students to demonstrate learning outcomes by recognising the different ways, rates and settings in which learning takes place. Students' backgrounds, interests, prior understandings and experiences need to be valued and included as a basis for constructing new learnings within an outcomes framework (The Arts: Initial in-service materials, 2002, p. 14).

Another issue that rose out of the discussions was that the syllabus was predominantly based on a vocal music program. One of the teachers felt that in schools where singing is not prominent the syllabus would need to be re-focused and concentrate more on instrumental aspects:

> Many music teachers have insufficient training and knowledge about singing technique and cannot help their students develop good vocal habits.

Another teacher who felt the core content restrictive also stated that the repertoire selected was "extremely limiting" and that if one were to only use this repertoire it would be devastating for students. They noted that there was a wide range of other "incredible music out there" for teachers to use that was not referred to in the syllabus.

Flexibility seemed to be valued amongst the teachers especially in regard to being able to have students working at different levels in the one classroom setting.

Implementation

As stated earlier the implementation progress from one teacher to another varied greatly. Some teachers felt they needed more knowledge and support about the document before they could consider implementing it. They wanted to become more familiar with the philosophy and content of the new syllabus and one teacher said that they would prefer to network with teachers

who had piloted the program in their schools. On the other hand another teacher said that their school had fully implemented the document's contents, philosophy and assessment from Years 5 to 10.

In regard to the decision to implement or not, it appeared that this was made by the teachers and/or their departments not necessarily as a directive from the Administration. This may have been a result of the fact that the teachers in this context had more flexibility in regard to the adoption of the document.

It is interesting to note that as the teachers in this context generally expressed the sentiment that "we can use what we like and discard what we don't feel appropriate". The teachers were also cautious about just implementing the core content. One teacher made the comment that "this [approach] could devalue a comprehensive music curriculum – one where the development of 'discriminating musicians' would occur".

A number of the schools however, were rolling the implementation process through the Junior year levels, that is they would start with a year 8 class and follow them through until year 10. While others started to implement with each year level from years 8-10 at the same time. As many private schools had either years 1-12 or 5-12 classes present in the school the teachers in these contexts felt that the levels stated in the curriculum would be achievable across the whole school.

In-Service

Most of the teachers had attended at least one in-service session on the new syllabus. Generally, the teachers felt it necessary to become informed as much as possible so that the implementation is smooth and organised. They had been supported to attend in-services offered by Education Queensland and other organizations. Some of the teachers were also given time out of the classroom to write their program.

The teachers commented that many of the Music in-services were dominated by presenters that favoured the Kodaly method of teaching, which while being an effective methodology presented a restricted approach to interpreting the document as not all people used this method in their teaching practices. Many of the in-services offered were in fact run by the Kodaly Music association.

There was a pervading view that the supportive materials were extremely effective and user-friendly. One teacher felt that there was a lack of further resources available such as a more centralised resource base that could be offered on-line. They felt that the lack of technology focus in the syllabus was also disappointing.

Assessment and Reporting

The issues of assessment and reporting were prominent in the discussions with the teachers. In regard to assessment one of the teachers felt that it would need to be given considerable attention as to how to approach this. They commented that there was not a lot of in-service available on this topic. The teachers agreed that given the outcomes focus of the document that a portfolio system would be desirable. Others said that it would be simpler to have a 'tick' system of assessment (particularly for primary teachers who tended to see a lot of students) to focus on what the students had actually demonstrated in the classroom.

Once again the teachers liked the flexibility in assessment tasks. They generally felt that creative forms of assessment could be developed whereby the students could demonstrate a number of tasks at once.

In regard to reporting, most of the teachers said that their school would maintain a criterion-based system of reporting. They said that the majority of parents demanded this and that if it were to change to outcomes based reporting parents would certainly need to be educated about this approach. The teachers agreed that a balance between both systems was desirable particularly given that in the Senior school criteria based assessment was still used:

> I think it is important to maintain [consistency in] reporting across the entire senior school (grades 8-12).

Comparison Between State and Private Teachers Comments

When comparing the data from stage 2 of this research (that is the interviews with state school teachers) to the data as outlined from the private school teachers a number of issues emerge. These include:

- Choice to implement or not
- Approach to teaching and learning - methodology
- Assessment
- Reporting.

The most prominent issue was that teachers in the state system were required to implement the document and had a strict timeline in which to do this as compared to private school teachers having the choice as to implement or not. Undoubtedly there were pressures associated with the mandatory implementation that only the state school teachers experienced. These were mainly concerned with the time frame they were to be guided by, as well as the notion that not enough support had been provided by which to implement the document successfully. This aligned with budgeting concerns as well as knowledge of not only the document's contents but methods of implementation, assessment and reporting.

Even though the teachers in the state system were required to be in control of the implementation and the document's contents some felt that their administration were not. In the private sector most of the teachers thought that the document was effective and valued it enough o implement it whether wholly or in part. Also the majority of these teachers commented that their school's administration and management teams were committed to the changes and had already adopted an outcomes focus across their Junior school (Years 8-10).

A common concern (although some of the teachers did not have this concern) between the settings was the fact that the document had been written primarily focusing on one methodology of music transmission, that is the Kodaly method of teaching. This concern was raised as the teachers felt that not all schools and their students suited just this one way of teaching and that it was not relevant in some particular contexts.

Conversely, the teachers agreed that the document allowed flexibility. This appears to contradict the sentiment above. This view usually was referred to the access of knowledge to students who work at different levels with the one classroom setting not in terms of teaching method.

The teachers felt that collection of assessment could be quite an onerous task especially for primary music teachers who would have a large number of students they see each week. They believed there was a great need for resources assisting in the documentation of students' achievements and said that a portfolio system of assessment was perhaps the most appropriate in this context.

Generally, the teachers said that in regard to reporting that schools would remain reporting in criteria based comments of a number of reasons. These include, (1) parents preferred this and if schools were to change they would need to be educated about these changes and any implications they may have; (2) administration failed to address outcome based reporting; (3) that there should be a consistency from Years 8-12 as students going into senior would be unfamiliar with current marking structures.

Conclusion

In spite of the concerns and problems raised the document was viewed positively by the teachers. They believed in the philosophy of an outcomes based approach where the focus is on what students know and can do. Teachers now had a philosophy on which to underpin their music programs with stated core content. Teachers were excited about the prospect of is a state-wide curriculum document. This means that access to Arts education for all children in Queensland is a real possibility.

About the Authors

Dr Georgina Barton is a music educator who focuses on the diversity that music has in the teaching and learning context. Her area of expertise is inclusive pedagogy and the development of teachers' skill in addressing the diverse learning styles that students bring into the classroom. Her experience in cross-cultural contexts assists in this knowledge. Dr Barton is currently on staff at Griffith University in Music and an employee with Education Queensland.

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Appendix 1

Core content from The Arts – 1-10 Syllabus – Queensland Schools' Curriculum Council

Core Content

Music

Students sing, play, listen and respond to a wide range of repertoire through which core musical components are learned. The ability to express themselves in music, to think in sound and to read and write music notation empowers students to be musically independent and contributes to personal satisfaction and enjoyment.

Key components	Level 1	Level 2	Level 3
	Once introduced, core content is to be revisited and developed in subsequent levels.		
Rhythm and metre	• beat and rhythm • two- and four-beat metre • ♩ ♫ 𝄽	• accent and barlines in $\frac{2}{4}$ $\frac{3}{4}$ and $\frac{4}{4}$ • ties • ♩ 𝅗𝅥	• accent and barlines in $\frac{6}{8}$ • anacrusis • ♫ ♫ in simple time • ♪ and 𝄾. in compound time
Pitch and melody	• difference between speaking and singing voices • melodic contour and patterns containing *so, mi* and *la*	• *do* pentatonic scale • major 2nd and minor 3rd intervals • treble clef notation — E, G, A, B, C', D'	• extended *do* pentatonic scale • major 3rd intervals • treble clef notation — Middle C, D, F#
Part work	• rhythmic ostinatos • song and beat • song and rhythm	• 4-beat rhythmic and melodic ostinatos • rhythmic and melodic canons	• accompaniments • partner songs • rhythmic and melodic canons up to three parts
Form and structure	• question and answer phrase structures • same and different structures	• canon form • introduction • same, similar and different phrase structures	• binary, ternary and rondo forms • repeat signs • verse–chorus structures
Tone colour	• untuned percussion instruments • widely contrasting melody instruments	• string instruments • two or three voices singing together	• percussion instruments • woodwind instruments
Expressive elements	• detached/smooth • fast/slow • soft/loud	• piano (p), forte (f)	• crescendo, decrescendo • pianissimo (pp), fortissimo (ff) • staccato, legato

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Core Content

Music

Students sing, play, listen and respond to a wide range of repertoire through which core musical components are learned. The ability to express themselves in music, to think in sound and to read and write music notation empowers students to be musically independent and contributes to personal satisfaction and enjoyment.

Key components	Level 4	Level 5	Level 6
	Once introduced, core content is to be revisited and developed in subsequent levels.		
Rhythm and metre	• 𝅗𝅥 𝅘𝅥𝅮, ♩. 𝅘𝅥𝅮, 𝅘𝅥𝅮♩., 𝅘𝅥𝅮𝅘𝅥𝅮𝅘𝅥𝅮𝅘𝅥𝅮 in simple time	• commonly occurring patterns in simple and compound metre • syncopated rhythms • triplet in simple metre	• augmentation and diminution mixed metre
Pitch and melody	• *Io* pentatonic scale • perfect 4th and perfect 5th intervals • treble clef notation — F, B♭, E'	• C, G, D, F major and related natural and harmonic minor keys and scales • major, minor and perfect intervals, up to and including octave • treble and bass clef notation	• A, B♭ and E♭ major and related natural and harmonic minor keys and scales • augmented and diminished intervals
Part work	• melodic canons up to four parts • rhythmic and melodic ostinatos and accompaniments • tonic and dominant accompaniments	• chords and progressions using I, IV and V in known major keys, and chords i, iv, v and V in known minor keys • ensembles in up to four parts	• chords and progressions using I, ii, IV, V, V7 and vi in known major keys and chords I, iv, v, V in known minor keys • ensembles in up to four parts, one person per part
Form and structure	• first and second time endings, *da capo al fine*, *dal segno*	• forms and styles encountered in repertoire • homophonic and polyphonic textures	• forms and styles associated with particular historical eras and cultural contexts
Tone colour	• brass instruments • solo instruments and ensembles from a range of cultural and historical contexts	• cross-cultural timbres • electronic and computer-generated timbres • orchestral timbres	• instrumentation and timbres associated with particular historical and cultural contexts
Expressive elements	• accents and pause • mezzo piano (mp), mezzo forte (mf)	• commonly occurring signs and terms	• signs and terms encountered in repertoire

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Appendix 2

List of Questions Asked of Participants

1. Have you viewed the new Syllabus?
2. Do you think that the concept of 1-10 will be more effective than past practices? Please explain.
3. What do you see as the strengths of the new Syllabus?
4. What do you see as the weaknesses of the new Syllabus?
5. How does your own philosophy of music education fit with the syllabus?
6. If implementing the new syllabus in your school what methodology will/would you use?
7. What impact will your previous program have?
8. Is the core content relevant to your context?
9. Have you intended any inservice on the new Syllabus? Discuss further (what did you like/dislike?)
10. Have you viewed the support material – CD rom? Modules? If so, what did you think of them?
11. What is your view on the availability of resources for implementing the new syllabus?
12. In regard to assessment and reporting how will you approach these within the new framework? Or how does your school approach assessment and reporting in your context?

Table 1

Description of Schools as Provided By Teachers Interviewed

School	Description (as provided by teacher)
A	Large P-12, Co-educational
B	Large Years 8-12, Co-educational
C	Large Years 8-12, Boys only
D	Large Years 6-12, Boys only
E	Large Years 5-12, Boys only
F	Small Years 8-12, Girls only
G	Medium Years 5-12, Girls only
H	Large Years 5-12, Boys only

Appendix 3

Extract from *Da Capo Unit* – Queensland Schools' Curriculum Council Modules

Time names and solfa syllables **Teacher resource 2**

Simple time note	Time name	Stick notation
♩	ta	|
♫	ti-ti	⊓
𝄽	za	Z
𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯	tika-tika	⊓⊓
♫	ti-tika	⊓⊓
♫	tika-ti	⊓⊓
𝅗𝅥	ta-ah	𝅗𝅥
𝄼	za-ah	𝄼
𝅝	ta-ah-ah-ah	𝅝
♫	tim-ka	⊓
♫	ka-tim	⊓
♩ ♪	tum-ti	| ᚹ
♪ ♩	ti-tum	ᚹ |
♫	tri-o-la	⊓
♪ ♩ ♪	syn-co-pa	ᚹ | ᚹ
Compound time note	**Time name**	**Stick notation**
♫	ti-ti-ti	⊓⊓
♩ ♪	ta-ti	| ᚹ
♫	tim-ka-ti	⊓⊓
𝄽	zum	𝄽

Degree of the scale	Solfa syllable Major	Solfa syllable Minor
1st — tonic	*do*	*la*
2nd — supertonic	*re*	*ti*
3rd — mediant	*mi*	*do*
4th — sub-dominant	*fa*	*re*
5th — dominant	*so*	*mi*
6th — sub-mediant	*la*	*fa*
7th — leading note	*ti*	*so* (raised) *si*
8th — upper tonic	*do*	*la*

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Teaching Australian Cello Music to Intermediate Students: An Exploratory Study of Motivation Through Repertoire

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This paper explores the motivational aspects of repertoire for intermediate student cellists. Research into interest and intrinsic motivation related to the learning of instrumental music has been limited to date. As a cello teacher interested in including contemporary and Australian music in my students' studies I started to research availability of Australian repertoire for intermediate cellists and found that there was limited accessibility to such pedagogical material at this level. This study emerged as a way of providing useful information to composers. It investigates intrinsic motivation by questioning students and their teachers about which aspects of music repertoire are most likely to inspire students to practice more and strive for excellence.

This paper presents the findings of the purpose-designed questionnaire distributed to cello teachers in Queensland. A similar set of questions has been prepared for student cellists and information gathering from students is still underway. Musical aspects investigated include technique and its development, style, harmony, tempo (speed), and rhythm. The questionnaire gathered information on the most frequently used teaching repertoire and teachers' experiences in teaching contemporary and Australian repertoire. This information was balanced with questions regarding the technical developmental requirements perceived necessary for intermediate students as well as other motivational aspects. It is hoped that information collated from this research will be of benefit in the selection of motivational repertoire for intermediate student cellists and especially in promoting the composition of Australian pieces for intermediate cellists.

Introduction

This presentation is centred on the results of a questionnaire which was purpose designed for cello teachers as part of an overall research protocol. The primary research question being addressed through the questionnaire is: What aspects of music are most motivating for intermediate cello students?

This paper begins with some background to the research and discussion of the pedagogical benefits of teaching contemporary music. This research derives from an interest in instrumental pedagogy, in particular, cello pedagogy for the intermediate cellist.

An initial investigation of the Australian repertoire available for cello found that much of what was available was more suited to the advanced student or professional cellist and that relatively little music was accessible for the intermediate student cellist. Is this a problem peculiar to Australia? It seems not, as a recent article by the American composer Michael Colgrass (2004, p. 21) also questions why top professional composers do not compose more music for children. He suggests that it is because composing for children is not as 'glamorous' and that composers are generally not trained to write for amateurs.

As the researcher has a particular interest in the intermediate cellist and motivation, the decision was made to research aspects of music which may make Australian compositions, as an example of contemporary repertoire, attractive to the student cellist.

Why research Australian repertoire for the cello? An affinity for contemporary music, a nationalistic sentimentality and a special experience combined to create the conviction to study Australian repertoire for the cello. At the Manchester Cello Festival in 1998, one of the guest performers was Siegfried Palm, well known in the cello world for his performance of contemporary music. The expression he put into his performance was absolutely electrifying, it demanded that you listen!

Background To The Research

Why Study Contemporary Repertoire for the Cello?

In an interview with Siegfried Palm in 1998, Tim Janof asked Palm if playing contemporary music gave insight into earlier music. Palm's response was:

> Absolutely. It's unbelievable how your view of earlier music shifts when you play a lot of 20th Century music. Contemporary music forces you to think more analytically, which helps you understand Baroque, Classical, and Romantic music. The trick is to not get too analytical, since, as an artist, one must play from the heart as well.

Why Research Contemporary Music for Intermediate Cellists?

In an article on a new contemporary music collection by British composers called *Spectrum for Cello*, Joanne Talbot (2004) writes:

> Contemporary music is all too often associated with complex scores and difficult pitching, not to mention rhythmic contortions that send the grey cells screaming for relief. It is so much easier for the teacher to put tried and tested repertoire in front of a pupil. Yet new scores offer freedom from a performance tradition – often liberating pupils as well as enabling them to develop their range of timbres through different bowing techniques and pizzicato. Furthermore, it is frequently the case that children access contemporary styles more easily than the staple classical repertoire, which seems increasingly removed from their everyday experiences (p. 474).

Talbot (2004, p. 474) also includes a thoughtful comment from pianist Thalia Myers who plays the accompaniments in the CD included with this British album: 'I also had not appreciated how much freedom from the weight of performance tradition can contribute to the growth of confidence in playing.'

The English cellist Caroline Bosanquet (1999, p. 209) comments that: '... there is still a pressing need for a systematic pedagogical approach to the technical problems posed by avant-garde composers. Concert pieces which incorporate contemporary techniques at a simple level are also required.'

Margaret Farish was dedicated to introducing contemporary music to young string players in America. In her article of 1968 (pp. 9-10) she discusses issues which are also relevant to this research project. These include the availability of suitable music for string students and the 'responsibility' of the music educator in making contemporary music 'accessible to the ear and the mind of the listener and performer'. With regard to issues being discussed at that time

Farish notes that:

> Music critics are writing at length about the variety of contemporary compositional technics, the problems of obtaining adequate performances of new music, adverse audience reaction to unfamiliar repertoire, and the responsibility of the music profession as a whole to the composer.

Thirty years later, Farish (1999, p. 34) made some retrospective observations of her work in developing contemporary repertoire for string students. Firstly she noted her surprise that lack of student literature was not due to composer disinterest, but that she had found 'that even well-established composers were willing to write easy pieces.' Her second surprise was that of the participating teachers, despite all being well trained and experienced, 'only a few taught the pieces to the young students for whom they were written.' Farish goes on to say that:

> Those [teachers] who did reported an enthusiastic response; the others could not find the time. The experience led to my conviction that the best time to introduce contemporary music is at the very beginning of instruction. Students welcome the music of living composers; they have not yet learned to be afraid of the new.

Why Research Motivation in Instrumental Pedagogy?

Motivation is a topic frequently discussed by instrumental teachers, particularly in the context of trying to encourage their students to practice more so that progress can be achieved. Interestingly, Renwick and McPherson, in a recent article (2002, p. 173) make the comment that: '... research on motivational aspects of musical learning has largely bypassed interest and intrinsic motivation.'

Barry Green (2003) makes this comment with regard to the difference between intrinsic and extrinsic motivation:

> It is difficult for me to make myself or my students want to practice when motivation doesn't come from within. The will to practice should arise naturally when playing great music because the music should be inspiration enough. However, this often isn't the case. Although teachers and parents use gold stars, money, rewards, a vacation, an instrument, or a special meal to motivate students, such external motivators have little to do with making, learning, or performing music (p. 17).

Accessibility to Australian Cello Music

In looking at Australian cello music it seemed that accessibility could be an issue. That is what sort of music was available? How difficult was it? Was it playable? How advanced would you need to be as a cellist to play it? Where did you find it? Was it printed or in hand-written manuscript?

For teachers seeking to find Australian repertoire, there are two main sources of information. Firstly there is the Australian Music Centre (AMC) in Sydney. Music can be borrowed or bought from the AMC, but unless you already know what you want, it can be a time-consuming process, especially if you do not live in Sydney. Another source of information is the Australian Music Examinations Board (AMEB): Manual of Syllabuses.

In a list supplied by the AMC on 24th July 2001, it was noted that there were a total of 249 pieces for cello including 65 pieces for cello solo and 85 for cello and piano. From the

information supplied in the list, pieces described as being at a professional level of difficulty were excluded leaving a list of 29 pieces, representing 17 composers, that fell in the range of approximately grade 4 to grade 8 AMEB.

This did not seem to be very many, so the AMEB syllabus was consulted and a list made of all the Australian pieces listed in the cello syllabus. An analysis of this list found that there are eighteen solo pieces and twelve accompanied pieces, making a total of 30 pieces from Preliminary through to Licentiate. The syllabus includes no Australian pieces for Preliminary, only solo pieces for Grades 7, 8 and Associate and there are only accompanied pieces for Grades 2, 4, 5 and 6. There are only three pieces in total listed for Grades 5 and 6 combined (see Table 1).

This small number of pieces in the Grade 5 to 6 range was one of the reasons for focusing the research at this level. Thus 'intermediate student' was defined as 'those students at approximately the Grade 5 to Grade 6 level AMEB' for the purposes of this study.

Methodology

What Aspects of Music Are Most Motivating for Intermediate Cello Students?

From these thoughts came the idea of asking teachers and students their thoughts on what types or aspects of music were most motivating. The approach used in this project has been through purpose designed questionnaire and interview. The aim of this survey approach was to gather information on:

- What repertoire do teachers use most often with their intermediate students?
- What repertoire is considered enjoyable by intermediate cellists?
- What repertoire is considered challenging for intermediate cellists?
- Do cello teachers give choices to their intermediate students with regard to repertoire?
- Is choice of repertoire important with regards to motivation of intermediate cello students?
- What technical aspects need to be reinforced at this level (intermediate cello)?
- What contemporary repertoire is currently being taught to intermediate cellists?
- What Australian repertoire is currently being taught to intermediate cellists?
- When teaching contemporary music, what are cello teachers looking for?

The purpose of this study was to gather information which could be organised into a set of guidelines for composers to write pieces which would motivate intermediate cello students to practice more and strive for excellence. This information could well also be used as a guideline for teachers, and as an adjunct to teacher training and syllabus development.

The Teacher Questionnaire

The questionnaire was designed for cello teachers and distributed to cello teachers throughout Queensland. The student version of the questionnaire was based on that designed for teachers, however, it was shorter. Student results are not available as yet.

As there was not a complete list of cello teachers available, a list of cello teachers was compiled by the researcher in consultation with string teaching colleagues in Brisbane. In addition the project was promoted in the Australian Strings Association of Queensland (AUSTAQ) Newsletter in April 2003 (Berry, 2003). Before distribution the teacher questionnaires passed through the ethics review process. Some small amendments have been

sought and approved for both the teacher questionnaires and the student interview/questionnaire forms as the study progressed.

Questionnaire Design

The teacher questionnaire included a total of 43 questions over 15 pages which included the information and consent form. The questionnaire was trialed with upper string teachers and music educators. From this it was ascertained that the questionnaire would take approximately 30 minutes to complete.

The questionnaire used a variety of question types. As this was an exploratory study, quite a lot of the questions were open-ended and almost all questions allowed space for comments.

Findings of Teacher Questionnaire

The results presented in this paper begin with some background information on respondents. Other results reported will concentrate on those specifically related to repertoire and aspects of music which are motivating for students.

Background Information

Over fifty questionnaires were distributed and a total of twenty three completed questionnaires were returned. One questionnaire was put aside from the main analysis because it was filled out by an upper strings teacher who played some cello but did not teach the instrument. Thus, twenty two questionnaires were used for the analysis of results.

Of those who responded, all the questionnaires were completed by experienced cello teachers. All the teachers had been teaching for more than 5 years, and twenty for more than 10 years. All of these teachers had taught student cellists at intermediate level. Cello was the preferred, or first instrument for teaching for twenty respondents. Nineteen of the teachers do at least some of their teaching in the private studio situation.

When sending out the questionnaires it was known that not all the cellists on the list would be teachers, and that of those who did teach a number of these may not be experienced in teaching intermediate students. Several apologies were received from cellists who did not teach, or did not teach students at this level.

This background information shows that the respondents were well qualified to answer the questionnaire. Indeed it seems that they self–selected themselves as having sufficient experience and knowledge to answer the questions. In addition the overall response rate is heartening because it shows that teachers have an interest in the subject matter, in order to have taken the half hour or so to complete the questionnaire. Indeed some of the responses were quite detailed showing that teachers put a great deal of thought into them.

Results

Twentieth Century Repertoire

For the question 'What 20th-21st century repertoire do you remember teaching most often to your intermediate cello students?' the most frequent responses were: *Romance from the Gadfly* by Shostakovich; *Roumanian Folk Dances* by Bartok; *Tarantella* by Squire; and *Hamabdil* by Bantock (see Table 2).

Most of you will recognise a number of these works and most of the composers. However

the third piece in the list, the *Tarantella* by Squire is generally only known to cellists. William Henry Squire was an English cellist, who was born in 1871 and died in 1963. He wrote a number of character pieces for the cello which are frequently taught to intermediate cellists. A recent article in the *Strad* by Tully Potter (2004 p. 483) puts him as 'the first recording star of the cello', with his first recording being in 1901.

Enjoyed Twentieth Century

With regard to the question which asked teachers which 20th century music they had most enjoyed teaching, most respondents referred to their responses to the previous question, that is, the pieces listed in Table 2. It is noted that not all the pieces listed by teachers are actually 20th century pieces.

Two of the respondents noted that they would not be teaching 20th century pieces unless they enjoyed teaching them. Teachers' responses also gave some clues as to the aspects of the music which they enjoyed to teach, such as:

- [I] Prefer flowing cello type melodic lines
- [pieces that] demonstrate unusual techniques and tone colours like Sculthorpe, and Stanhope
- Martinu [for its] rhythmic intent
- Sculthorpe [for] atmosphere
- Collection Panorama [simply for being more] contemporary.

When asked if they had encountered any particular difficulties with intermediate students interpreting and performing 20th century music, the teachers' responses were almost equally split. Twelve of the respondents said 'yes' and ten said 'no'.

Comments by teachers suggested that the most common difficulties were with intonation and interpretation. Intonation problems were attributed to large shifts, difficult intervals and more distant keys (six comments). Interpretative difficulties included style and notation (five comments). Other comments mentioned bow speed changes (one), sautillé (one) and harmonic aspects (one).

One teacher made a general comment that 20th century music was difficult for the intermediate student. Another teacher noted specifically that students do not 'like' large shifts. Two of the teachers suggested that they preferred to teach music other than 20th century music. In contrast there were three comments which suggested that teachers found the teaching of 20th century music helpful in teaching some specific aspects of technique such as large shifts.

Pieces Most Motivating

The pieces which teachers have found to: 'motivate students to practise more – to strive to achieve their best performance'. For this question teachers were asked to name music from any style or period which was most motivating for their intermediate students.

Table 3 summarises teachers' responses. To simplify this information, only repertoire which was mentioned more than once has been included. Most of these works would be familiar to most of you. However, note the three pieces by Squire.

Student Choice

Whilst looking at specific repertoire, it is useful to note teachers' responses to two questions on student choice. The majority of respondents (seventeen) indicated that they give intermediate students 'some choice' as to which repertoire they learn. Four teachers indicated that they 'always choose' the music for their intermediate students.

Nine of the teachers noted the motivational aspects of choice of repertoire. However, other comments suggested that students often do not have a good knowledge of the repertoire at this level and that some shortlisting is necessary. One teacher noted that '[students] need to like and enjoy their repertoire – otherwise the question: "Why do we learn a musical instrument?" – and hopefully the answer [would be] for fun and pleasure.'

Reasons teachers gave for not allowing students a choice were lack of knowledge of the repertoire, the need to learn pieces specific to individual developmental needs or the benefits of learning certain standard pieces.

Australian Music

In response to the question: 'Have you taught any Australian music to your intermediate cello students?' fourteen responded 'yes', and eight responded 'no'. It should be noted that in personal communication with some of the respondents, a request was made for them to comment on more advanced works if they had not taught Australian music to their intermediate students.

Specific pieces mentioned included some that were more difficult or less advanced than intermediate; some that are not included in AMEB syllabus and two by non-Australian composers. Also mentioned were some local (Brisbane and Sunshine Coast) Australian composers of string ensemble music.

All of the three pieces from the AMEB Syllabus for Grades 5 and 6 were mentioned (see Table 1).

Pieces mentioned from higher grades on the AMEB Syllabus included pieces by Peter Sculthorpe, Sarah Hopkins and Stephen Leek (see Table 4). Other Australian repertoire mentioned included further works by Sculthorpe, as well as Paul Stanhope, P. Nicholas, Wesley Smith, Michael Knopf and Gwyn Roberts.

One teacher also mentioned the Cello Serenade by Jacob. This is not an Australian work as Gordon Jacob is an English composer. This is an example of the confusion which is occasionally caused by the difficulty in accessing information on more recent contemporary composers.

Aspects of Music Which are Most Motivating for Intermediate Students

The following tables (Tables 5 - 8) summarise the results with regard to specific aspects of music which students may find most motivating. The variables in these questions were rated by respondents from 1 to 5, least motivating to most motivating.

Table 5 shows the four items which teachers rated as the most motivating for intermediate students. Two of these variables are related to the character or style of the music. These are 'fast

and lively' and 'have a folk feel, eg Irish or Celtic'.

Familiarity could be the reason for the positive ratings for music with a 'folk feel' and 'pieces they have heard other students play.' This familiarity could add to the confidence of students learning new music, with confidence also being found in the support of a piano accompaniment. The positive rating for 'fast and lively' could be related to the fun students have with such a challenge. It will be interesting to compare these results with those of students once they have been compiled.

Table 6 shows items with medians equal to four. These results are still on the positive side of teachers' ratings. In looking at this table, one can see that three of the four major periods of music are represented. Suggesting that the period from which the music comes does not seem to make much difference. The Classical period appears in the next table with a median of three which is a neutral response, which is possibly due to the more limited classical repertoire available to the intermediate cellist.

Familiarity with the music is again seen to be motivating through the last three variables in the table, that is, 'sound like they have a traditional harmony', 'have a jazzy rhythm' and 'are standard pieces from the repertoire'. Interestingly five of the variables specifically relate to musical expression and special effects. These are 'wide dynamic', 'tonal variety', 'harmonics', 'slow and expressive', and 'humorous'.

Table 7 presents items with a median of 3.00 or 3.50. These items have been deemed to be neutral, given that items were rated on a scale of one to five. However, the three items with a rating of 3.50 are interesting. These are 'lots of opportunities for vibrato', 'a wide variety of pitch' and 'written in a fiddling style'. The first two of these items can create interest and challenge in performance. The motivation instilled by these three items could be more dependent on age and level of technical development than other items, although further research would be required to verify this assumption.

The last table of medians for this question, Table 8, shows the variables with a median of less than 3.00. These are the two variables seen to be least motivating by teachers. These two items could be seen to be the most and the least difficult aspects of technique. Big pitch jumps generally involve large shifts of the left hand which is an aspect of technique which has not been developed by most students at this level. Large shifts present intonation difficulties for most cellists and can be rather 'scary'. Long notes can be boring for many students, or, if very long, may require a great deal of effort to sustain the tone with the bow.

A comparison between the list of variables from these tables with the pieces teachers listed as being most motivating for their intermediate students is useful. If we take the first four pieces of music listed as most motivating, and the four aspects with the highest medians, how much correlation is there?

The *Tarantella* by Squire is 'fast and lively', is for 'cello with piano' and is quite likely to 'have been heard' by an intermediate cello student.

Saint Saëns' *The Swan* is for 'cello with piano' and is very likely to 'have been heard' by the intermediate student on more than one occasion. It is not 'fast and lively', but its 'slow and expressive' nature is also highly rated with a median of 4.00.

The Bach *Suites* are a favourite with most cellists and the AMEB Syllabus begins including them at the Grade 5 level. These *Suites* are all of course for 'solo cello' which was neutrally

rated by teachers with a median of 3.00. However, the intermediate cellist would usually begin playing the *Suite No. I,* in G major. Most of the notes in these movements can be played in 1st position and are easily approached by most students. Some of the movements are 'fast and lively' and some are 'slow and expressive'. Students are reasonably likely to have heard a number of these movements before, perhaps performed with different instrumentation.

The *Sonatas* by Vivaldi are for cello with piano and there is a variety of tempos between movements with plenty of 'fast and lively' playing. They may have heard other students perform these sonatas, or alternative arrangements on the radio.

Is Repertoire Selection Important?

Two subsequent questions compared a number of different motivators, once again with responses rated from 1-5. Table 9 shows the medians for a question which asked about the likelihood of an increase in (intermediate) student practise? As you can see, 'student likes the music' was rated very highly by teachers with a median of 5.00. The other two most highly ranked motivators show the importance of a goal orientation.

Another question allowed teachers to express their opinions about a number of different motivators, on this occasion to 'rate which of these other factors, in your opinion, are most important in motivating these students to do their best work?' As you can see in Table 10 'repertoire selection' with a median of 4.00 was seen as not perhaps the strongest motivator, but certainly very important.

New Repertoire

Teachers were also asked if they thought that the current repertoire would benefit from some new Australian pieces for 'intermediate' cello students. The majority of respondents, fourteen, agreed. Only one teacher disagreed, with their reason being that the current choice of music is already huge. A further seven respondents were unsure.

Of those who were unsure, three provided comments that suggested some new repertoire may be beneficial, especially: 'if they included techniques relevant, not just because they are Australian or contemporary'. Of those who supported the development of some new Australian repertoire at the intermediate level, four made comments which emphasised the importance of new works being 'appropriate' in terms of string technique, and 'interesting'. Two comments are worth including here:

- Australian or Martian for that matter! As long as it was strong, vibrant, exciting…
- Absolutely. The current pieces in the syllabus are too few and some are just plain awkward or unappealing!

Three of the respondents commented that they would like to have any such new pieces included in the AMEB syllabus. Five respondents suggested an album, perhaps a Grade 5 and 6 book published by the AMEB with either all Australian or varied 20th century works. Two of these respondents suggested a CD recording. Four teachers indicated that any new repertoire should be 'relevant', especially pedagogically. Others suggested that such an album should 'introduce in a methodical and graded way techniques and styles found in major 20th Century works', and that pieces should have the 'ability to enthuse students'.

A number of practical considerations were also mentioned. They included making any new publication legible, that is: 'no hand written scores/parts!'; 'large print, not too much tenor

clef'; and 'ensure print quality is excellent!'.

With regard to accompaniment, two teachers specifically suggested that any piano accompaniment should not be so difficult that the cello teacher cannot play it, at least in a simplified way. Also, mentioned was the 'need to be musically satisfying [for the student] without the piano part, in order to sustain the interest during home practice'. One of these teachers also suggested that a 2nd cello part for the teacher to play as accompaniment would be helpful. Two of the teachers noted that they would also like some cello ensemble pieces for confidence building.

The following teacher's comment is included as a reminder of the age-group with which we are dealing.

> Most student cellists are far too inhibited (as opposed to their percussion colleagues) and I feel they need a 'wake-up' call to experience the joys of lively communication. I feel it is essential at this stage to emphasise the need for strong, rhythmic playing and well projected tone. The adolescent in particular, is usually inhibited by nature anyway, and this inhibition is a huge stumbling block for future progress. And where is the music to help?! A quick look at the AMEB Gr 5 syllabus repertoire will highlight this need even more. To me, it appears particularly uninteresting and does little to prepare the student for the demands of pieces such as those that appear in the Grade 6 AMEB syllabus let alone 7/8.

Conclusions

Overall, the response to the questionnaire shows the interest in pedagogical issues and the dedication of the cello teachers who responded. The importance of repertoire as a motivator for intermediate student cellists was supported. Valuable information on aspects of music which are motivating has been obtained and further analysis along with comparisons with student data is looking promising.

Responses to questions about the possibility of new Australian repertoire suggest that an album of graded pieces which were interesting, pedagogically relevant, musically satisfying for student practise without the piano accompaniment, and with piano parts simple enough to be played by the cello teacher, would be positively received by cello teachers for use with their intermediate students.

About the Author

Anne Berry is currently completing her PhD in music through the University of Queensland. She is an experienced psychologist (UNSW, 1980). Anne returned to music studies as a mature student, completing undergraduate studies and a Master of Philosophy at the University of Southern Queensland. She is an AMEB cello examiner.

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Table 1

AMEB Syllabus for Cello – Grades 5 & 6

AMEB Grade Level	Piece
Grade 5	Lovelock, W., *Romance* (Albert)
Grade 5	Truman, P., 'Different' from *Two Poems* (P. Truman, 8 Welcome St, Chapel Hill, Qld 4069)
Grade 6	Holland, D., *Rondel* (AMC)

Table 2

20th Century Repertoire Taught Most Often

Piece	Total Responses	AMEB Grade Level
Shostakovich - *Romance from the Gadfly*	6	Grade 5
Bartok - *Roumanian Folk Dances*	6	Grade 6
Squire - *Tarantella*	5	Grade 5
Bantock - *Hamabdil*	4	Grade 6
Sculthorpe - *Requiem/Threnody*	2	Grade 8 /Licentiate
Nicholls - *Cakewalk*	2	Grade 5
Dulcie Holland - not specified, maybe *Rondel*	2	Grade 6
Fauré Pieces	2	Grade 5+
Martinu Suites [not specified]	2	?
Claude Bolling, Baroque in Rhythm	2	Grade 7

Table 3

Pieces Most Motivating

Piece	Responses	AMEB Grade Level	Period/Year
Squire – *Tarantella*	9	Grade 5	1896
Saint Saëns – *The Swan*	9	Grade 6	1886
Bach - *Suites*	8	Grade 5+	c. 1720
Vivaldi – *Sonatas*	7	Grade 6	1st pub. 1740
Bantock - *Hamabdil*	4	Grade 6	1919
Mendelssohn – *Song without words*	4	Grade 6	1845
Saint Saëns – *Allegro Appassionato*	3	Grade 7	1873 (1875)
Shostakovich - *Romance from the Gadfly*	3	Grade 5	1955
Bartok – *Roumanian Folk Dances*	2	Grade 6, 8	1915
Elgar – *Concerto in E minor*	2	Grade 8, Licentiate	1918-19
Squire – *Bourée*	2	Grade 5	1902
Squire – *Danse Rustique*	2	approx 5-6	? c. 1900

Table 4

Australian Music Taught Most Often

Piece	Responses	AMEB Grade Level
Sculthorpe, P., *Requiem*	3	Grade 8 and Licentiate
Sculthorpe, P., *Tailitnama Song for Cello and Piano*	2	Grade 7
Sculthorpe, P., *Djililie*	2	Grade 7
Hopkins, S., *Reclaiming the Spirit*	3	Associate
Leek, S., unspecified piece possibly *Plateau* or Collections 1-5	1	Licentiate/Grade 8

Table 5

Aspects of Music Which Are Most Motivating for Intermediate Students: Medians > 4.00

	Item	Median
Pieces which:	have a folk feel, eg Irish or Celtic	5.00
	they have heard other students play	5.00
	are for cello with piano	5.00
Music which is:	fast and lively	4.50

Table 6

Aspects Of Music Which Are Most Motivating for Intermediate Students: Medians = 4.00

	Item	Median
Music with:	wide dynamic (loud/soft) variation	4.00
	tonal variety (eg. sul ponticello)	4.00
	harmonics	4.00
Music which is:	slow and expressive	4.00
	humorous	4.00
	in major keys	4.00
	from the baroque period	4.00
	from the Romantic Period	4.00
	from the 20th Century	4.00
Pieces which:	sound like they have a traditional harmony	4.00
	have a jazzy rhythm	4.00
	are standard pieces from the repertoire	4.00

Table 7

Aspects Of Music Which Are Most Motivating for Intermediate Students: Medians < 4.00

	Item	Median
Music with:	lots of opportunities for vibrato	3.50
	Notes mostly in the same part (pitch range) of the cello (not much shifting)	3.00
	lots of notes in the low range of the cello	3.00
	lots of notes in the high range of the cello	3.00
	a wide variety of pitch	3.50
	Complex rhythms	3.00
	lots of double stops	3.00
	lots of string crossings	3.00
	lots of broken chords	3.00
	Pizzicato	3.00
Music which is:	Serious	3.00
	in minor keys	3.00
	Modal	3.00
	from the classical period	3.00
Pieces which:	Sound more 'dissonant' like 20th century music	3.00
	are written in a 'fiddling' style	3.50
	are for solo cello	3.00

Table 8

Aspects Of Music Which Are Most Motivating for Intermediate Students: Medians < 3.00

	Item	Median
Music with:	big pitch jumps (big shifts)	2.00
	long notes	2.00

Table 9

Medians for Likelihood Of Increase in Student Practise (1-5, Least to Most Increase)

Public performance imminent	5.00
Exam imminent	5.00
Student likes the music	5.00
Teacher pressure	4.00
Beautiful music	4.00
Lyrical/songlike music	4.00
Expressive music	4.00
Humorous music	4.00
Fast and demanding music	4.00
More challenging music	3.50
More difficult music	3.00
Parental pressure	3.00
Slow music	3.00

Table 10

Medians for Other Factors 'Most Motivating' (1-5, Least to Most Motivating)

Items	Medians
Verbal encouragement	5.00
Preparation for performances other than exams	5.00
Repertoire selection	4.00
Ensemble participation	4.00
Exam preparation	4.00

Secondary Music Teachers' Assessments of Student Compositions: Do Music Teachers Think Alike?

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Teaching original composition and assessing student composing products are mandated responsibilities for secondary music teachers in NSW and other Australian states. The purpose of this paper is to compare how a sample of NSW secondary music teachers graded three compositions written by senior music students. Methodology used to conduct this research was a simulated judging session. Three compositions written by three different senior secondary students were recorded onto a CD and scores of each piece were duplicated. Twenty-four secondary music teachers from the Sydney metropolitan area responded to an invitation to participate in the research by attending a simulated judging session. In this session, teachers were asked to listen to the three pieces, observe the scores, grade each piece in rank order and rate the achievement of each piece on a scale of 1 to 5. Analysis of simulated judging session data was conducted through cross-tabulation and chi-square statistics. Results showed that teachers in the study had a high level of agreement about grading and rating the sample compositions. The primary conclusion to be drawn from this study is that inter-judge reliability can be achieved by secondary music teachers when assessment is based on aural and written evidence of achievement.

Introduction

During the last decade, music syllabus documents in New South Wales (NSW) have established composition as a mandatory learning area in the secondary music curriculum and have defined composition as the creation of new music (NSW Board of Studies, 1994, 1999). In NSW Higher School Certificate examinations composition is equal in importance with aural skills, musicology and performance in music courses. For example, the final external examination in *Music 2* requires candidates to submit an original composition in the style of music written in the last twenty-five years. This increased relevance to composition as part of music curricula is reflected in developments in other Australian states (Queensland Board of Senior School Studies, 1996; Tasmanian Senior Assessment Board, 1998) and in Canada, England, and the United States of America (Freed-Garrod, 2001; Gromko, 1996; Kennedy, 1999).

Numerous writers have published literature which elaborates on pedagogy appropriate to teaching composition in the curriculum. Books, articles, and research in children's composing provide advice on pedagogy which supports learning in music through the creation of new music. From *Sound and Silence* (Paynter & Aston, 1970) and *The New Soundscape* (Schaefer, 1969) to later publications such as *Music in the Secondary School Curriculum* (Paynter, 1982) and *Composing in the Classroom* (Harris and Hawkesley, 1989) teachers have been offered solutions to issues in the teaching of composition. *Musical Environments* (Vella, 2000) provides pedagogical advice for teaching composition from an Australian viewpoint. Researchers have provided models of composition pedagogy appropriate to school curricula (Regelski, 1986, Swanwick & Tillman, 1986; van Ernst, 1993). While literature provides supports composition teaching, less advice is provided in literature in ways to assess composition products.

Assessment of student products is a valuable part of music composition pedagogy as it provides a range of information to teachers about student learning, levels of achievement, and the effectiveness of teaching strategies. Assessment of composition processes and products additionally provides teachers with opportunities to offer feedback and enhance student learning further.

According to Besemer and O'Quinn (1993) validity, or the extent to which an instrument measures what it is supposed to measure, is critical in establishing soundness of measuring instruments, and in ensuring that judgements about levels of achievement are accurate. Some researchers link content validity with high inter-judge reliability (for example Amabile, 1982; Brandt, 1988; Duerkson, 1995; Webster, 1979). Content validity established through inter-judge reliability is often a single arbiter of a product's value (Bangs, 1992; Brinkman, 1994). Inter-judge reliability, also identified as compatibility, has been identified as a frequently omitted component of assessment research (Swanwick, 1998). The purpose of this paper is to explore inter-judge reliability of 24 NSW secondary music teachers when making a judgement from examination on a single occasion about three compositions written by senior secondary students. Through this research, validity of assessments of student compositions at senior secondary level can be measured.

Achieving Consensus in Composition Assessment

A small number of studies have explored assessment of composition products. As establishment of consensus is valuable in ensuring validity and establishing uniformity of teaching outcomes, several studies have placed a focus on establishing consensus through inter-judge reliability. In research of composition products of university students, Searby and Ewers (1996) found that relatively reliable assessments were observed using peer group judgements. In this study, consensus was rated against a lecturer's moderated marks. Criteria were specifically related to task design and the degree of success that each composition fulfilled the requirements of the task description. Results showed that students' marks were very similar to those of the composition lecturer.

While peer assessment is a useful assessment resource, Jones (1986), in an evaluation of research conducted by Bennet (1976), observed that assessment of novice composers' efforts in developmental compositions was an important part of a composition teacher's role. Other writers similarly acknowledge that teachers are the most suitable resource for conducting assessments of student learning in classroom composition. Teachers are best placed to assess their own student's work because of their classroom knowledge of student development and learning in composition, and are therefore less restricted to the single snapshot judgements which result from assessment by an examination on a single occasion (Orton, 1982; Pilsbury and Alston, 1996; Swanwick and Tillman; 1986; Williams, 1999).

Studies show that with increasing levels of achievement, the more difficult is the task of assessors to agree. With subjects of primary-age, or where the composed pieces were monophonic, inter-judge reliability between judges who were either music educators of musicians was high (for example those of Bangs, 1992; Kratus, 1991, 1994; and Webster & Hickey, 1995). It was found in another study that judgements of compositions which were at the extremes of achievement scales produced higher inter-judge reliability than those in middle levels (Hickey, 1995, p. 149). Confirming Hickey's research, Pilsbury and Alston (1996) found that assessors had least difficulty judging folios of secondary students' work which were at the lowest and highest ranges of achievement, while those in the middle ranges caused the greatest problems.

Little investigation has been conducted into inter-judge reliability in assessment of complex, multi-concept composition products. Bunting (in Paynter, 1982), found there was group consensus on composition assessments between the five groups of teachers used in the conduct of the study. However, Bunting (1982) suggested there was some difference between individuals within the experiment groups:

> I wish now that we had paid more attention to the work of these groups, because within a generally fair degree of consensus there were also several strong disagreements, and there was not enough time to discuss these adequately. Two people indeed found themselves unable in conscience to award marks at all (p. 212).

Later experiments confirmed that consensus was difficult to achieve in assessments of compositions written by secondary music students. Simmonds (1988), using group consensus similarly to Bunting's earlier application, asked eight groups of assessors to evaluate five compositions using a set of criteria as a general guide. Simmonds found that achieving consensus was difficult. He was pessimistic about the prospect of inter-judge reliability with composition at this level. Pilsbury and Alston (1996) used individual assessments in a study of twenty-nine portfolios and compositions which were assessed by eleven experienced music teachers. Results showed that judges did not reach consensus.

Methodology

Methodology used to investigate inter-judge reliability of teachers when assessing senior student compositions used a simulated judging session. In preparation for the simulated judging session, three students whose developmental level was at senior secondary level were commissioned by the researcher to each write a one minute composition. The completed commissioned pieces were *Test Tube Song,* a soft rock piece with strumming flamenco accompaniment, *Les Moustiques,* a chamber art music piece which explore processes reminiscent of Debussy and Bartok, and *Funny Feeling,* a piece of contemporary jazz style with a syncopated rhythm. Each piece was recorded on a compact disc with writing time between each piece. Multiple printed copies of each manuscript were prepared.

To participate in the data gathering, twenty-four secondary school music teachers from the Sydney metropolitan area responded to an invitation to attend the simulated judging session. During this session, teachers were asked assess the merit of the three commissioned compositions by completing a prepared set of questions which asked them to: 1) listen to the three commissioned compositions and rank them in order of merit from the highest to lowest; 2) write a brief comment explaining reasons for the rank order of the three compositions; 3) and select a grade for each piece from a five-point grading scale. The grading scale was described: A = well above average (top 10%); B = above average (next 20%); C = average (middle 40%); D = below average (next 20%); E = well below average (lowest 10%). Five grades were selected for composition assessments in this study as earlier composition assessment studies used five levels for assessments (Pilsbury & Alston, 1996; Simmonds, 1988). Data generated from the simulated judging session were twenty-four sets of rankings, comments which justified these rankings, and a grade for each piece selected from a five-point grading scale. This session was completed in four minutes and was conducted in a sound-proofed room in a tertiary institution.

Data generated from the simulated judging session were both qualitative and quantitative. Analysis of quantitative data was conducted through summary tables, graphical representation and chi-square statistics. Analysis of qualitative data was through content analysis. Reporting of results identifies the twenty-four teachers who participated in the research as judges.

Results

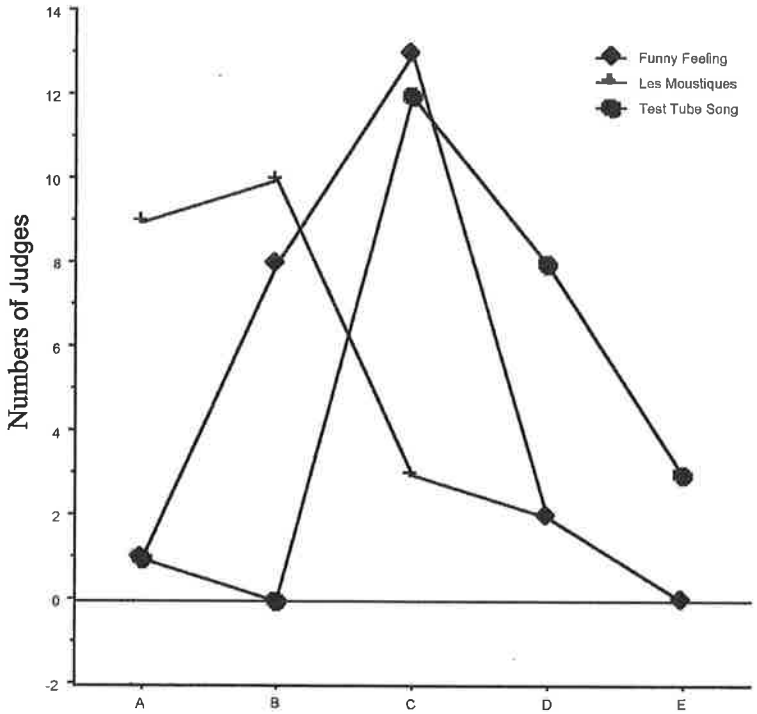
Results are in two sections. The first section shows results of quantitative data and the second section shows results of qualitative data. The first section presents data which shows judges' rank order preferences for the three experiment compositions, judges' grades for the three compositions, the consistency of rating between judges, and levels of agreement. Table 1 shows judges' rank order preferences of compositions during the judging session.

Table 1
Judges' Rank Order Preferences for Three Experiment Compositions

Composition Rank Order			Number	%
1. *Les Moustiques*	2. *Funny Feeling*	3. *Test Tube Song*	12	50
1. *Les Moustiques*	2. *Test Tube Song*	3. *Funny Feeling*	6	25
1. *Funny Feeling*	2. *Test Tube Song*	3. *Les Moustiques*	2	8.5
1. *Funny Feeling*	2. *Les Moustiques*	3. *Test Tube Song*	2	8.5
1. *Test Tube Song*	2. *Funny Feeling*	3. *Les Moustiques*	1	4
1. *Test Tube Song*	2. *Les Moustiques*	3. *Funny Feeling*	1	4
Total			24	100%

Results of judges' grades selected for *Test Tube Song, Funny Feeling*, and *Les Moustiques* are shown in Figure 1.

Figure 1
Graph Of Grades for *Funny Feeling, Les Moustiques, And Test Tube Song* Allocated by Twenty-Four Judges



Selected Grades A -E

Figure 1 line graph displays five grades from A to E on the X axis, with A showing indicating the highest grade and E indicating the lowest grade. The Y axis shows the numbers of judges who selected each grade for the experiment compositions. Selected grades for *Funny*

Feeling and *Les Moustiques* range from A to D; and grades for *Test Tube Song* have a wider range from A to E. Grades for *Feeling* are: A (N=1), B (N=8), C (N=13), and D (N=2). Grades for *Les Moustiques* are: A (N=9), B (N=10), C (N=3), and D (N=2). Grades selected for *Test Tube Song* are: A (N=1), B (N=0), C (N=12), D (N=8), and E (N=3). Two judges selected the same grade for each of the three compositions.

Figure 1 additionally shows that the three compositions were graded differently from each other. Twenty-one judges rated *Funny Feeling* with either a B or a C grade and nineteen judges rated *Les Moustiques* with an A or B grade. Twenty judges rated *Test Tube Song* with a C or D grade. No judges used the lowest grade for either *Funny Feeling* or *Les Moustiques* and only one judge rated *Test Tube Song* above a C grade.

Comparison between judges' grades shows that a large majority of ratings are in complete agreement, or within one grade level from each other. Table 2 shows a summary of cross-tabulations of judges' agreement on the three compositions calculated from the above.

Table 2
Summary of cross-tabulations of judges' agreement on grades for three experiment compositions

	Absolute Agreement	Difference of 1 Grade	Difference of 2 Grades	Difference of more than 2 grades	Totals
	Number %	Number %	Number %	Number %	Number %
Compositions					
Funny Feeling	107	138	29	2	276
	39	**50**	**10**	**1**	**100%**
Les Moustiques	86	128	44	18	276
	31	**46.5**	**16**	**6.5**	**100%**
Test Tube Song	102	164	7	3	276
	37	**59.5**	**2.5**	**1**	**100%**
Total	295	430	80	23	828
	36	**52**	**9.5**	**2.5**	**100%**

Chi-square statistics were conducted on summary data of judges' cross-tabulations of agreement for experiment compositions. Chi-square tests the hypothesis that the variance of a sample from a normal distribution is equal to some hypothesised value. The test compares the sample variance with the hypothesised variance and determines the likelihood that the observed discrepancy between the two occurred by chance. This likelihood is reported as the *p* value. A *p* value close to 1 means it is very likely that the hypothesised and sample variances are the same, since it is probable that such a result would happen by chance is the null hypothesis of no difference is true. A small *p* value means it is unlikely that the observed discrepancy would occur by chance if the two variances were the same. Results of chi-square statistics shown in Table 2 are significant. A small *p* value for each of the three pieces means it is unlikely (less than one in 10,000 chance) that the observed discrepancy would occur by chance if the two variances were the same. Levels of significance are: *Funny Feeling* has a chi square of 12,294 and a p value of <.0001, *Les Moustiques* has a chi square of 6,996 and a p value of <.0001; and *Test Tube Song* has a chi square of 18,314 and a p value of <.0001.

Qualitative data supports results found in the quantitative data shown above. Judges compared the three compositions and provided evidence for their grading and ranking. In *Funny*

Feeling comments, the application of musical processes and demonstration of knowledge were criticised, while the use of musical concepts, especially rhythm and the application of style were strongly applauded. Three quotations from judges' responses demonstrate these features.

- *Funny Feeling* is a bit clichéd, but did show development of ideas.
- *Funny Feeling* shows the use of the blues scale and combining riffs but lacks originality. Sounds like 'muzak'. It doesn't show much creativity or individuality.
- *Funny Feeling* shows elementary use of musical concepts. However, lacks development of ideas. Score is lacking in detail eg dynamics, tempo. Some ideas lack originality.

There was considerable agreement about *Les Moustiques*. Judges commented the way the composer handled musical processes, used concepts correctly, synthesised musical concepts, knew musical conventions and was skilful in using musical techniques. Three quotations from judges' responses demonstrate these features.

- *Les Moustiques* is the highest in original use of melody and treatment of unity/variety.
- *Les Moustiques* fulfils all requirements of demonstrating use of composition devices - variety, unity, performing media. I like the tempo changes and the selection of performing media - its cute!
- *Les Moustiques.* The composer has obviously explored 'like' pieces in great detail and has used a formula to gain a satisfactory piece. Ostinato for unity, pizzicato for variety, second section contrasting, use of unusual time signature, melodic treatment second half. ABA treatment. Well devised piece!

Comments about *Test Tube Song* reflected dissatisfaction in the application of craftsmanship within the piece, especially the handling of musical processes and the use of concepts. Comments about the development of material were overwhelmingly negative. Judges considered there was an over emphasis on repetition at the expense of contrast or evolution of material. Three judges presented and opposing view and explained that in view of the genre and style of the piece, musical processes were appropriate. Typical of most comments are the following quotations:

- *Test Tube Song* has problems with balance and instrumental roles. Texture and stylistic features are evident but confused.
- *Test Tube Song.* Percussion performance directions allow performers to do as they like. Guitar symbols confused - poor placement - not all present and correct. Dynamics and tempo indications are sparse. Use of 'etc' is not acceptable in Higher School Certificate composition as with percussion directions. More contrast in roles and textures - poor use of instruments and poor stylistic understanding demonstrated.
- *Test Tube Song.* Candidate has shown a very confused understanding of the style, poor understanding of guitar writing/playing styles. Confusion of percussion style in relation to the rest of the work. Vocal parts are quite successful. Evidence of structure demonstrated. Need to show variety in use of instruments and balance the instruments and the vocal lines. Attention to dynamics and expressive directions very very (sic) limited.

Discussion

This study differs from other composition assessment research as it combines both quantitative and qualitative data. Important in this study is that results from both types of data provide similar information about inter-judge reliability in the research. This corroboration of results from both data reinforces inter-reliability between judges. Judges were in strong accord when they placed the three compositions in rank order of merit. Judgements about the level of merit of each piece using five different levels, demonstrate that judges were highly compatible in their opinions. High levels of significance were recorded for the cross-tabulations on grades allocated by the twenty-four judges.

In addition to quantitative evidence which comprehensively demonstrated that inter-judge reliability was at a high level, compatibility between judges was corroborated further by qualitative data. Qualitative data provides insights into reasons for judges' choices. Statements made about the three pieces demonstrated that in addition to making similar judgements about achievement, judges were compatible in identifying why they made these judgements. Comments show that comments about *Les Moustique,* were positive and commendatory. Judges commented that this piece 'fills all requirements' and a congratulatory 'well devised piece' was included by one judge. Comments focus on the adequacies which judges perceive in this piece. In contrast, *Test Tube Song* was criticised as having 'problems', notation, texture and stylistic features were 'confused' and the instrumental use was perceived as 'poor'. Comments focus on the deficiencies which judges perceived in the piece. In comments about *Funny Feeling*, judges provided reasons for placing this piece in the middle ranking. Comments were neither harsh nor highly commendatory, and reflect a balance between positive and negative statements: for example '*Funny Feeling* is a bit clichéd but did show development of ideas'.

Although there was strong agreement and high levels of statistical significance on the merit of the compositions, different levels of discrimination were evident between each of the three pieces. Results demonstrate that the piece which had the highest level of agreement was *Test Tube Song*. This piece was placed lowest on the ranking level. *Les Moustique,,* which was ranked highest, demonstrated the least agreement. The level of agreement for *Funny Feeling* was lower that the level of agreement between judges for *Test Tube Song* and higher than the level of agreement for *Les Moustiques.* While discrimination for different experiment pieces is evident in composition assessment research (Hickey, 1995; Searby and Ewers, 1996; Simmonds, 1988) results in this study are not in complete accord with earlier studies. In other research, pieces which were considered in the middle range of achievement generally produced the lowest level of inter-judge reliability and pieces which were are the extremes of achievement scales produced higher levels of inter-judge reliability. Reasons for variations between results from this research and other research need investigation to resolve this discrepancy. In other research, presentation of music has been through either sound or through presentation of the musical score. In this study, judges were provided with musical sound and printed scores of each composition. While details of other studies are limited, in this research, sound recording of each piece was appropriate to the style of the composition. Recording of *Les Moustiques*, an art music piece, was conducted using acoustic instruments, whereas sound for the other two pieces in the study was generated either completely or partially electronically. This difference in sound production may have influenced assessments.

Conclusions

This study establishes that music teachers do think alike when they assess student compositions written at HSC level. Using both musical scores of completed pieces in addition

to aural evidence, music teachers can achieve high compatibility. Teacher compatibility in composition assessment is valuable for music education as it establishes that judgements about student composition work are accurate and valid. Teachers in schools need to have confidence in their judgements to teach effectively. If teachers feel their opinions about achievement levels in composition are valid, they will have confidence in their own ability to evaluate student work during composing processes and on completion of compositions. In addition to supporting assessment of products, information about teachers' assessment of composition products can be valuable in providing pedagogical support to students in composition. An important part of a composition teacher's role is critical appraisal of student work. Appraisal of student work is necessary before feedback processes can be untaken. Feedback leads to student self-evaluation, revision, further exploration and development of student compositions. Teachers need to have confidence in their own abilities in evaluating student compositions so that their students will benefit from this guidance as each composition progresses.

Findings from this research have implications for music teacher education at tertiary level. Inclusion of training in composition, training to teach composition and training to assess composition in pre-service music courses would enable prospective teachers to develop confidence and abilities in composition and enhance teaching and learning in music in secondary classrooms.

About the Author

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Teaching Music Technology: Experimental Tools 1.0: Software for Teaching and Experimenting With Music Technology

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Teaching music technology can be a pastime fraught with danger, frustration and disappointment, as instructors and students battle with the myriad of interface, platform and hardware configurations. These challenges can often leave the novice user with a sense of frustration that negates the need for such technology in the music making process. My experience as a music teacher has led me to combine my interest in music technology, composition and software design, to create a customised and cost effective software solution that addresses these issues. *Experimental Tools 1.0* can be used in the classroom, computer lab or in a distance education setting. It is a user-friendly environment that invites experimentation and creativity without complex manuals and overly difficult set-up configurations. This paper addresses the issues of software development and chronicles the various design stages from initial concept through to implementation into teaching environments. The paper also suggests models for future development and expansion of the software.

Introduction: Motivation, Challenges and Significance

The motivation for this project grew out of a desire to produce a common music resource, which would be relevant to senior secondary high school students from both a face-to-face and distance education context. In particular, specific reference to compositional experimentation in the context of the NSW Board of Studies syllabi (1999) for the MUSIC 1, MUSIC 2 and Music Extension courses was a preliminary point of departure. A desire to simplify and create greater control over the way in which students accessed and interacted with music technology was also a key motivation. This desire for simplicity and control was intrinsically linked to the demands and limitations of time placed upon myself as a music educator. Having to provide technical support and advice to students with a range of platform and software specific variants is extremely time consuming and often dominates consultation time with students. It became apparent to me that a solution that addressed such issues needed to be considered.

Whilst providing a resource for students, I was also endeavouring to offer educators a resource that could be incorporated into their existing programs. The frustrations that my colleges were experiencing with software and hardware issues had to be addressed. The creation of Experimental Tools 1.0 is an attempt to address such frustrations.

The challenges that this project presented were varied and required the adoption of a systematic methodology in order to achieve the desired results within the allocated time frame. I determined that the software must exhibit the following qualities:

- Ease of installation. Ease of installation and configuration was of paramount importance to the design of the software. Ideally the software should require no external hardware or complex installation routines to ensure that a novice computer user would be able to install and set up the software with minimal assistance from their teacher.

- A graphically simple user interface. Interface design needed to be very simple and responsive. An effort to consciously avoid complex menu driven routines was vital to the acceptance of the interface. Indeed Kurt and Hunt (1999) state, " It has been shown that users of menu-based systems do not usually learn the menus, but instead rely on continuous traversal and interpretation." (p.312). This needed to be avoided in the design of the interface. Alternatively a design concept of "direct manipulation" (Shneiderman 1986) was preferred as a method of user interaction. Buttons, sliders and dials were employed to give the user visual feedback.

- Cross platform compatibility. Due to the nature and context of the teaching situations I was working in the software had to exhibit cross platform compatibility. The majority of students were accessing Microsoft Windows based operating systems however there were also a number of students utilising the Apple Macintosh operating system. Without cross compatibility the software would not achieve the goal of supporting students as a common resource.

- Target specifically identified concepts. The software needed to address identified targets at the time of initial design. The ability to record and manipulate audio in real-time was a targeted concept as was a tool that dealt with indeterminacy as a compositional approach.

- Cost effectiveness. The budgetary constraints, which I was experiencing, implied that a resource that was cost effective was essential.

- Musical Application. The resultant software needs to ensure that it supported a musical and artistic outcome for the students. With a technically intensive project such as this, one could quiet easily be overcome with the design process and technical solutions. Potentially losing sight of the intended function of the resource.

The significance of the project could be summarized as follows:

- A customised resource to support compositional and technology outcomes as they relate to the Music 1, Music 2 and Music Extension courses for the NSW Higher School Certificate.

- An additional teaching resource for educators to support their teaching practice.

- A cost effective software package that is "user friendly", cross platform compatible, is adaptable and can be customised to address the needs of the targeted user groups.

Methodology

The methodology for this project included the standard processes of a review of the literature, market research and consultation. In addition to this, extensive testing, evaluation and modification took place as a result of feedback received from the target user groups.

A review of the literature indicated that effective interface design relied heavily on concepts such as "entity match" (Preece et al 1994), "visual feedback" and the importance of colour as a defining function (Davidoff 1997). Winkler (1999) also supplied a number of conceptual approaches to interface design. When creating the user interface I utilized the above-mentioned principles as guiding factors in the decision making process.

The primary objective of the market research was to determine what work had been

completed in this field in both commercially available software packages and non-commercial releases. As a result of this market research I was able to make informed decisions about the type of interface required. The market research highlighted that a number of commercially available software packages were capable of performing similar tasks, albeit with a potentially over-complex interface, difficult hardware configuration routines and in many cases a prohibitively expensive cost to the end user. In addition, my customised approach meant that I could provide software that served a more direct purpose for the target user.

Extensive consultation took place with Dr Steven Campbell in the later stages of software development. Dr Campbell holds a PhD specialising in the development of compositional algorithms and has worked extensively with the MAX/MSP software package. I consulted with Dr Campbell on issues such as technical considerations and efficient implementation of MAX objects. Many ideas were tested and evaluated to determine an economic approach to the design.

Evaluation of the software was carried out through a number of processes including written evaluations by staff and student groups and a small group testing session in the form of a video case study conducted with first year Bachelor of Music students at James Cook University. The video case study demonstrated that the students were able to quickly start using the software and were not bogged down with the difficulties of configuration, hidden menus and other such interface related concepts. They were freely experimenting and enjoying the process. Of course these students were aware of some of the basic operational "norms" of the Apple computers employed and therefore may have had an advantage over users totally unfamiliar with such computers. This bias aside I feel that the concept of simplicity and experimentation was demonstrated.

Staff and student evaluation forms were also part of the evaluation process. Responses to these questionnaires were used to identify issues with design and achievement of intended outcomes. This feedback was a regular part of the development process of the software and became an import feature of the project. (See Appendix 1 for a sample of results from a beta testing session).

Software Development

Experimental Tools 1.0 was developed using the object orientated programming software MAX/MSP 4.5 produced by *Cycling74*, a San Francisco based company who specialise in producing interactive software technologies. MAX/MSP 4.5 allows the user to design a customised music environment that can integrate audio and MIDI processing. This environment could be used for real time interactive performance or composition. For the development of *Experimental Tools 1.0* MAX/MSP was used as a development environment to construct and compile a standalone application.

To construct a "patch" in MAX/MSP one chooses the appropriate objects from the supplied collection, and constructs a signal network by graphically joining these objects together.

The development of the software was a process of continual refinement and research to ascertain the most efficient way to implement design concepts. Underpinning this development at all times was the desire to ensure that the end product served an artistic and musical purpose. The sources for this research included written materials such as the MAX/MSP 4.5 reference manuals and *Composing Interactive Music* by Tod Winkler. Other sources that supported the research and development of the software included electronic forums such as the MAX/MSP

(www.synthsisters.com/hypermail/max-msp/) user forum where members of an active user community can interact and provided useful advice.

The Tools

Experimental Tools 1.0 contains 3 tools for experimentation (*Recorder, Sample Player and Random*) and 2 utility tools (*Tuner and Help*). They are displayed as a group of windows that are differentiated by title and colour. There is a main control window, which is responsible for system wide control of the application and also provides access to the various tools via a series of colour-coded buttons (See Appendix 2) The following provides a brief overview of the functionality of each tool.

Recorder

Recorder is designed to let the user record a sound from one to ten seconds in length. Once the sound has been recorded it can be reversed in playback direction and sped up or slowed down within fixed limits. The sample can also be saved to disc in a variety of audio formats. The default setting uses the internal sound card of the computer to record either a microphone level or line level signal. It can however use an external sound capture device providing the users computer supports this device.

Sample Player

Sample Player can play back up to five sound files of any length simultaneously. Each track can be independently controlled in terms of playback features such as speed and direction of the sample, volume and channel muting. The resultant audio output of the tool can be recorded as an audio file in a variety of formats and fed back into the tool if desired. These processes can be accomplished in real-time without interrupting the operation of the tool.

Random

Random generates up to four voices of random pitches simultaneously. It has a choice of four different instrumental timbres to choose from for playback purposes. The speed of generation can be altered for each individual voice, the individual volume can be adjusted and the voice can be muted. The resultant audio output can be recorded as an audio file and additionally the output can also be recorded as a standard MIDI file. This MIDI file can be utilised with one of the many software programs that support standard MIDI files.

Tuner

Tuner is a utility tool to assist in tuning an instrument. It can either supply any chromatic note at a variable frequency or it can use pitch detection to function as a "hands free" chromatic tuner. The reference frequency for the tuner can be adjusted in real time either with the mouse or by entering a value numeretically.

Help

Help is the simplest of all the tools and allows the user to select from a series of help windows for each of the tools. By clicking on the appropriate button a new window is opened and an annotated diagram of the tool is displayed.

Tools in Practice

Since the release of *Experimental Tools 1.0* the software has been implemented into two contrasting learning environments. At James Cook University first year Bachelor Of Music students have been working with the software as part of a beta testing group. Their feedback has been very important in terms of gauging the relevance of the software and the potential application to their work. In addition, the students have provided me with a number of suggestions for future tools to add to the software. This testing and subsequent feedback has resulted in an awareness of the possibilities for employing the software in a broader range of learning situations such as the tertiary context.

The second learning environment has been in a face-to-face teaching situation at Camden Haven High School. The software has been successfully used in a computer lab environment. This application is significant in that it provided an opportunity to test the theories of ease of configuration, installation and usage. A number of useful suggestions have originated from this application and will be incorporated into future releases of the software.

Conclusions and Future Directions

The development of the software was an intensive undertaking that required many revisions and involved a number of problem solving exercises to arrive at the end result. The process was a difficult undertaking but none the less enjoyable and rewarding. The changing nature of software platforms and specifications meant that the development environment of MAX/MSP was in a fluid state throughout the design and implementation of the software. This had both negative and positive implications for the design. For example, as the newer versions of MAX/MSP became available support for older operating systems declined which led to the abandonment of the OS 9 (Apple) version of the software. However a positive outcome from the new versions of MAX/MSP was the inclusion of additional programming and graphic objects that were implemented into *Experimental Tools 1.0* as discussed in this paper.

One of the key objectives throughout the course of the project was to ensure that the artistic and musical potential of the software was not obscured by the technical difficulties and challenges that one faces when designing a software interface such as *Experimental Tools 1.0.* I feel that this objective has been achieved in its preliminary form and the addition of further tools will not only increase the functionality of the software but also broaden its musical and creative applications.

The project set out to create software that was easy to use and did not require complex configuration set-ups to achieve simple results. The project also set out to provide educators with a teaching resource that could be implemented into their teaching programs. I feel at the conclusion of this project that these goals have been achieved. However I also feel that the software and indeed the concept could be developed further. The software has the potential to be integrated further into teaching practice, expanded as a resource and developed to meet the needs of students.

Indeed from this project a number of future directions for the development of *Experimental Tools 1.0* could be investigated and researched. These include:

1. Expansion of the software to augment the number of tools available with the package. Analysis tools for addressing such techniques as twelve-tone theory or even other more specific compositional tools that deal with minimalist techniques could be incorporated into future releases of the software.

2. Increased support for the software, both within the application and externally through such mediums as the Internet, should improve the experience for users. A companion website would provide an efficient way of supplying updates and new version releases. It could also become a support mechanism and perhaps host a discussion forum.

3. Expansion of the functionality of current and future tools to support MIDI integration within the system. This aspect of the software was deliberately omitted from the development at this stage to ensure that the initial release did not become potentially over complex from a configuration viewpoint.

4. The introduction of an "instructional mode" that allows teachers to use the software as a resource for teaching various concepts that arise from using the software. This mode could contain QuickTime movies or pop-up graphical windows that present information about a music technology concept or related compositional application.

5. This would have been in direct conflict with the concept of a "simple" user interface. However the simplification of user input devices should ensure that MIDI configuration routines would not prove to be as complex for the novice user in the near future.

6. With the advent of low cost video cameras, a video component could be added to *Experimental Tools 1.0.* This concept has already been tested and *Cycling74* produce a software package called *Jitter* that integrates with the MAX/MSP design environment. Preliminary work has taken place into this concept however this works exceeds the scope of this project.

The addition of such components has the potential to broaden the application of the software in music education. Feed back from staff in particular indicated the potential suitability of the software to a wider range of other user groups, including junior music students and early tertiary music students.

About the Author

Mark Brown holds a B.Mus (Hons) and Grad.Dip.Ed (UNE) and a Master of Music Technology (University Of Newcastle) and is currently involved in doctorial research at James Cook University. Before taking up his current position as Associate Lecturer in Music (JCU) he was employed by NSW D.E.T. as a music teacher and technology consultant. In 2004 Mark was awarded a competitive staff scholarship to attend the Apple WWDC in San Francisco.

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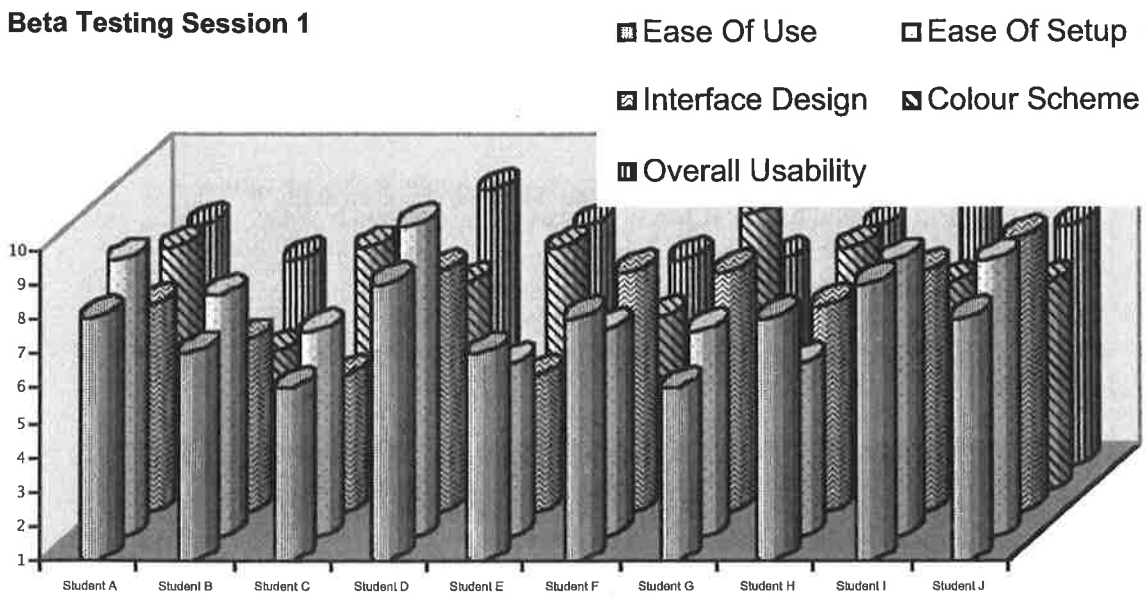
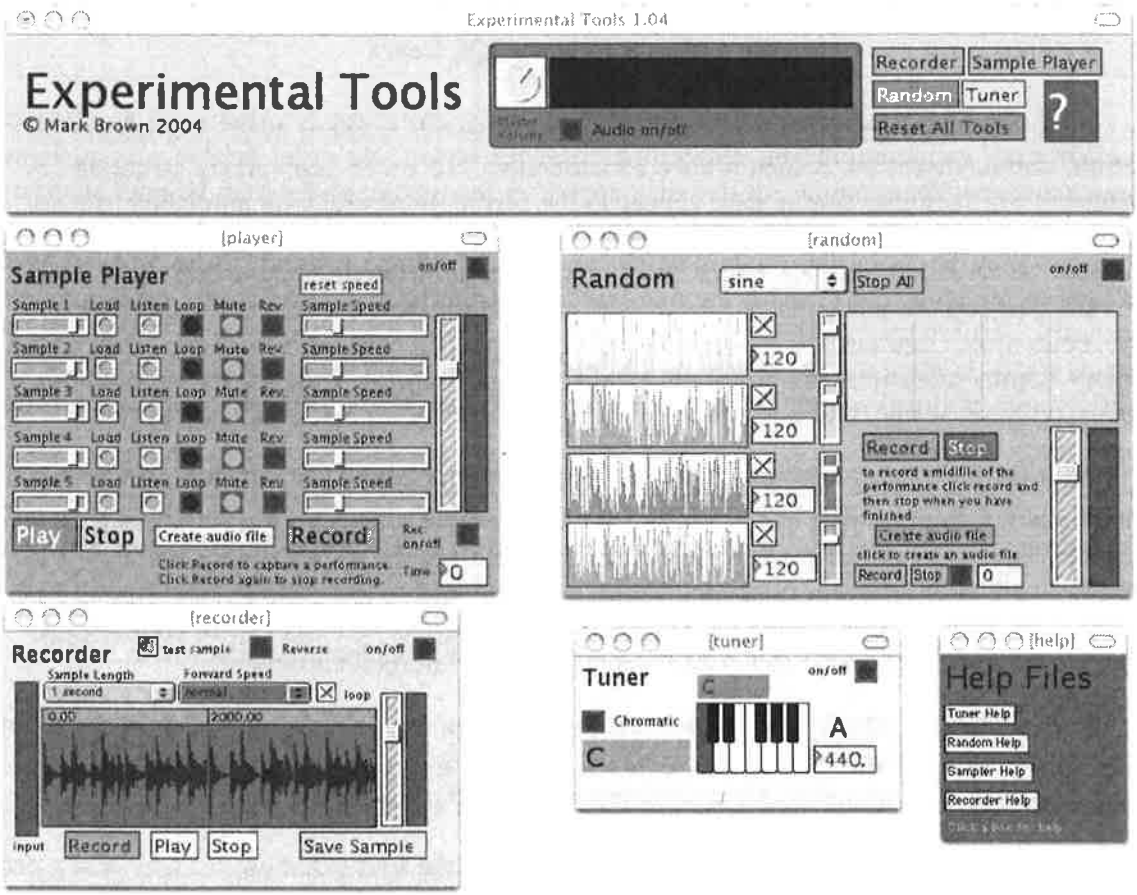
Appendix 1



Appendix 2



Why Celebrate in 2004? The Centennial of the New South Wales Primary Syllabus

Marilyn J. Chaseling, *Southern Cross University*

March 1 1904 was a significant date in New South Wales education. It marked the publication of the first syllabus in New South Wales public schooling, a single volume syllabus which organised the curriculum into seven parts, one of which was music. This paper considers the historical background to the music section of the syllabus, the reaction to the introduction of the first syllabus and the place of music within the first syllabus.

It concludes that music has held a place in New South Wales primary schools since almost the beginning of public education, and that music's place in the first syllabus was assured by the high standards school music had reached around the time of Federation.

In addition, the paper concludes that the first syllabus was an historical event that should be remembered for three reasons: it marked a time of education reform in New South Wales; its introduction demonstrated the ability of a large system to undergo effective change; and, finally, because certain aspects of the syllabus writers' vision are still relevant for today's curriculum.

Why Celebrate 100 Years

The one-hundredth-year anniversary of an historical event is often used as a reason for celebration, commemoration, remembrance or reflection. No other anniversary generates as much activity; for example, stories may appear in the media, books may be published to mark the event, events may be held, community leaders may participate in commemorative events, plaques may be unveiled, medals struck or postage stamps printed. More words have been added to the language to mark the one-hundredth-year period than for any other anniversary: century, centenary, centennial, centennially, centenarian, centennium. One-hundredth anniversary commemorations are routinely held for organizations, institutions, expeditions, discoveries, political events, buildings or for humans who reach their one-hundredth birthday.

It is difficult to postulate why the one-hundred-year timeframe appears to be valued over other anniversaries. Perhaps part of the explanation could relate to our number system which is based on ten, and that multiples of ten then seem to hold special significance. Perhaps it is because 100 years after an event is beyond living memory, and so provides an opportunity for people not directly involved in the event to reflect on its influence, its longevity or contribution, and to appreciate how the event may have influenced life one hundred years later.

One centenary, which passed unnoticed, occurred in March 2004. That date marked the one-hundredth anniversary of the first syllabus in New South Wales public education and, as a consequence, the one-hundredth anniversary of the first music syllabus.

Some of the questions that need to be asked about the first syllabus are: why was a decision

made to publish a first syllabus in 1904? what were the aims of the first music syllabus? what form did it take? what was the reaction to its publication? why was music included in the syllabus? This paper will attempt to address these questions.

Music in New South Wales Public Schools Prior to Federation

The Board of National Education

Australia's first truly public elementary education system began in the colony of New South Wales in January 1848 when Governor Fitzroy created a dual system of schooling: a Board of National Education to establish and control a system of non-sectarian National schools and a Denominational School Board to superintend State-supported church schools.[1]

Although music was not at first envisioned as a subject for inclusion in the National schools,[2] undoubtedly William Wilkins—the first permanent Headmaster of Fort Street Model National School[3]—secured music's place when the Board of National Education enlisted his aid in designing a model timetable for National schools. The timetable appeared in 1851 with a scheduled half-an-hour per day of singing for all classes.[4]

Despite the inclusion of singing in the National schools timetable, its existence was frequently ignored by teachers. By the mid 1850s when Wilkins, Turton and Levinge were appointed as Commissioners to report on every National and denominational school in New South Wales, they described the range and quality of teaching as "deplorable in the extreme". They attributed the poor teaching to the lack of appropriate training for teachers. [5] Vocal music, they reported, was only taught in the two model schools—Fort Street and William Street—and in three of the other thirty-two National schools.[6]

In 1856 in an effort to improve schooling, Wilkins in his then role as Inspector and Superintendent of National Schools[7] devised a Table of Minimum Attainments. This listed the subjects for each class and the minimum attainments expected after specific periods of instruction.[8] Stevens argues that the omission of music from the Table of Minimum Attainments represented Wilkins' realistic view that teachers at that time did not have the required skills to

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1 Robin Stevens, "Music in State Supported Education in New South Wales and Victoria, 1848 - 1920" (unpublished PhD, University of Melbourne, 1978), 53.

2 Ibid., 54.

3 Clifford Turney, ed., *William Wilkins: Australia's Kay-Shuttleworth, Pioneers of Australian Education: A Study of the Development of Education in New South Wales in the Nineteenth Century* (Sydney: Sydney University Press, 1969), 196.

4 Stevens, "Music in State Supported Education in New South Wales and Victoria, 1848 - 1920", 54.; Jan Burnswoods, Jim Fletcher, and New South Wales Department of Education, *Sydney and the Bush: A Pictorial History of Education in New South Wales* (Sydney: New South Wales Department of Education, 1980), 58.

5 Clifford Turney, *William Wilkins: His Life and Work: A Saga of Nineteenth-Century Education* (Sydney, NSW: Hale & Iremonger, 1992), 88-95.

6 Stevens, "Music in State Supported Education in New South Wales and Victoria, 1848 - 1920", 56.

7 Turney, *William Wilkins: His Life and Work: A Saga of Nineteenth-Century Education*, 109.

8 Ibid., 116.

teach vocal music.[9]

Wilkins, committed as he was to having vocal music in the curriculum, instigated a number of initiatives to increase the amount of vocal music in schools. In 1855 he appointed a singing master for the Sydney schools to teach using Hullah's "fixed doh method" but dismissed him the following year, his services being "of little practical value". Shortly after, another singing master, Chizlett, was appointed to teach according to Hullah's methods at the model schools and to a class of pupil-teachers. Three years later, in 1859, Wilkins gained approval for country teachers who could produce a class of twenty or more children capable of passing parts I and II of Hullah's Manual to be paid an annual gratuity of £5.[10] In a change of methodology, in 1863, Wilkins influenced the National Board to trial the teaching by James Fisher of the "tonic sol-fa" methodology at the Saturday morning singing classes for pupil-teachers and teachers as well as at Paddington School where Fisher was Headmaster.[11]

The Council of Education

In 1866, with the passing of the *Public Schools Act of 1866,* the two existing Boards were dissolved and a Council of Education was constituted to control all State-supported education in New South Wales.[12] Henry Parkes was appointed the Council's President and Wilkins its full-time Secretary.[13] Under the Act four types of schools were established: public (known previously as National), certified denominational, provisional and half-time. In addition, the Act required a training school for teachers to be established. [14]

Fisher's success in teaching using the tonic sol-fa method no doubt influenced the Council of Education to widen the school curriculum to include music using the tonic sol-fa method in all New South Wales public schools. In the same year, 1867, Fisher was appointed as Singing Master to disseminate the tonic sol-fa method.[15] With singing now a part of the curriculum for all classes across the State and only Fisher and Chizlett[16] employed as music specialists, the responsibility for teaching music fell to generalist classroom teachers.

In 1867 the Table of Minimum Attainments was replaced by the Standards of Proficiency, a much more prescriptive and comprehensive set of requirements. The standards detailed the levels of proficiency students were to reach in each subject, at the end of each quarter year, in each of the five classes of primary schooling. Promotion of students therefore could occur each quarter year. Inspectors examined classes against the relevant standard and estimated proficiency. For example the Standards of Proficiency in Singing at the end of the first quarter

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9 Stevens, "Music in State Supported Education in New South Wales and Victoria, 1848 - 1920", 72-3.

10 Ibid., 58-60.

11 Ibid., 84-5.

12 New South Wales, "An Act to Make Better Provision for Public Education," in *Act. 30, Vic. No. 22* (Sydney: 1866, December 22)., Section 2-3.

13 Alan Barcan, *A History of Australian Education*, vol. 2002 (Melbourne: Oxford University Press, 1980), 137-8.

14 New South Wales, "An Act to Make Better Provision for Public Education.", Section 2-3.

15 Robin Stevens, "James Churchill Fisher: Pioneer of Tonic Sol-Fa in Australia", (Paper presented at the Proceedings of the XXIInd Annual Conference of the Australian Association for Research in Music Education (2000), Melbourne, 2000), 4.

16 Stevens, "Music in State Supported Education in New South Wales and Victoria, 1848 - 1920", 87-8, 112-13.

in Fourth Class were:

> Singing —Tune-Transition and the minor Mode: Modulator and Time Exercises: Three-part Songs. [17]

Due primarily to the work of Fisher in disseminating the tonic sol-fa method there was an increase in the number of students receiving music instruction in schools from 60.5% in 1872 to 67.7% in 1878. During the same period the percentage of students who passed the Standards of Proficiency in music increased from 45.6% in 1872 to 74.9% in 1879. However, it is worth considering that, for this same period, inspectors were reporting moderate results in singing and teachers were complaining about their inability to teach music.[18]

The Department of Public Instruction

The year 1880 saw major legislative reform enacted in New South Wales, which resulted in wide-ranging changes to education. In one stroke, among other things, the Act: abolished the Council of Education; founded the Department of Public Instruction; and eliminated government funding to denominational schools.[19] Wilkins was appointed the founding Under-Secretary of the new Department.[20]

In 1884[21], Wilkins retired early from the Department due to ill health. During his more than thirty years in public education, Wilkins had implemented all the detailed aspects of the New South Wales educational system[22] , including advocating for the place of music in the school curriculum, a subject on which he placed great importance. In the same year, Fisher resigned after ongoing disputes with the inspectors.[23]

Wilkins' early retirement and Fisher's resignation could have spelt the death knell for school music in New South Wales. Fortuitously, however, in that same year, singing master Herr Hugo Alpen was promoted to the most senior music position in State education[24], and music gained a new advocate, who built on the inspired work of Wilkins and Fisher.

The other music-related event for the year 1884 was that the Standards of Proficiency were revised to allow either tonic sol-fa or staff notation to be used in the early classes and staff notation alone from Fourth Class .[25] Four years later, in 1890, a methodological innovation devised by Alpen based on tonic sol-fa in the lower classes and staff notation taught on tonic sol-fa principles in the upper classes resulted in a further change in the Standards of Proficiency.

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17 Turney, *William Wilkins: His Life and Work: A Saga of Nineteenth-Century Education*, 169-70.

18 Stevens, "Music in State Supported Education in New South Wales and Victoria, 1848 - 1920", 122-3.

19 "Public Instruction Act," in *No. 23* (NSW: 1880)., Section 1-5.

20 Turney, *William Wilkins: His Life and Work: A Saga of Nineteenth-Century Education*, 222.

21 Turney, ed., *William Wilkins: Australia's Kay-Shuttleworth*, 196.

22 Ibid., 237.

23 Stevens, "James Churchill Fisher: Pioneer of Tonic Sol-Fa in Australia", 11.

24 Stevens, "Music in State Supported Education in New South Wales and Victoria, 1848 - 1920", 133-44.

25 Ibid., 135.

The statistics produced by the Department of Public Instruction between the years 1881 and 1902—the last year they were compiled—indicate a dramatic increase in the number of students receiving music instruction from 71% in 1881 to almost 100% for each year from 1892 to 1902. The numbers of students who passed the Standards of Proficiency for music during a similar period was also very high. Seventy four per cent of students gained a pass in 1883 and almost 80% in 1902.[26] These statistics reveal that by 1890 almost every child in New South Wales was being taught music and that, by the turn of the century, 80% of the State's children were passing the Standards of Proficiency.

Another indication of the high standard of vocal music (at least in Sydney schools at the turn of the century) was the number of students who were able to assemble for choral performances. For example 5,000 children performed for Queen's Victoria Jubilee Celebration in 1897, 3000 at the Sydney Cricket Ground in 1900, and a colossal choir of 10,000 children which was formed with only 5-weeks notice to perform in Centennial Park on 1st January 1901 for the inauguration of the Commonwealth.[27]

A Syllabus to Replace the Standards of Proficiency

Criticisms of Education

Spaull has described the opening of the twentieth century as a time of national stock-taking for the new Commonwealth of Australia, a period of unusual political and civil activity as each State "engaged in the healthy task of putting its own house in order". New South Wales' education was one of the areas which came up for re-evaluation. In the twenty years after the passing of the Public Instruction Act of 1880, there was an often-repeated public belief that the State's education system was one of the best, if not the best, in the world. Despite these reassurances, there was a growing belief from those who had had the opportunity to observe education systems abroad that all was not right within New South Wales education.[28]

The pressure for educational reform began at the June 1901 Annual Conference of the New South Wales Public School Teachers' Association. At this conference three outsiders to the Department addressed the Conference about problems they perceived in the State's education system. Attorney-General Wise, in his invitational address, maintained that NSW education was solely "concerned with testing knowledge, and fell short in the development of the imagination". He asked the audience of teachers to consider the training of pupil-teachers, where the Department drew pupil- teachers from its scholars, and made higher appointments in the Department from among the teachers. He warned that:

> If this practice were continued for a few years more ... They should then have a system of education carefully dealt out under departmental regulations, watched at every turn by departmental inspectors, and administered by departmental teachers who had been drilled in one groove until they had neither enterprise, imagination, nor originality.[29]

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26 Ibid., 174-77.

27 Marilyn Chaseling, "The Great Public School Choir of Ten Thousand," *Australian Association for Research in Music Education* XXV (2004): 25.

28 S. H. Smith and G. T. Spaull, *History of Education in New South Wales (1788-1925)* (Sydney: G.B. Philip & Son, 1925), 189.

29 "Public School Teachers' Association: Fourth Annual Conference: Address by Mr. Wise, K.C.," *The New South Wales Educational Gazette* XI, no. 2 (1901, July 1): 30-1.

When Mayor Graham opened the conference he lamented that it was quite possible for some of his audience to have joined the ranks of the supposed learned profession of teaching and "yet be mere hacks and rule-of-thumb workers" due to their lack of a professional education.

If any of the teacher audience felt unsettled by the criticisms of the previous two speakers, the next speaker must surely have unnerved them. Professor Francis Anderson, the Professor of Logic and Mental Philosophy at Sydney University, took the opportunity in his speech to enumerate a litany of defects, which he saw in the New South Wales education system. Anderson claimed, among other things, that there was no systematic training of teachers; that pupil-teachers were not trained and were overworked; that the training college was ineffective; that eighteen was too many separate subjects to be included in the curriculum and that not all of these subjects were strictly separate; that teachers were the victims of the annual examination system; and that teachers needed to motivate and inspire students, rather than to subject them to drill.[30] Anderson's suggestions for reforms included: symplifying the curriculum; reducing class size when there were 60-80 students in a subject; examination by teachers of what was occurring in other countries; and the reforming of teacher training.[31] These criticisms of education were published in the *Sydney Morning Herald*[32] and reprinted in the July issue of the *New South Wales Educational Gazette,* resulting in education becoming a political issue.

Reports by Turner and Knibbs, and Board

Early in 1902, the State Cabinet appointed a Royal Commission, with John W Turner and George Handley Knibbs as Commissioners, to travel abroad and study educational developments in Europe and America with the view to improving education in New South Wales.[33] Turner and Knibbs' massive report condemned the existing system and made many recommendations for reform.[34]

In 1903, while the commissioners were overseas, Peter Board, a New South Wales' Inspector of Schools, took a holiday to Europe. While there, he availed himself of the opportunity to visits school systems in England and Scotland, and, to a lesser degree, to observe the trend of educational movements in Europe. On his return, Board prepared a twelve-page report recommending changes to primary education. In summary, he recommended that: schools be better equipped; that a Primary Certificate be required; that the role of the inspector be changed to create a better spirit in teaching; that teacher training be reorganised; that the curriculum be reconstructed; and that more modern and scientific teaching methods be adopted.

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30 Francis Anderson, "Public School Teachers' Association: Fourth Annual Conference: Address by Professor Anderson," *The New South Wales Educational Gazette* XI, no. 2 (1901, July 1): 33-4.

31 Ibid.

32 For example: "The New Syllabus," *Sydney Morning Herald* 1904, March 1, 4.; "State Education: The New Syllabus," *Sydney Morning Herald* 1904, March 2, 5.; "The New Syllabus: To the Editor of the Herald," *Sydney Morning Herald* 1904, March 2, 7.; "Public Instruction: The School of to-Morrow," *Sydney Morning Herald* 1904, April 5, 3.; "The Teachers' Conference; New Syllabus of Instruction," *Sydney Morning Herald* 1904, April 12, 3.; "The New School Syllabus: To the Editor of the Herald," *Sydney Morning Herald* 1904, April 26, 3.; "The New Syllabus: To the Editor of the Herald," *Sydney Morning Herald* 1904, July 20, 6.

33 "The Education Commission," *The New South Wales Educational Gazette* XI, no. 11 (1902, April 1): 241.

34 Smith and Spaull, *History of Education in New South Wales (1788-1925)*, 193.

Board recommended that the curriculum be reduced to six subject groups: English, Mathematics, Nature-knowledge; Civics and Morals, Manual Work and Music.[35]

Board's document was printed and distributed by the Minister,[36] and reported on positively by the *Sydney Morning Herald.* This brought Board's name and reformist ideas on primary education before the general public.[37] On 12 January 1904, at a meeting of inspectors, the Acting Under-Secretary, Mr Bridges, announced that the course of instruction and Standards of Proficiency[38] needed modification and that Mr Board's experience, gained in Europe, should be drawn on in this matter. Consequently, a committee, which included Board, was formed to draw up a new syllabus.[39] Fascinatingly, the two Commissioners were not asked to join the syllabus committee, although their extensive reports was apparently considered in the committee's deliberations and many of their recommendations enacted.[40]

The First Syllabus

March 1 1904 is a significant date for New South Wales education. It marked the publication of *The New Syllabus of Instruction,* the first school syllabus in New South Wales public education, and the consequential abandonment of the narrowly outcomes-based Standards of Proficiency which had been in force up until this time.[41] There is no doubt that the Standards of Proficiency had been an appropriate initiative when Wilkins had introduced them, as they defined exactly what would be taught by the frequently untrained or poorly trained teachers. However, the syllabus writers would have been aware that the widespread changes to education, which would begin with the introduction of the syllabus, would also result in a better training system for teachers. The change from the Standards to a syllabus was realistic at this time. In a major policy shift from the Standards of Proficiencies, the syllabus was suggestive not prescriptive.[42] Furthermore, teachers had the option of an immediate implementation of the syllabus or of delaying its introduction until after the mid-winter vacation of 1904.[43]

It is interesting to note that the exact publication date of the first syllabus is often wrongly reported. Spaull claims it was published in 1905 as one of Peter Board's initial tasks as the first New South Wales Director of Education.[44] Crane maintains that in April 1904, during a conference to discuss the Royal Commission's report on primary education, Peter Board was

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35 Peter Board, "Primary Education: Report by P. Board, Esq., M.A., Inspector of Schools, Upon Observations and Inquiries Made with Regard to Primary Education in Other Countries," (Sydney: Department of Public Instruction New South Wales, 1903), 1-12.

36 Ibid.

37 Allan Robert Crane and William George Walker, *Peter Board: His Contribution to the Development of Education in New South Wales* (Melbourne: Australian Council for Educational Research, 1957), 18.

38 See "The New Standards of Proficiency," *The New South Wales Educational Gazette* VIII, no. 3 (1898, August 1): 56-60. for the last issued Standards of Proficiency.

39 "Consultation of Inspectors: Held at Head Office, on Tuesday, 12th January, 1904," *The New South Wales Educational Gazette* XIII, no. 10 (1904, March 1): 243.

40 "State Education: The New Syllabus," *The Sydney Morning Herald* 1904, March 2, 5.

41 Department of Public Instruction, "The New Syllabus of Instruction," *The New South Wales Educational Gazette* XIII, no. 10 (March 1 1904): 234-42.

42 Ibid.: 234-5.

43 "The New Syllabus of Instruction," *The New South Wales Educational Gazette* XIII, no. 10 (1904, March 1): 240.

44 Smith and Spaull, *History of Education in New South Wales (1788-1925)*, 196.

appointed to the committee to prepare a Primary School syllabus to replace the Standards of Proficiency.[45] Barcan asserts that the date of issue was June 1904.[46] However the first item in the March 1 1904 *Educational Gazette* states: "The attention of teachers is specially directed to the New Syllabus which is printed in full in this issue".[47]

The New Syllabus rearranged the many separate subjects from the Standards of Proficiency into seven branches of study which the Department saw as critical for encouraging the growth and development of the child: English, Mathematics, Nature Knowledge, Civics and Morals, Art and Manual Work, Physical Education and Music Education.[48] Although the syllabus was issued over the signature of Chief Inspector Bridges, Peter Board's biographers claim that the document was almost solely the work of Peter Board and that Board's contemporaries immediately christened it "Peter Board's Syllabus". [49]

The Principles Underpinning the First Syllabus

The eight page 1904 syllabus contained a Preface followed by two syllabi: Syllabus A for schools with one or more classes for each year and Syllabus B for one-teacher schools. The underpinning philosophy was child-centred. Learning by doing should be the basis of teaching. Learning should have a practical application. School subjects should be related, dependent and contribute to each other, and there should be a close connection between learning at school and the child's home and social surroundings.[50]

Board reinforced this message when he told the 1904 Teachers' Conference that, prior to the introduction of the syllabus, most teachers' work had been involved with teaching the subject and the child tended to be forgotten. The true objective of teaching with the new syllabus was the child, not the subject. The teacher should "follow and develop the natural bent of the child".[51]

The syllabus also spelt out how primary schooling was to be reorganised. No longer would students be promoted quarterly or half-yearly as they had been under the Standards of Proficiency. Instead children would remain in First Class, also known as the Infants' Department, up until the age of about seven-and-a-half. They would then spend one year each in Second, Third, Fourth and Fifth Classes. Fifth Class was the last year of primary education which students reached, on average, at about twelve years of age. No syllabus was provided for Sixth and Seventh Class. For these upper classes, each school was to devise its own syllabus in accordance with a few broad guidelines provided by the syllabus.[52]

The syllabus also specified that children under six years of age were to be taught using

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45 Crane and Walker, *Peter Board: His Contribution to the Development of Education in New South Wales*, 18.

46 Alan Barcan, *Two Centuries of Education in New South Wales* (Kensington, NSW: New South Wales University Press, 1988), 183.

47 "The New Syllabus of Instruction," 233.

48 Department of Public Instruction, "The New Syllabus of Instruction," 234.

49 Crane and Walker, *Peter Board: His Contribution to the Development of Education in New South Wales*, 18, 20-27, 38.

50 Department of Public Instruction, "The New Syllabus of Instruction," 234-42.

51 "Our Education System: The Teachers' Conference; New Syllabus of Instruction," *The Sydney Morning Herald* 1904, April 12, 3.

52 "The New Syllabus of Instruction," 238.

kindergarten principles. Although more formal instruction could be introduced for children who had reached six years of age, kindergarten principles were to permeate the Infants' Department.[53]

The 1904 Music Syllabus

The Music components of the first syllabus are shown in Appendix A, which for simplicity presents Syllabus A (for schools with more than one teacher) and Syllabus B (for one teacher schools) side-by-side. Music in the 1904 syllabus was actually vocal music, and duplicated Alpen's innovative method, which had appeared in the 1890 Standards of Proficiency.

In the Infants' Department or Lower Division the focus was on developing a sense of pitch, timing and the quality of the singing voice. Pitch was developed by having children imitate tones produced by the teacher. The daily practice of performing action songs in strict time and of marching in and out of the classroom while singing marching songs was used as a way to develop timing. The quality of the singing voice was developed by having children sing open vowel sounds at different pitches. In the Infants, children were to sing songs "by ear". The suggested singing range was a tenth from Middle C to E on the fifth space of the treble clef.[54]

Although not mentioned by name, the terminology and concepts for Second Class indicate that tonic sol-fa was introduced for this class. Tonic sol-fa continued to be used until Fourth Class at which time staff notation was to be introduced. Beyond Fourth Class only staff notation was to be used. In one-teacher schools it appears that the tonic sol-fa methodology could be used exclusively in the Upper Division.[55]

Children in the Upper Division (Second, Third, Fourth and Fifth Classes) were to sing rounds in up to four parts and songs in up to three parts. Time was also to be devoted to voice training with the aim of producing a "soft, pure and sweet tone".

In accordance with the underpinning principles of the overall syllabus, songs which related to children's home and social surroundings, especially songs of a moral and patriotic character, were to comprise the repertoire. In addition, through singing, children were learning by doing and the act of singing was practically based.

Reactions to the Syllabus

That the introduction of the new syllabus and the consequential changes to education was a noteworthy public event at the time can be surmised from contemporary reports. When addressing the 1904 Teachers' Conference, Board claimed its introduction heralded "one of the most important educational reforms seen in the State".[56] An unprecedented nineteen pages of Minister of Public Instruction's Annual Report to Parliament for the year 1904 were devoted to inspectors' reports on the implementation of the syllabus. Chief Inspector Dawson prophesised

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53 New South Wales Department of Public Instruction, *Course of Instruction for Primary Schools* (Sydney: New South Wales Department of Public Instruction, 1905), vi-vii

54 "The New Syllabus of Instruction," 234-40.

55 Ibid.

56 "Our Education System: The Teachers' Conference," *The Sydney Morning Herald* 1904, April 12, 3.

that "the year 1904 will be memorable in the educational annals of New South Wales".[57] Inspector Dennis (Dungog District) forecast a "memorable" year "in the history of education in this State".[58] Inspector Drummond (Albury District) wrote of the "consternation its introduction occasioned, the earnest desire shown by the teachers to carry its provisions into effect, and the praiseworthy and comparative success of their labours".[59] Inspector Blumer (Parramatta District) explained that the syllabus had thoroughly aroused "a spirit of inquiry amongst teachers".[60] "Reform, not revolution"[61] was the way Chief Inspector Dawson described the changes.

The year was reported as a time for experimenting,[62] as inspectors and teachers adjusted the old to the new, retained the good in the old, and developed the new in the wisest manner.[63] It was also a year for busyness as teachers and inspectors held meetings to discuss the aims and methods of the syllabus, wrote papers, and attended meetings and conferences to better understand the syllabus.[64] Teachers' libraries, Reading Circles and Associations were established in some school districts.[65] Some inspectors commented that the appearance of schools had become brighter and more attractive as the "immense importance of the surroundings in the education" of children had "been taken into account."[66] Untrained teachers were allowed to close their schools so they could attend well-managed schools to observe teachers and inspectors teaching using the ideals of the syllabus.[67]

There was also public interest in the new syllabus, as evidenced by articles and letters to the editor appearing in newspapers.[68] Inspector Reay (Mudgee District) explained that the syllabus had created public interest, discussion and at times anxiety:

> The question, "What do you think of the new Syllabus?" has met me in all kinds of places, and has been asked by all sorts and conditions of men and women. The maintenance-man..., the clergyman ...., the merchant ..., the squatter, the boundary-rider, the dairyman ..., the prospector ..., the tradesman, the profession man, &c., have all asked the question. [69]

Reay further explained that one parent, in a letter to his child's teacher, described the syllabus as "the vapourings of doddering politicians". Another informed Inspector Reay,

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57 Legislative Assembly New South Wales, *Report (Together with the Appendices) of the Report for the Minister for Public Instruction* (Sydney: William Applegate Gullick, Government Printer, 1905), 73.
58 Ibid., 90.
59 Ibid., 92.
60 Ibid., 87.
61 Ibid., 73.
62 Ibid., 87.
63 Ibid., 75.
64 Ibid., 74.
65 Legislative Assembly New South Wales, *Report (Together with Appendices) of the Minister of Public Instruction for the Year 1904* (Sydney: William Applegate Gullick, Government Printer, 1905). 74, 87.
66 Legislative Assembly New South Wales, *Report (Together with the Appendices) of the Report for the Minister for Public Instruction*, 75.
67 Ibid., 74.
68 Ibid., 92.
69 Ibid., 89.

"Syllabus or no Syllabus, she wouldn't let her James carry any more" centipedes to school. James had captured the centipede in response to his teacher's request for interesting items to be brought to school for Nature study.[70]

Most interestingly, in all the thousands of words, which were written in 1904 about the syllabus, not one appears to mention music. Not even Superintendent of Music Alpen refers to the new syllabus in his Annual Report, describing instead his twice-yearly visits to each Sydney school and the further improvements he had noted in singing. Why did music not rate a mention in the reports related to the syllabus? Possibly because the syllabus for music was very similar to that which had been required under the 1890 and 1898 Standards of Proficiency. Perhaps the high standard of vocal music in schools meant that music was taken for granted.

1905 Syllabus

In June 1905 a new edition of the single-volume syllabus was published.[71] This syllabus had increased to 60 pages with the inclusion of an expanded Preface, a Notes section and a Higher Primary Course of Instruction designed for students who remained at schools for one or two years beyond the Primary Course.[72]

In the Preface, Peter Board added an aim for public school teachers, namely, that their role was to mould students so that they developed into worthwhile citizens for the new nation of Australia. Board wrote:

> The school aims at giving to its pupils the moral and physical training and the mental equipment by which they may qualify themselves to meet the demands of adult life with respect to themselves, the family, society, and the State. By its influence upon character it should cultivate habits of thought and action that will contribute both to successful work and to upright conduct, and by the kind of instruction it imparts, it should prepare the pupils for taking up the practical duties of life and give them tastes and interests that will lead to activities beneficial both to themselves and to the community. [73]

The Music Section of the 1905 Syllabus

The Music section of the 1905 syllabus was virtually identical to the 1904 syllabus (see Appendix B). The only changes were the occasional changes of wording. Once again, music was not mentioned in the extensive extracts from the Inspectors, which were published in the Report of the Minister for Public Instruction, other than a one-sentence acknowledgement by Chief Inspector Dawson,[74] "Music in the schools owes much to the skill and energy of Herr Alpen, Superintendent of Music."

Again in his Annual Report Alpen chose not to mention the new syllabus, focussing instead on his work in the Sydney schools:

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70 Ibid.

71 Legislative Assembly New South Wales, *Report (Together with Appendices) of the Minister of Public Instruction for the Year 1905* (Sydney: William Applegate Gullick, Government Printer, 1906), 35.

72 New South Wales Department of Public Instruction, *Course of Instruction for Primary Schools*.

73 Ibid., iii.

74 Legislative Assembly New South Wales, *Report (Together with Appendices) of the Minister of Public Instruction for the Year 1905*, 55.

> Our schools abound with beautiful voices, and the love of music is inherent in the heart of our children. We do not merely teach a few songs (by ear), but we make children understand, from the youngest classes upwards, that music is a language of sweet sound, shown to the eye by means of "notes", and thus, reading at "sight' has become one of the chief aims of the teacher in *all* classes.[75]

Conclusion

This paper has reported on a nearly forgotten event in New South Wales education: the publication of the first primary syllabus and, consequently, the first music syllabus. In addition, it has considered why music was included as a branch of study in the syllabus.

It would appear that music was included in the first syllabus primarily because of the work of three educators: Wilkins, who championed and secured music's place in the curriculum from the early days of public education; Fisher, who disseminated the tonic sol-fa system; and Alpen, who continued the inspired work of Wilkins and Fisher. When the writers of the first syllabus were determining which subjects should be included, music's high profile gained through the mass choral performances at public events and its being almost universally taught in New South Wales classrooms would have assured it a place in the syllabus. In addition, Board recommended its inclusion in his twelve page report. Remarkably, throughout the majority of the high performance years of music education in New South Wales State schools, music was taught by generalist classroom teachers.

This paper asked why the publication of the first syllabus was an event worthy of commemoration. Firstly, the publication of the syllabus heralded a new era in New South Wales education, which influenced the character of education as we experience it today. For the forty years prior to the syllabus, teaching in schools had been in accordance with the narrow outcomes-based, subject-focussed Standards of Proficiency, where inspectors examined every aspect of school work, gave marks and provided statistics. In a radical departure, the syllabus was child-centred and suggestive, not prescriptive. Consequently, with the introduction of the syllabus, the role of the inspector changed to one of promoting reform, critically observing teaching methods and providing professional development for teachers who required help.[76]

The second reason why the publication of the syllabus should be remembered is because of the quite remarkable confidence demonstrated by the Department of Public Instruction and its syllabus writers in the ability of its (mainly) poorly trained and untrained teachers to embrace a far-reaching and fundamental change in education. Likewise, another related reason was the ability of the teachers throughout the far-flung Districts of New South Wales to embrace these changes.

> There are many schools so isolated that the teachers are unable to attend the meetings held by the Teachers' Associations, and are out of touch with modern methods. In cases of this kind the inspectors have been empowered to arrange for a week's attendance at a well-conducted school, and this concession has been largely availed of, with satisfactory results. An endeavour has been made to bring teachers more into touch with the work that others are doing. The isolation of many of them has been lamentable. I have found teachers who for twelve, fifteen, or eighteen years had never been inside any school but their own. Visits to good schools widen their outlook, raise their ideals, and hearten them for their work. ... The inducements [for teaching in isolated country schools] are so

[75] Ibid., 87.

[76] Legislative Assembly New South Wales, *Report (Together with the Appendices) of the Report for the Minister for Public Instruction*, 75.

> small, and the life is so lonely and often so rough, that it is difficult to procure in sufficient numbers of suitable persons for the work. During 1905, thirty-four candidates were admitted after examination, and were submitted to a course of training and instruction for a period of three months in good schools under the care of the principal teachers and the supervision of the inspectors.[77]

Reports indicate that the reforms were generally taken up enthusiastically by teachers, for example:

> The record of the year 1906 is on the whole one of continued progress, of which there are many signs. There is abroad amongst the teachers a spirit of inquiry into the principles and methods of their profession, which augurs well for the efficiency of themselves and their schools. In addition to the Associations already existing, many new ones were formed this year. Meetings are well attended. Distance seems no obstacle. It is not uncommon to find at these meetings teachers who have travelled 15, 20, even 30 miles to take part in the proceedings. They return home heartened for their work. Social intercourse relieves the monotony that hangs over the lives of those who live in isolated places. ... Another sign of progress may be seen in the more general diffusion of interest in the schools on the part of the communities which they serve. The Press has rendered valuable assistance.[78]

Perhaps many teachers embraced the syllabus reforms because Peter Board's 1903 report had alerted teachers to the extent New South Wales education was lagging behind overseas' developments, and in addition had foreshadowed the changes, many of which came into effect with the new syllabus. Furthermore, when the syllabus was published it offered teachers a new found freedom of teaching styles, together with professional development to assist in its implementation. Possibly there was a belief by the teachers and inspectors that the syllabus offered something new, a hope, and that the idea that change is good.

A third reason why the arrival of the syllabus should be remembered is that aspects of the syllabus writers' vision for the curriculum are still with us today. For one hundred years since 1904 the syllabus has been the official "voice" of New South Wales Education which has guided teachers throughout the State on the Department's principles. For almost 60 years from 1904 the New South Wales Department of Public Instruction, and its 1915 successor, the New South Wales Department of Education, periodically published new editions of the single-bound primary syllabus. Syllabi were published in 1905, 1916, 1925, 1941, 1952 and 1961, each successive syllabi increasing in size to accommodate more detailed syllabus and more extensive explanatory notes (see Figure 1). Beginning in 1959, the Department of Education began publishing separate syllabus documents for each subject. In 1963, it published the first separately-bound music syllabus[79], which was replaced in 1984 by the last Department of Education music syllabi: *Music (K-6): Syllabus and support statements*[80].

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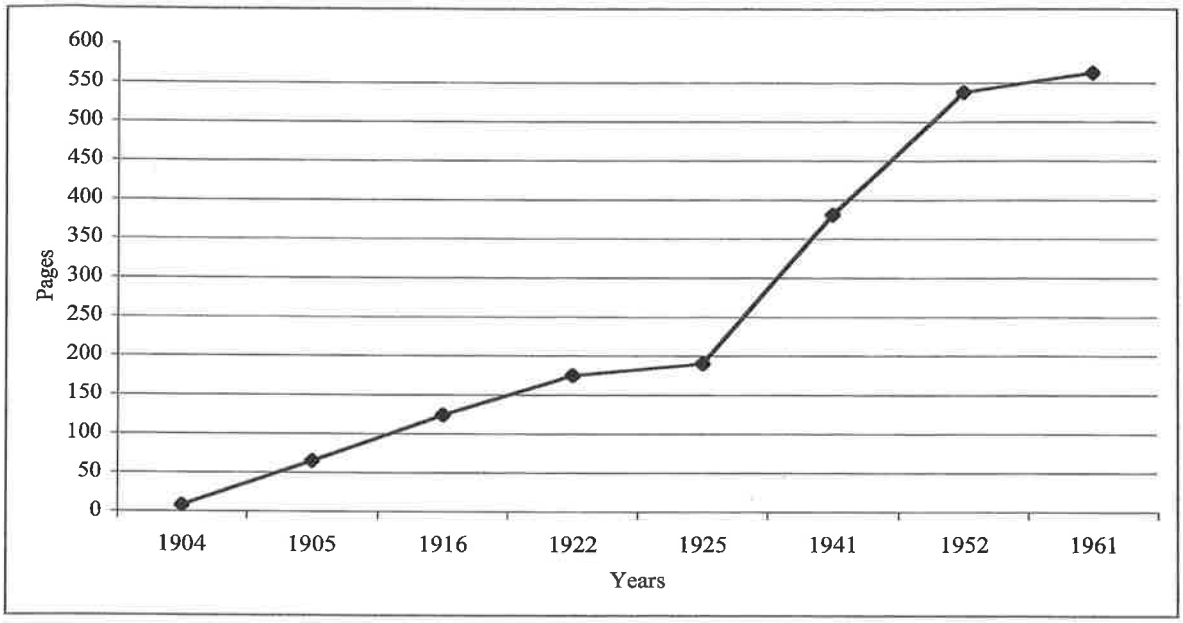
77 Legislative Assembly New South Wales, *Report (Together with Appendices) of the Minister of Public Instruction for the Year 1905*, 46.

78 NSW Department of Public Instruction, *Report of the Minister of Public Instruction Upon the Condition of Public Schools Established and Maintained under the Public Instruction Act of 1880: New South Wales 1906* (Sydney: William Applegate Gullick, Government Printer, 1907), 46.

79 New South Wales Department of Education, *Curriculum for Primary Schools: Music 1963 Revision*, Rev. ed. (Sydney: Department of Education New South Wales, 1963).

80 New South Wales Department of Education, *Music (K-6): Syllabus and Support Statements* (Sydney: New South Wales Department of Education, 1984).

Figure 1: Number of Pages in the New South Wales Primary Syllabi (1904-1961)



Furthermore, as can be seen from Table 1, the branches of study which the 1904 syllabus writers included remained virtually unchanged during the period of the single-bound syllabi. Those subject areas are still included in the primary curriculum of today.

Table 1: Branches of Study Constituting the Curriculum in the 1904-1961 Editions of the *Course of Instruction for Primary Schools* and *Curriculum for Primary Schools*

1904	1905	1916	1922	1925	1941	1952	1961
English	English	English	English	English	English	English	English
Mathematics	Mathematics	Mathematics	Mathematics	Mathematics	Mathematics	Mathematics	Mathematics
Nature Knowledge	Nature Knowledge	Nature Knowledge	Nature Knowledge	Nature Knowledge	Nature Study	Natural Science	Natural Science
Civics and Morals	Civics and Morals	Morals and Civics	Morals and Civics	Morals and Civics	Social Studies	Social Studies	The Social Studies
Art & Manual Work (including Needlework)	Art & Manual Work (including Needlework)	Art & Manual Work (including Needlework)	Art Manual Work (including Needlework)	Art Manual Work (including Needlework)	Art and Craft (including Needlework)	Art and Craft (including Needlework)	Art and Craft (including Needlework)
Music	Music	Music	Music	Music	Music	Music	Music
Physical Education	Physical Education	Physical Training	Physical Training	Physical Training	Physical Education	Physical Education	Health and Physical Education including Sport

In June, 1990, an important piece of educational legislation was enacted in the New South Wales parliament: the *Education Reform Act (1990)*. The Act, among other things, legislated that New South Wales syllabi would now be developed by an independent organisation, the

Board of Studies.[81] Furthermore, that within the Key Learning Area entitled *Creative and Practical Arts*[82] children from Kindergarten to Year 6 would, at a minimum, have "courses of study in both Art and Music".[83] So Music's place in the New South Wales primary curriculum was assured, at least at the Board of Studies level. Two further syllabi have been published since 1990. In 1998, the Board of Studies published *Creative Arts K-6 Draft Syllabus*. Two years later, in 2000, the *Creative Arts K-6 Syllabus* was published.

In conclusion, the publication of the first syllabus is an historical event worthy of remembrance, for it marked an important period of educational change and demonstrated the ability of a bureaucracy to embrace wide-reaching reforms. Further, some of visions of the syllabus writers are still with us today. Although, due to technological advances, there are many differences in the primary schools of today and those of a century ago, there are still many similarities. The most notable similarity is that, at both these points in time, primary children in New South Wales spend/spent much of their school day in classrooms with children of a similar age under the guidance and supervision of a teacher who was trained as a generalist to teach all aspects of the curriculum, including music.

About the Author

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[81] New South Wales, "Education Act No. 8: An Act to Amend the Law Relating to the Education of School Children; to Repeal the Education and Public Instruction Act 1987; and for Other Purposes," (New South Wales Government Printer, 1990).Section 102(2)(a).

[82] New South Wales, "Education Act No. 8: An Act to Amend the Law Relating to the Education of School Children; to Repeal the Education and Public Instruction Act 1987; and for Other Purposes.", Section 7.

[83] Ibid., Section 8(1)(c).

Appendix A

1904 Syllabus: Music Section

	Syllabus A (for schools with more than one teacher)	Syllabus B (for one teacher schools)	
First Class or Infants' Department	Music. The sense of pitch to be cultivated by imitation of different "tones" produced by the teacher's voice or of the sounds of a musical instrument.	*Note- For hints on teaching of music, see list of text-books. The sense of "pitch" to be cultivated by imitation of different tones produced by the teacher's voice or of the sounds of a musical instrument.*	Note
	Singing of simple melodies by ear, correct in pitch and time. Action songs to be taught (and practiced daily). Actions to be in strict time so as to be actual time exercises. Songs relating to the life and occupations of the people in the school locality, and to the occupations of the children in the school. Voice-training – Practice of the open vowel sounds on notes of varied pitch. Marching songs to be practised daily when marching into and out of school.	Singing of simple melodies by ear, correct in pitch and time. Action songs to be taught and practised regularly; actions to be in strict time so as to become actual time exercises. Songs illustrating the life and occupations of the locality. Voice-training: Practice of the different vowel sounds on notes of varied pitch. Marching songs to be practised daily when marching into and out of school.	Lower Division
Note (Infants)	*Note (1) Songs of suitable range to be chosen, say C to E (or d to me): (2) hackneyed melodies to be avoided as tending to become wearisome and harmful; (3) the singing of a verse or two of a song at change of lessons in recommended.*	*Note (1) Songs of suitable range must be chosen, say, from C to E or d to m. (2) Hackneyed melodies should be avoided as tending to become wearisome and harmful. The singing of a verse or two of a song at change of lessons is recommended.*	Note (Lower Division)
Second Class (One Year)	Introduction of "pitch" and "time". Easy exercises on the notes of the scale embracing intervals of the "third." Time exercises in pulse and hold-mark in 2, 3, and 4 pulse measure. Easy two-part songs and rounds.	Notation of pitch by means of a modulator. Singing the strong tones in any order, repetition of the strong tones in different keys successively. Singing of s, t, r, in any order in suitable keys; the remaining notes of	Upper Division
Third Class (One Year)	Music. Scale exercises embracing all the diatonic intervals. Time exercises on pulse, half-pulse, and hold marks. The pulse-mark to be used in different positions e.g: ‖ d : r . m : f ‖ s ‖ d : -. r : m ‖ f ‖ Two part songs. Rounds for two, three, or four parts.	Introduction to harmony singing, by the singing of the scale ascending and descending, the second part of the class to commence on *doh* when the first part has reached *me.* Simple two-part exercises from the modulator, the teacher using *two* pointers. Notation of time to embrace "pulse,", "half-pulse," and holdmark; the idea of the varied duration of notes may be introduced by writing a simple phrase d, r, m, f, s, and placing above each note a figure indicating the required number of beats, afterwards changing the figures of others. As soon as this exercise can be performed readily, pulse marks are to be introduced.	
Fourth Class (One Year)	Music – Interval practice of increased difficulty, including the common chromatic notes, eg. "fe" and "ta". Time exercises of increased difficulty introducing rests. Introduction of the staff notation (see "Hints"), including names and relative duration of notes—semibreve to quaver inclusive. easy time exercises in key C, staff notation two-part songs and rounds of a higher type than in previous class.		
Fifth Class (One Year)	Staff notation only. Key and time signatures. Exercises in interval singing on the movable "doh" system (see "Hints"). The commoner words and signs of expression. Words of "tempo." Two and three part songs.		
Notes for Second – Fifth Classes	*Note. In every singing lesson portion of the time should be devoted to voice-training exercises. See "Hints on the Teaching of Music" (Alpen). The constant aim should be the production of a pure and sweet tone. Practice on the vowel sounds, such as "ah," "i", "oh," "ay," "oo,", "ee" (liquid not hard), is the best method of attaining this end, special care being taken in the production of the higher notes. The correct position of the body should be enforced. Care must be exercised in the choice of songs, (1) as to their range; (2)as to their words and sentiments. The words of the song should be thoroughly learnt and understood before they are sung. Either notation may be used up to fourth class, but staff notation must be introduced in this class, and used exclusively in the higher classes.*	*Voice Training. The aim should be production of a soft, pure and sweet tone. This can be achieved by the regular practice of the open vowel sounds to the notes of the scale. Special care to be taken in the production of the upper notes. Association of the relative pitch of the tones of the scale with their scale names. Practice in singing the tones of the scales from dictation of their names by the teacher. This exercise is to be performed in successive keys, the keynote having been first given by the teacher. Choice of School Songs. As an introduction to two-part singing a few simple round may be taught. In selecting songs, special care should be taken that the words and sentiments are suitable. Songs of a moral and patriotic character are specially recommended. All words should be learnt (i.e., not only memorised, but perfectly understood) before they are sung.*	Notes for Upper Division

Appendix B

1905 Syllabus: Music Section

	Syllabus A (for schools with more than one teacher)	Syllabus B (for one teacher schools)	
First Class or Infants' Department	Music. The sense of pitch to be cultivated by imitation of different tones produced by the teacher's voice or of the sounds of a musical instrument. Singing of simple melodies by ear, correct in pitch and time. Action songs to be taught (and practiced daily). Actions to be in strict time so as to be actual time exercises. Songs relating to the home and school life of the pupils. Marching songs to be practised daily when marching into and out of school.	Singing simple melodies by ear, correct in pitch and time. Action songs to be taught and practised regularly; actions to be in strict time so as to become actual time exercises. Songs relating to the home and school life of the pupils. Marching songs to be practised daily when marching into and out of school.	Lower Division
Note (Infants)	*Voice-training – Practice of the open vowel sounds on notes of varied pitch.* *Note (1) Songs of suitable range to be chosen, say C to E (or d to m'): (2) the singing of a verse or two of a song at change of lessons in recommended.*	*The sense of "pitch" is to be cultivated by imitation of different tones produced by the teacher's voice, or of a sounds of a musical instrument. Songs of suitable range must be chosen, say from C to E, or d to m'. The singing of a verse or two of a song at change of lessons is recommended.*	Note (Lower)
Second Class (One Year)	Time and pitch. Easy exercises on the notes of the scale embracing intervals of the "third." Time exercises in pulse and hold marks in 2, 3, and 4 pulse measure. Simple melodies and easy two-part songs and rounds.	Notation of pitch by means of a modulator. Singing the strong tones in any order, and in different keys. Singing of s, t, r, in any order in suitable keys; the remaining notes of the major scale to be introduced gradually.	Upper Division
Third Class (One Year)	Music. Scale exercises on the strong tones. Time exercises on pulse, half-pulse, and hold marks. Two part songs. Rounds for two, three, or four parts. Songs, inculcating love of home and country, sung in unison.	Introduction to harmony singing, by the singing of the scale ascending and descending, the second part of the class to commence on doh when the first part has reached me. Simple two-part exercises from the modulator, the teacher using two pointers. Notation of time to embrace "pulse,", "half-pulse," and holdmark; the idea of the varied duration of notes may be introduced by writing a simple phrase d, r, m, f, s, and placing above each note a figure indicating the required number of beats, afterwards changing the figures of others. As soon as this exercise can be performed readily, pulse marks are to be introduced.	
Fourth Class (One Year)	Music – Interval practice of increased difficulty. Time exercises introducing rests. Introduction of the staff notation, including names and relative duration of notes—semibreve to quaver inclusive. Easy time exercises in key C, staff notation. Songs in unison, two-part songs and rounds.		
Fifth Class (One Year)	Staff notation only. Key and time signatures. Exercises in interval singing on the movable "doh" system. The commoner words and signs of expression. Words of "tempo." Songs in unison, two and three part songs.		
Notes for Second - Fifth Classes	*In teaching singing one of the aims should be the production of a pure and sweet tone.* *Practice on the vowel sounds, such as "ah," "i", "oh," "ay," "oo,", "ee" (liquid not hard), is the best method of attaining this end, special care being taken in the production of the higher notes. The correct position of the body should be enforced.* *Care must be exercised in the choice of songs, (1) as to their range; (2)as to their words and sentiments. The words of the song should be thoroughly learnt and understood before they are sung.*	*Voice Training. The aim should be production of a soft, pure and sweet tone. This can be achieved by the regular practice of the open vowel sounds to the notes of the scale. Special care to be taken in the production of the upper notes. The relative pitch of the notes of the scale should be associated with their scale names.* Choice of School Songs. As an introduction to two-part singing a few simple round may be taught. In selecting songs, special care should be taken that the words and sentiments are suitable. Songs of a moral and patriotic character are specially recommended. All words should be learnt (i.e., not only memorised, but perfectly understood) before they are sung.	Notes for Upper Division
		Note. The foregoing syllabus refers particularly to the tonic sol-fa notation, but similar exercises in the staff notation may be substituted,	

Snapshots from the Inspectorate: Music in New South Wales State Primary Schools: 1908, 1914, 1918

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The physical size of New South Wales meant that from the early days of public education inspectors were employed to regularly visit schools to ensure that policies were being implemented and teaching was being carried out effectively. This paper examines the Extracts of District Inspectors' Reports from 1908, 1914 and 1918 published in *The Public Instruction Gazette* and its successor, *The Education Gazette,* as a way of viewing what was occurring in music education in State schools across New South Wales during this period. It concludes that in the decade from 1908 to 1918 generalist primary teachers demonstrated that they could successfully teach a vocal music program using the tonic sol-fa method, which resulted, at least in the early years, in children sight-singing and singing in parts.

Introduction

This paper seeks to establish what the New South Wales District Inspectors determined about the teaching of music in their School Districts in 1908, 1914 and 1918. To give an historical perspective to the paper the relevant research on New South Wales education by Stevens, Barcan, Karmel, and Crane and Walker has been reviewed to create the literature review which informs the inspectors' stories.

As this paper investigates the past, an historical methodology has been used. Historical research is much more than a mere retelling of events from the past or a time-line or list of events in chronological order.[1] It is a systematic process whereby data related to past occurrences is located, described, analysed, synthesised, evaluated and interpreted in relation to the topic under investigation.[2]

The Early Years of Public Education

In the early years of the colonies there was no public education. Those schools which did exist were state-supported church schools, small private-venture schools, small grammar schools and a few corporate collegiate schools.[3] By the middle of the nineteenth century it became evident that, if all children, including those in the sparsely populated areas, were to be educated, colonial governments would have to become involved.[4] In January 1848, as a compromise between two rival factions which supported opposing systems of elementary education in New South Wales, Governor Fitzroy created a dual system of schooling: a

1 Sotirios Sarantakos, *Working with Social Research* (South Yarra: Macmillan Education Australia, 1998), 198.

2 William Wiersma, *Research Methods in Education: An Introduction*, 7th ed. (Boston: Allyn and Bacon, 2000), 218; Louis Cohen and Lawrence Manion, *Research Methods in Education*, 4th ed. (New York: Routledge, 1996), 60.

3 Alan Barcan, *A History of Australian Education* (Melbourne: Oxford University Press, 1980), 413-4.

4 Peter Karmel, *Schools in Australia: Report of the Interim Committee for the Australian Schools Commission* (Canberra: Australian Government Publishing Service, 1973), 25.

Denominational Schools Board to superintend State-supported church schools; and a Board of National Education to establish and control a system of non-sectarian National schools.[5] This was the beginning of the first truly public education system in New South Wales.

The Role of the Inspectors

It soon became apparent that authorities situated in Sydney could not control public schooling across an area the size of New South Wales, therefore, a system of school inspectors was established. The accepted role of inspectors at the time was to examine and report on teachers, most of whom were poorly qualified or had no teaching qualifications.[6]

When the Standards of Proficiency was introduced into schools in the 1860s, each inspector made a yearly surprise visit to each teacher in his[7] area to examine all the students in the Standards for every subject. The Standards of Proficiency was a set of benchmarks which students were expected to meet in every subject, for every quarter year of each of the five years of schooling. The test results which each inspector obtained were then tabulated and published for each school in the state. The inspector also produced an annual report.[8]

The New Syllabus and a Changed Role for the Inspectors

1904 saw a period of educational reform in New South Wales, in which the narrowly outcomes-based Standards of Proficiency was abolished and replaced by a syllabus which was suggestive, rather than prescriptive.[9] Now that inspectors were manumitted from the role of mark-giver and compiler of often-unreliable statistics, the Department reconceptualized their role. During their yearly visits to schools, inspectors were now to determine and provide suggestions and directions on the effectiveness of the work of the school and of each teacher. At the conclusion of each inspection:

> The inspector will meet with the members of the staff, and in a friendly way tell them the good and bad points he has observed, suggest remedies to them, explain difficulties they may have met, advise them as to improved methods, suggest suitable educational works for study, and generally seek to inspire them with zeal for improvement in their professional skill and in the efficiency of their school.
>
> Before finally leaving the school, the inspector will record the results of his inspection, together with all important suggestions and directions in the observation book. The report forwarded to the Minister will agree with the remarks and estimate left by the inspector for the information of the teacher.[10]

The inspectors' reports which have been preserved afford us the opportunity to look back in time and glimpse what was happening in schools from the viewpoint of people who were

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5 Robin Stevens, "Music in State Supported Education in New South Wales and Victoria, 1848 - 1920" (unpublished PhD, University of Melbourne, 1978), 53.

6 Allan Robert Crane and William George Walker, *Peter Board: His Contribution to the Development of Education in New South Wales* (Melbourne: Australian Council for Educational Research, 1957), 81.

7 During this period all inspectors were male.

8 Crane and Walker, *Peter Board: His Contribution to the Development of Education in New South Wales*, 81.

9 "The New Syllabus of Instruction," *The New South Wales Educational Gazette* XIII, no. 10 (1904, March 1): 235.

10 "Inspection of Schools," *The Educational Gazette* XIV, no. 11 (1905, April 1): 251-2.

observers in the classrooms. The reports provide a rich source of data on schooling.

Marshall warns historical researchers to maintain a moderate scepticism with historical data as documents may have been deliberately falsified, incorrectly interpreted by the recorder, and artefacts, words and phrases may differ considerably from their meanings in the current context.[11] The inspectors' reports, however, which are the subject of this investigation, would appear to be authentic. They are, after all, reported in The Public Instruction Gazette and its successor, The New South Wales Education Gazette, both publications of the New South Wales Department of Education.[12]

The reports are also judged to be a reliable reporting of what was occurring in the Department's schools from the inspectors' viewpoint, for the reason that, just as the role of the inspectors was to inspect and report on schools, so, in the hierarchical Department, were the inspectors themselves accountable to the Chief Inspector, and, further, through him, to the Director of Education. As a consequence, the work of the inspectors was under constant scrutiny, so they would have been quite mindful that their reporting needed to be fair and accurate. In addition, as part of their accountability, inspectors were required to submit a report at the end of each year. It was the Chief Inspector's decision which components of the inspectors' reports would be printed in the Department's publication, the Public Instruction Gazette or, from I September1915, The Education Gazette.

The Nature of Music in the Syllabus

Before considering the inspectors' reports, as part of putting this study in its historical context, it is important to recall the broad directions of the music syllabi that were guiding primary schooling at the time. In 1908 and 1914 the syllabus in force was the 1905 syllabus. This 1905 syllabus was virtually the same as its predecessor, the State's 1904 and first syllabus. Both the 1904 and 1905 syllabi were single-volume syllabi, which included Vocal Music as one branch of study. The syllabi had children singing melodies "by ear" in the Infants or First Class. The tonic sol-fa methodology was employed in Second, Third and Fourth Class, and staff notation only was the methodology in Fifth Class—the last year of primary schooling. In Second Class children were also introduced to easy two-part songs and rounds; in Third Class they were to progress to two-part songs and rounds in two, three and four parts, while in Fifth Class the repertoire was to be formed of songs in unison, two- and three-parts. There was also a focus on Voice Training throughout the entire syllabus, with the aim of production of a soft, pure and sweet tone.

A measure of how effectively the syllabus was being implemented, at least in the Metropolitan schools,[13] can be determined from the Annual Reports of Herr Hugo Alpen, then the Superintendent of Music. In 1905 Alpen reported that teachers did not just teach a few songs by ear, rather, sight-reading was one of the chief aims of all teachers. In addition, in 1905, he directed teachers' attention, more and more, towards voice production and vowel enunciation with very gratifying results when systematic teaching occurred.[14] Twelve months later, Alpen

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11 C Marshall and G Rossman, *Designing Qualitative Research (3rd Ed.)* (Thousand Oaks, California: Sage, 1999), 124.

12 On 1 September 1915, *The Public Instruction Gazette* was renamed *The Education Gazette.*

13 Alpen's responsibilities included visiting and examining music classes in the Metropolitan schools. He was not required to visit the country schools.

14 Legislative Assembly New South Wales, *Report (Together with Appendices) of the Minister of Public Instruction for the Year 1905* (Sydney: William Applegate Gullick, Government Printer, 1906), 87.

was pleased to report that sight-reading had reached a high standard in many schools with beneficial effects in many schools through the increased attention to voice production, breathing and vowel enunciation.[15] [16]

It is important to note that from the beginnings of public education in New South Wales until at least the end point of this research, 1918, the terms "music", "vocal music" and "singing" were used synonymously. This synonymity occurred because the curriculum for music was a vocal music or singing curriculum. The other point worthy of note is that, during the decade of this study, 1908 to 1918, and in fact from many years earlier, music in New South Wales state primary schools was taught by generalists.

The 1908 Inspectors' Reports

Music Well-Taught in Districts Close to Sydney

Forty-one extracts from the inspectors' annual report for 1908 were published in *The Public Instruction Gazette*. Eleven of these reports refer to the teaching of music. Based on this sample, it appears that music was well-taught in 1908 in most Sydney schools[17] in accordance with the NSW Syllabus, as well as in the regional Districts close to Sydney: Wollongong,[18] Newcastle[19] and Bega.[20]

Principal Senior-Inspector Cooper's account of the teaching in his Western Metropolitan District shows that music was taught there in accordance with the syllabus:

> Singing is carefully taught in all the schools. The tonic sol-fa method is used in the lower classes, but the staff notation is taken at a later stage. Fairly difficulty passages are sung at sight with reasonable correctness. The pupils in all the classes enter heartily into the singing exercises, and many schools are brightened by the sweet songs which are sung so well.[21]

Likewise, in the Wollongong District, the syllabus was being followed with children reading much better and sight singing more practised.[22]

Senior-Inspector Parkinson reported quality singing in his Central Metropolitan District,

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15 NSW Department of Public Instruction, *Report of the Minister of Public Instruction Upon the Condition of Public Schools Established and Maintained under the Public Instruction Act of 1880: New South Wales 1906* (Sydney: William Applegate Gullick, Government Printer, 1907), 116.

16 Music is not mentioned in the *Report of the Minister of Public Instruction for the Year 1907.*

17 Principal Senior-Inspector Cooper (Western Metropolitan), "Extracts from Inspectors' Reports for the Year 1908," *The Public Instruction Gazette* III, no. 3 (1909): 50; Senior-Inspector Parkinson (Central Metropolitan), "Extracts from Inspectors' Reports for the Year 1908," *The Public Instruction Gazette* III, no. 3 (1909): 59.

18 Inspector McKenzie (Wollongong District), "Extracts from Inspectors' Reports for the Year 1908," *The Public Instruction Gazette* III, no. 4 (1909): 18.

19 Inspector Grieve (Northern Newcastle District), "Extracts from Inspectors' Reports for the Year 1908," *The Public Instruction Gazette* III, no. 4 (1909): 86.

20 Inspector Williams (Bega District), "Extracts from Inspectors' Reports for the Year 1908," *The Public Instruction Gazette* III, no. 5 (1909): 113.

21 Principal Senior-Inspector Cooper (Western Metropolitan), "Extracts from Inspectors' Reports for the Year 1908," 50.

22 Inspector McKenzie (Wollongong District), "Extracts from Inspectors' Reports for the Year 1908," 18.

although he cites his regret that the enthusiasm of the children for music was not entirely shared by "our younger teachers":

> There is no doubt our children have lovely voices, and there is nothing they enjoy more than singing the songs they have been taught. In most of the Infant Schools singing between lessons is constantly practised, and a class seldom marches in and out without a song. In a few primary Schools I have heard some excellent singing; but it is to me a matter of very great regret that so few of our younger teachers take this subject up heartily, and make it not only a pleasure to the children, but a decided help to the general work.[23]

In the North Newcastle District Inspector Grieve observed the enjoyment which resulted, particularly in boys' school, when some popular songs were included into the repertoire:

> The singing of the popular airs of suitable songs might have a limited time assigned to it weekly. The exercise is extremely popular, especially in boys' schools. There is no reason why the popular songs should not be used for the purpose of popularising singing, provided always the words are not objectionable.[24]

Musical Experiences in Addition to the Syllabus

Some schools in and close to Sydney provided musical experiences for children in addition to the requirements of the syllabus. At Cessnock a number of townsmen had become guarantors to the value of £240 for nineteen brass instruments, two drums and the necessary music stands to form a brass band, while it appears that Kurri Kurri was raising funds for a similar purpose.[25] Both Wickham Superior[26] and Wallsend Superior Public Schools, in the Northern Newcastle District, were reported to have had excellent brass bands.[27] School bands, piano or vocal music were used to accompany marching in Eastern Metropolitan District schools.[28]

Music Not Taught in All Schools Distant From Sydney

A number of themes emerged from the comments of inspectors in districts further distant from Sydney, viz., Yass, Lismore, Kempsey and Narrabri. A general theme was that the music was not always taught in some schools. Inspector Cotterill (Kempsey District) described singing as weak in some schools and absent in others.[29] while Inspector Fraser (Yass District) reported that the singing was disappointing except in a few schools. Fraser also commented on the quality of the singing, that children were allowed to sing too loudly, and as a result their singing

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23 Senior-Inspector Parkinson (Central Metropolitan), "Extracts from Inspectors' Reports for the Year 1908," 59.

24 Inspector Grieve (Northern Newcastle District), "Extracts from Inspectors' Reports for the Year 1908," 86.

25 Senior-Inspector Friend (Maitland District), "Extracts from Inspectors' Reports for the Year 1908," *The Public Instruction Gazette* III, no. 5 (1909): 119.

26 Superior Public Schools with Public Schools with more than twenty students which were authorised to offer schooling beyond the primary course of instruction.

27 Inspector Grieve (Northern Newcastle District), "Extracts from Inspectors' Reports for the Year 1908," 124.

28 Senior-Inspector Willis (East Metropolitan), "Extracts from Inspectors' Reports for the Year 1908," *The Public Instruction Gazette* III, no. 6 (1909): 164.

29 Inspector Cotterill (Kempsey District), "Extracts from Inspectors' Reports for the Year 1908," *The Public Instruction Gazette* III, no. 5 (1909): 115.

voices grew coarse and raucous.[30]

Inspector Riley (Narrabri District) lamented the complete lack of music in some schools and what he saw as a less effective way to schedule singing time in others:

> Music has not entered as is desirable into the life of the schools in this district. In many of the schools there is no music at all ... in many cases where it is taught, it is confined to one or two set lessons each week. Much better results would probably follow were five minutes or so daily devoted to it, and one set lesson given each week. The teaching of the words of the song should be part of the literature teaching (they should be worthy of being included therein.)[31]

In the Lismore District Inspector McCoy explained that singing had not gained the attention it deserves:

> There are a few schools where the sweet singing forms quite a bright feature, and where it is used as a very welcome break in the ordinary work, but generally it is confined to the performance of two or three patriotic songs hurriedly and imperfectly prepared for Empire Day Celebrations. These are usually given with much patriotic fervour, and a corresponding indifference to light and shade.[32]

The inspectors distant from Sydney identified various causes for the problems they had observed. Inspector Fraser blamed teachers who had limited experience in the teaching of singing.[33] In the Kempsey District, Inspector Cotterill commented that singing was rarely neglected in schools under the direction of women. He had, however, observed occasional lessons of theory with no singing and the explanation offered that the children could not sing. "Strange to say", he remarked, "these schools are all under male teachers."[34] Inspector Riley was clearly annoyed by teachers who justified their lack of music teaching by claiming that the children in their class could not sing, particularly when this justification came from "musical" teachers. He reflected that teachers who do not teach part of the syllabus such as singing should have a lower efficiency mark than would be the case if music were taught.[35]

High quality singing, however, was taking place in some schools in the Districts of Lismore, Kempsey and Narrabri. Inspector Cotterill (Kempsey District) explained:

> In the schools wherein singing is properly taught, and its influence as a means of recreation availed of, the results are very gratifying. I have heard in a small school of twenty-four pupils, excellent singing in two well-balanced parts, and in some of the larger schools good chorus singing forms an enjoyed and enjoyable feature of the day's work. [36]

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30 Inspector Fraser (Yass District), "Extracts from Inspectors' Reports for the Year 1908," *The Public Instruction Gazette* III, no. 4 (1909): 91.

31 Inspector Riley (Narrabri District), "Extracts from Inspectors' Reports for the Year 1908," *The Public Instruction Gazette* III, no. 5 (1909): 117.

32 Inspector McCoy (Lismore District), "Extracts from Inspectors' Reports for the Year 1908," *The Public Instruction Gazette* III, no. 5 (1909): 111.

33 Inspector Fraser (Yass District), "Extracts from Inspectors' Reports for the Year 1908," 91.

34 Inspector Cotterill (Kempsey District), "Extracts from Inspectors' Reports for the Year 1908," 115.

35 Inspector Riley (Narrabri District), "Extracts from Inspectors' Reports for the Year 1908," 117.

36 Inspector Cotterill (Kempsey District), "Extracts from Inspectors' Reports for the Year 1908," 115.

While two-part singing may have been taking place in the Kempsey District, Inspector Cornish was less than satisfied with this aspect of the syllabus in the Bowral District schools, "It is regretted that, where numbers and voices prevail, two-part songs are not heard." [37]

Another area of concern was that some teachers did not seem to value the possibilities which music could bring to children. Inspector Riley reported:

> The use of music to produce an atmosphere in the school, to lessen fatigue, and to brighten the children, to stir patriotic sentiment, to clinch a lesson in literature, or morals, or geography—the incidental use of music was not generally realised. When this is realised, more music, and a greater variety of it, will be recognised as desirable. [38]

Inspector Dennis (Dubbo District) agreed:

> Its value as a means of brightening the daily life of the school and cultivating the emotions is but poorly appreciated as yet. Much of the so-called theory of music that is taught, being divorced from practice, is utterly barren.[39]

Superintendent of Music Alpen's Final Report

Another source of data, somewhat independent of the Inspectors, helped to confirm the accuracy of the 1908 inspectors' report. This data came from the 1908 report of the soon-to-retire Superintendent of Music, Alpen who, in his final Annual Report, described the singing in most New South Wales schools as "sweet and harmonious" with the most noticeable improvement being in the boy's work which was, as it had been in 1902 and 1903, "now softer and sweeter" than the girls. Alpen's main concerns were for better vowel enunciation; the importance of adhering to the syllabus in terms of when tonic sol-fa and staff notation should be used, and the value of using the moveable doh method to develop sight-reading.

Superintendent Tearne's Judgment of Music

In January 1909 Theodore Stephen Tearne was appointed as Alpen's successor. Tearne, who held a Bachelor of Music from Oxford University, had come to Australia from England in 1907 with many years of experience as a professional choirmaster, teacher of singing in National schools, and as an examiner for the Royal Academy of Music and other bodies.[40] As a newcomer to New South Wales state education, and with relevant international experience, Tearne was in a good position to give a reasonably unbiased assessment of the standard of singing he had observed during his first six months as Superintendent of Music. The singing, he declared was "as fine as any in the world" and would "astonish the world". The great mass choir of children he had conducted at the State Display was:

> ... as near perfection as possible. The tone of the voices was pure, fresh and sweet. The words came out quite distinctly and the time was absolutely with my beat.[41]

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37 Inspector Cornish (Bowral District), "Extracts from Inspectors' Reports for the Year 1908," *The Public Instruction Gazette* III, no. 4 (1909): 81.

38 Inspector Riley (Narrabri District), "Extracts from Inspectors' Reports for the Year 1908," 117.

39 Inspector Dennis (Dubbo District), "Extracts from Inspectors' Reports for the Year 1908," *The Public Instruction Gazette* III, no. 4 (1909): 87.

40 "Superintendent of Music," *The Sydney Morning Herald* 1909, January 26, 3.

41 Theodore Tearne, "Half-Yearly Report" (New South Wales State Archives, P2312, 1909, July).

In the same report Tearne confirmed what the country inspectors had been reporting, that the standard of singing in the schools distant from Sydney was lower than in the metropolitan schools. In an effort to improve music in the non-metropolitan schools, Tearne proposed that he make a yearly visit to a number of country centres so that country teachers could come together and learn the style and standard which was required of them.[42] Country and city teachers alike also had the opportunity to develop their music skills if they chose to attend the Annual Summer School in Music.

Tearne's specialisation, and the area in which he would focus most of his attention while in the role as Superintendent of Music, was the method of voice production and style in singing;[43] sight reading, which had been of such importance to Alpen, assumed a lesser importance. An illustration of the importance Tearne placed on voice training is his address to a teachers' association where he discussed voice training but did not mention sight-reading.[44] Notably, in his Annual Report of 1910, Tearne declared sight-reading to be "of the utmost importance", but only after voice production. In an effort to rectify the weakness he had observed in many schools in sight-reading, Tearne proposed the following "remedy":

> At every singing lesson [teachers should] give a sight-reading exercise from the blackboard. To those classes using only Tonic Sol-fa this should be an easy matter, while in the upper division, [those] who sing from the staff notation, the system of the "moveable doh" should be used. If properly explained to the children this system is simple and easy. Exercises should be sung rather slowly, so that the children can for themselves realise the intervals and notes of the key or scale that they are singing in.[45]

The 1914 Inspectors' Reports

Setting the Scene/Background to the Inspectors' Reports

In his Annual Report for 1914, Chief Inspector Dawson highlighted a number of matters which provide background and context to the inspectors' reports of 1914. Dawson began by discussing the teacher shortage, which had been exacerbated by the outbreak of war and the number of young men who had left their teaching positions to join the Expeditionary Forces.[46] Later he reflected on the beneficial effects of the syllabus, due to its mandate for experimentation and individuality of teaching methods. He reflected that, after ten years of use, only a "residue" of teachers were now waiting for the inspector's annual visit to be instructed what to do.[47]

Towards the end of his report Dawson gave a frank assessment of the teaching of vocal music and vocal production, areas which he considered could not be over-emphasised in primary schools:

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42 Ibid.

43 "Superintendent of Music," 3.

44 Theodore Tearne, "Voice-Training: An Address Delivered by the Superintendent of Music, Mr Theodore S. Tearne, Mus.B., Oxon, to the Members of the Central Metropolitan Section Teachers' Association, on the Evening of 17th March Last," *The Public Instruction Gazette* III, no. 4 (1909, April 30): 93-4.

45 T. Tearne, "Extracts from Superintendents' Reports 1910: Music," *The Public Instruction Gazette* V, no. 6 (1911, June 30).

46 NSW Department of Public Instruction, *Report of the Minister of Public Instruction for the Year 1914* (Sydney: William Applegate Gullick, Government Printer, 1915), 39.

47 Ibid., 40.

> The inspectors take special interest in this subject. Many of them have in the past been very successful teachers of singing, and their knowledge, experience, and enthusiasm for this delightful part of the curriculum are an additional stimulus to the efforts of the teachers. It is not, therefore surprising to find that in many of our schools the singing of the pupils is found worthy of great praise. But, in the small schools and some of the larger ones things are not so satisfactory, and the fault lies chiefly with the teachers. Unfortunately, there is a section of teachers who have no ear for music, and whose pupils must alas suffer the deprivation of an exercise that ought to cheer and sweeten their whole school life. For these teachers there is some excuse, but there are others who display marked disinclination to teach singing, though they have been trained, and are not without some knowledge both of method and practice. In many cases this disinclination arises from diffidence, a diffidence peculiar to the subject, and which is due largely to the fact that the teachers concerned have had far too little association with music, and too little encouragement to sing, in their own early years. They are over-sensitive to the sound of their own voices in the presence of their pupils. It has been necessary to make clear to all teachers who are known to have the necessary qualification that no excuse will be accepted for the evasion of this duty.
>
> It is well to repeat here once more that singing in schools means something more than formal instruction for one or two periods a week. It should be a part of the school life of children all through, just as it is in almost every infant school. There ought never to be a time when a child is too big, or school-work is too serious, to be lightened by song for a few moments at intervals each day. Time is not lost, but gained thus. It is one of many ways, too often missed, of making variety the spice of school life.[48]

Successful Vocal Music in the Metropolitan Centres and Large Country Schools

Of the thirty-three Extracts from the District Inspectors' Reports for 1914, published in *The Public Instruction Gazette,* nineteen mention music. These reports confirm Chief Inspector Dawson's assessment that there was generally much success with the teaching of music, but less satisfactory results were to be found in some large schools and in the smaller schools, and that faults with music were mainly the result of the way music was taught. As in the previously reported period, in 1914 as well, the term "music" was used interchangeably with the terms "vocal music" and "singing".

Nine of the nineteen inspectors commented on quality singing and good vocal production in all or many of their larger schools. In the Sydney East District the singing in schools was "marked by good tone", although—not unexpectedly given the prominence which Tearne gave to vocal production—very few students could "sing the easiest music at sight". [49] In Newcastle South the singing was "often very fine" in the larger schools especially when the singing was accompanied by a piano. It was further reported that:

> The vocal quality shown during the open-air singing at the Combined Schools Patriotic Display on Newcastle Showground, bore eloquent testimony to the soundness of the instruction in voice production.[50]

Inspector Cotterill remarked that in all the larger schools in the Young District the singing was well-taught:

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[48] Ibid., 48.

[49] Inspector Dennis (Sydney East District), "Extracts from Inspectors' Reports for the Year 1914," *The Public Instruction Gazette* IX, no. 4 (1915): 66.

[50] Inspector Fraser (South Newcastle District), "Extracts from Inspectors' Reports for the Year 1914," *The Public Instruction Gazette* IX, no. 4 (1915): 67.

> I have heard inspiring patriotic songs in unison, and well-chosen two and three part choruses splendidly rendered in some of our town schools. Happy, indeed are the children who come under the influence and tuition of teachers skilled in music.[51]

"Some beautiful music" was also heard in the Maitland District, particularly in schools close to mining centres and especially at Cessnock, although only after Inspector Cornish had pressed "the claims of singing with some emphasis" during his inspections.[52] In addition, quality singing was reported in the larger schools in the Districts of Braidwood[53] and Forbes,[54] as well as in Bega where:

> Singing is taught in most schools. The best singing was heard at Bermagui. Part songs of excellent choice were sweetly rendered, and the general effect was of a decidedly pleasing nature.[55]

Similarly, quality singing could be found in the Narrabri District,[56] where "a songless school is rare", and Broken Hill, "where singing is taken in almost every school, and some very good work is being done".[57]

Generally Well-Taught in Larger Schools, Poorly-Taught in Smaller Schools

Inspectors from the Districts of South Newcastle, Parramatta, Young, Forbes and Mudgee confirmed the Chief Inspector's assessment of music being well-taught in the larger schools but often less-well-taught, or never even attempted, in the smaller schools.[58] For example, in the Forbes District, "Except in larger schools, where there are well-trained teachers, sweet and correct singing is rarely heard."[59] Likewise, in Yass, music was not attempted in a large number of small schools:

> It is mainly due to the lack of singing ability on the part of the teachers. In cases where the

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51 Inspector Cotterill (Young District), "Extracts from Inspectors' Reports for the Year 1914," *The Public Instruction Gazette* IX, no. 4 (1915): 70-1.

52 Senior-Inspector Cornish (Maitland District), "Extracts from Inspectors' Reports for the Year 1914," *The Public Instruction Gazette* IX, no. 4 (1915): 63.

53 Assistant-Inspector G.A. James (Braidwood District), "Extracts Form Inspectors' Reports for the Year 1914," *The Public Instruction Gazette* IX, no. 4 (1915): 79.

54 Inspector Wilson (Forbes District), "Extracts from Inspectors' Reports for the Year 1914," *The Public Instruction Gazette* IX, no. 4 (1915): 74.

55 Inspector Back (Bega District), "Extracts from Inspectors' Reports for the Year 1914," *The Public Instruction Gazette* IX, no. 4 (1915): 78.

56 Inspector Campling (Narrabri District), "Extracts from Inspectors' Reports for the Year 1914," *The Public Instruction Gazette* IX, no. 4 (1915): 76.

57 Assistant-Inspector Dunlop (Broken Hill District), "Extracts from Inspectors' Reports for the Year 1914," *The Public Instruction Gazette* IX, no. 4 (1915): 80.

58 Inspector Fraser (South Newcastle District), "Extracts from Inspectors' Reports for the Year 1914," 67; Senior-Inspector L. Blumer (Parramatta District), "Extracts from Inspectors' Reports for the Year 1914," *The Public Instruction Gazette* IX, no. 4 (1915): 62; Inspector Cotterill (Young District), "Extracts from Inspectors' Reports for the Year 1914," 70-71; Inspector Wilson (Forbes District), "Extracts from Inspectors' Reports for the Year 1914," 74; Inspector W.E. James (Mudgee District), "Extracts from Inspectors' Reports for the Year 1914," *The Public Instruction Gazette* IX, no. 4 (1915): 73.

59 Inspector Wilson (Forbes District), "Extracts from Inspectors' Reports for the Year 1914," 74.

> children hear no singing at home as well there is a lack of ability to recognise tones, which later teachers who attempt to teach singing find it impossible to eradicate. In infant schools singing has its proper place, and good work is being done.[60]

Music teaching in small schools in the Young District was somewhat mixed. Inspector Cotterill revealed that teachers from some of these schools claimed that their children had "no ear for music" even though amongst these children he had heard boys whistling in the playground. In contrast he explained that:

> It would astonish those who so confidently assert that the children of the bush cannot sing if they were privileged to hear the pupils of some small schools revelling in this exercise. In response to the query, "What would you like to sing"? hands are eagerly raised in the endeavour to name the favourite melody. The choice being made, all join heartily; far better is it to sing some other selection than one's own than not to sing at all. In a small school, with only fourteen present at inspection, I have been delighted by sweet, restrained, and perfectly correct rendition of two-part songs, and thrilled by the spirited manner in which "The Admiral's Broom" was delivered.[61]

Music Taught Poorly in Many Schools Distant from Sydney

In some school districts far distant from Sydney—Lismore, Grafton and Tamworth—inspectors were reporting that music was generally taught poorly. Inspector Kennedy explains:

> (Music) is one of the least satisfactory of the subjects of instruction. So many teachers profess to have no "ear" for music, and so many of those who possess this qualification claim to have either voiceless or earless pupils, that a school in which good singing is to be found is the exception rather than the rule. My own experience shows that the percentage of tone-deaf Australian children is very small indeed, and that even in the most hopeless case there exists a latent love and appreciation of music that are [sic] capable of wonderful development under the care of a tactful and patient teacher.[62]

Likewise, in the Mudgee District, Inspector James reported that while music had reached a good standard in a few schools, in many it was not taught. In addition many teachers made no effort to train students when they were found to have only a rudimentary sense of pitch; the results then were students incapable of imitating different sounds, although surprisingly many could still sing well in unison.[63]

The Benefits of Music

Four inspectors, in seeming frustration at less-than-satisfactory music-teaching in some schools, focussed on the benefits which music could bring to a school. Inspector Blumer observed that more use could be made of singing to brighten and lighten the work of the

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60 Inspector Williams (Yass District), "Extracts from Inspectors' Reports for the Year 1914," *The Public Instruction Gazette* IX, no. 4 (1915): 69.

61 Inspector Cotterill (Young District), "Extracts from Inspectors' Reports for the Year 1914," 70-1.

62 Inspector Kennedy (Tamworth), "Extracts from Inspectors' Reports for the Year 1914," *The Public Instruction Gazette* IX, no. 4 (1915): 69.

63 Inspector W.E. James (Mudgee District), "Extracts from Inspectors' Reports for the Year 1914," 73.

school.[64] Similarly, Inspector Smith commented that nothing brought more pleasure to children's school life than the hours spent singing,[65] while Inspector Henry noted the corollary, that schools where little or no singing was included were not the brightest and that their children were disadvantaged in several ways.[66] Inspector Cotterill's despair was that singing was confined to time-tabled lessons:

> Too often, even in schools where singing is well taught, it is regarded and treated as a "subject" only. Its value as a recreative agent is not appreciated—its practice is confined to the time stated in the daily routine—a joy of frequently lifting up the voice in exhilarating song is denied to the child who loves to sing.[67]

Repertoire

The choice of appropriate repertoire was an issue for two inspectors. In the Taree District, Inspector Dart observed that some teachers needed educating about a suitable repertoire for children, [68] while in the Broken Hill District the recommendation was that teachers should use their experience when choosing songs and only select those which would appeal to children and give them pleasure in the years after school.[69]

Voice Production

Securing good voice production, which had been raised as an important issue by Chief Inspector Dawson, was also a concern for a number of inspectors. Inspector Blumer, from the Parramatta District, reported that there were comparatively few schools where the students could sing "appropriate songs sweetly, [and] with clear articulation". In the majority of schools the singing was "more lusty than musical" and limited to a "few hackneyed songs" sung only at time-tabled times and not used to "lighten and brighten" the day:[70] Inspector Dart also reported that the singing in the Taree District proved that most teachers knew little about voice production.[71]

1916 Course of Instruction for Primary Schools

A new edition of the single-bound primary syllabus came into effect with the 1916 school

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64 Inspector G.A. Blumer (Grafton District), "Extracts from Inspectors' Reports for the Year 1914," *The Public Instruction Gazette* IX, no. 4 (1915): 69.

65 Inspector A. Smith (Goulburn), "Extracts from Inspectors' Reports for the Year 1914," *The Public Instruction Gazette* IX, no. 4 (1915): 64.

66 Inspector Henry (Lismore District), "Extracts from Inspectors' Reports for the Year 1914," *The Public Instruction Gazette* IX, no. 4 (1915): 76.

67 Inspector Cotterill (Young District), "Extracts from Inspectors' Reports for the Year 1914," 70-71.

68 Inspector Dart (Taree District), "Extracts from Inspectors' Reports for the Year 1914," *The Public Instruction Gazette* IX, no. 4 (1915): 75.

69 Assistant-Inspector Dunlop (Broken Hill District), "Extracts from Inspectors' Reports for the Year 1914," 80.

70 Senior-Inspector L. Blumer (Parramatta District), "Extracts from Inspectors' Reports for the Year 1914," 62.

71 Inspector Dart (Taree District), "Extracts from Inspectors' Reports for the Year 1914," 75.

year.[72] Although the Music section was based on its predecessors, there was a shift of emphasis away from part-singing in the 1916 syllabus: in the 1905 syllabus two-part songs were introduced in Second Class and three-part songs in Fifth Class; while in the 1916 syllabus at Third Class the songs were to be "chiefly unison, but two-part songs are recommended as well", and at Fifth Class three-part songs, "while not forbidden", were not recommended given the low compass of the third voice.[73] While both syllabi included voice training for all classes, voice training was the main focus in the 1916 syllabus. To this end, the 1916 syllabus included an aim for each class which focussed on the development of soft, sweet singing, careful pronunciation and the cultivation of the head voice.

1918 Reports of Inspectors

Setting the Background to the Inspectors' Reports

The year 1918, the next occasion when abridged Inspectors' reports, which mention music were published in *The Education Gazette,* was another year of struggle for New South Wales Education. From 1914, due primarily to the effects of the world war, there had been teacher shortages and the consequential need to secure substitute teachers to replace the large number of trained teachers who had volunteered to join the military. During the same period an increase in the school population had resulted in the need for even more teachers. Further, less money was available for educational developments, in part, because the Department paid the difference between the salary of any teacher who had joined the military and his/her pay while on Active Service.[74]

Singing in Most Schools

In 1914, the previous year when references to music were published in *The Public Instruction Gazette*, five of the nineteen inspectors who mentioned music had remonstrated that music was not taught in some or many of their schools. However in 1918 only one of the twelve inspectors' reports noted teachers in a school district attempting to avoid music. Inspector Campling, from the Wellington District explained:

> This is still a weak subject. In too many schools, teachers look upon singing as a task rather than a pleasure. It should be regarded as a tonic to school work. Some of the excuses offered by teachers for not giving instruction in singing are that they themselves are tone deaf, or

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72 NSW Department of Public Instruction, *Report of the Minister of Public Instruction for the Year 1916* (Sydney: William Applegate Gullick, Government Printer, 1917).

73 New South Wales Department of Public Instruction, *Course of Instruction for Primary Schools* (Sydney: New South Wales Department of Public Instruction, 1905); New South Wales Department of Education, *Course of Instruction for Primary Schools* (Sydney: Department of Education, 1916), 105.

74 NSW Department of Public Instruction, *Report of the Minister of Public Instruction for the Year 1914*, 1; NSW Department of Public Instruction, *Report of the Minister of Public Instruction for the Year 1915* (Sydney: William Applegate Gullick, Government Printer, 1916); NSW Department of Public Instruction, *Report of the Minister of Public Instruction for the Year 1916*, 1; NSW Department of Public Instruction, *Report of the Minister of Public Instruction for the Year 1917* (Sydney: William Applegate Gullick, Government Printer, 1918), 1; NSW Department of Public Instruction, *Report of the Minister of Public Instruction for the Year 1918* (Sydney: William Applegate Gullick, Government Printer, 1919), 1.

> that their pupils have no ear for music. In all cases I insist upon an attempt being made.[75]

One explanation for this apparent increase in singing across New South Wales schools could have been that by 1918 singing was being more routinely taught. The more likely explanation is that, after a decade of Tearne's enthusiasm for quality vocal production, and the consequential introduction of the 1916 syllabus that promoted unison and solo singing over part-singing, that the singing which eleven of the twelve inspectors were reporting was the easier unison and solo singing rather than the more challenging part-singing. For example, Inspector Black revealed that "decidedly good" unison singing and "very creditable" solo work from both boys and girls could be found in the District of Taree.[76] In the Hay District, "very sweet"[77] unison singing could be heard. Inspector McLachlan reported that singing had entered "very fully" into the life of most Dubbo District schools, and the individual solo work which he had encouraged for many years in students of all ages was now reaping pleasing confident results:

> At inspection, children in these schools exhibit no diffidence but are delighted when called upon to sing a song. In one small school of seventeen pupils visited lately I listened to very acceptable songs from each of ten pupils, and the remaining seven were promised that they would be allowed to provide the music on my next visit. If this individual work were general our young teachers would approach the music lesson with much less diffidence than at present.[78]

By 1918 the Newcastle South District had had a change of inspectors, and it was now the experienced Inspector Riley's task to report on music in that District. Riley, like his predecessor,[79] described in glowing terms the quality of the music he had found in the Newcastle South District proudly claiming that:

> The children of the Newcastle district are probably, in the mass, the best endowed musically of any in the State. ... It is the exception to find a school where the singing is not sweet, tuneful, and pleasant to listen to. In the majority of the schools also the children have a lengthy repertoire of songs which the children delight to sing.[80]

Unfortunately the same quality was not evident in the Bega District where Inspector G.A. James Bega reported:

> Though singing is taught in almost every small school it is rarely that one finds the quality of the work high, and the effect pleasant.
>
> Teachers should make more use of the individual gifts of the children, and, by the solo work of these, train the balance to sing in unison.[81]

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75 Inspector Campling (Wellington District), "Extracts from Inspectors' Reports for the Year 1918," *The Education Gazette* XIII, no. 5 (1919): 108.

76 Inspector Black (Taree District), "Extracts from Inspectors' Reports for the Year 1918," *The Education Gazette* XIII, no. 4 (1919): 81.

77 Inspector West (Hay District), "Extracts from Inspectors' Reports for the Year 1918," *The Education Gazette* XIII, no. 6 (1919): 138.

78 Inspector McLachlan (Dubbo District), "Extracts from Inspectors' Reports for the Year 1918," *The Education Gazette* XIII, no. 5 (1919): 112.

79 See previous note on the Newcastle South District.

80 Inspector Riley (Newcastle South District), "Extracts from Inspectors' Reports for the Year 1918," *The Education Gazette* XIII, no. 6 (1919): 79.

81 Inspector James (Bega District), "Extracts from Inspectors' Reports for the Year 1918," *The Education Gazette* XIII, no. 5 (1919): 111.

This decline in the standard in the Bega District is disappointing given the quality reported in Bega in 1908.[82]

Areas of the Syllabus Listed for Improvement

Despite singing being taught across eleven of the twelve reported inspectorates, almost every inspector mentioned an area of the vocal music syllabus in which improvements could be made. The area of most concern to inspectors was the neglect of sight-reading which was a theme in eight of their twelve reports. Inspector Riley provided the most comprehensive account explaining that, while children in the Newcastle South District may easily have learnt to sing songs by ear, rarely was the vocal music syllabus being systematically taught:

> When we come to the quality of the teaching, however, the picture is much less bright. There are a few very skilful teachers of music in the school, but generally speaking teachers have not taken the teaching of singing at all seriously. Except in the isolated instances no attempt is made to carry out the syllabus in music in its integrity. The common practice is to enable the children to sing a song with the least amount of trouble to the teacher, by means of the piano if there is one at the school. With the quick ears of these children a tune is soon learned. In some schools the teaching ends here. In many a little rather perfunctory modulator practice is done and there is often some scale practice with various vowels. With a few exceptions there is no genuine attempt to teach the children to read music, both time and pitch exercises being omitted.[83]

A similar state of affairs was reported in the Dubbo District:

> The actual teaching of music, however, is satisfactory only in a few schools. Boys and girls learn a number of songs, which they can sing collectively in a fairly acceptable manner, but very few really learn to read music of either notation. The fault lies largely in the fact that very few of our young teachers can themselves sing with any confidence.[84]

The situation was no better in the Taree District where sight reading was also "quite neglected",[85] nor in the Goulburn District where Inspector Mannell reported that a greater effort was required:

> ... to enable our older pupils to understand musical notation of some kind sufficiently well to sing simple melodies from it.[86]

nor in the Tamworth District where Inspector Telfer lamented:

> ... but the syllabus provides for a graded course in reading music which would give, in addition, power to read simple songs at sight and so open a new world of delight to the

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82 See previous note on the Bega District.

83 Inspector Riley (Newcastle South District), "Extracts from Inspectors' Reports for the Year 1918," 79.

84 Inspector McLachlan (Dubbo District), "Extracts from Inspectors' Reports for the Year 1918," 112.

85 Inspector Cornish (Chatswood District), "Extracts from Inspectors' Reports for the Year 1918," *The Education Gazette* XIII, no. 4 (1919): 81.

86 Inspector Mannell (Goulburn District), "Extracts from Inspectors' Reports for the Year 1918," *The Education Gazette* XIII, no. 5 (1919): 107.

> musical child. This graded course is often very much neglected.[87]

Likewise, Inspector West identified the weak points in schools of the Hay District as "modulator practice, and a training in pitch and time, which are the underlying principles in the reading of music":

> Beyond the singing of songs, little attempt is made to train the ear and voice, and to give just that amount of knowledge which makes the continuance of the study of music in after life possible.[88]

In the Broken Hill District Inspector Ewing expressed surprise and obvious disappointment that so many teachers failed to effectively teach the music syllabus given that "children enjoy singing so much, and there is such a wide choice of suitable songs". Ewing's concern was not only that sight-reading was not being properly taught, but also that part-singing was rarely attempted. He explained:

> In one girls' school in Broken Hill, where the mistress was a good musician, I heard exceptionally good three-part songs. Only in two other schools was part-singing attempted. Teachers seem content to teach the melody only, and children will shout "Tipperary," "Keep the Homes Fires Burning," "Mother Machree," but they have no idea of taking a part against the melody. We fail to prepare our growing children to read music, and to take a place in choirs and musical societies during their later life, and consequently they miss one of the greatest of life's pleasures.[89]

The almost entire absence of part-singing in the Wellington District was regrettable for Inspector Campling[90] as it was for Senior Inspector Cornish in the Chatswood District who reported that:

> Music might be better in the schools; [but] too little effort is made with "Harmony", and thus the good old two and three part songs are not as widely taught as they should be.[91]

Two inspectors referred specifically to problems with the teaching of voice production, the area which was of most importance to Tearne. Inspector Campling advised that scales, voice production and expression had not received sufficient attention in the Wellington District:[92] The newly appointed Miss Simpson, Inspector of Infants Schools revealed that:

> In most infants schools on my list care is given to singing, with the result that children's voices are sweet and clear, and enunciation is fairly distinct. More might, however, be made of expression—of light and shade—in this subject.[93]

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87 Inspector Telfer (Tamworth District), "Extracts from Inspectors' Reports for the Year 1918," *The Education Gazette* XIII, no. 4 (1919): 82.

88 Inspector West (Hay District), "Extracts from Inspectors' Reports for the Year 1918," 138.

89 Inspector Ewing (Broken Hill District), "Extracts from Inspectors' Reports for the Year 1918," *The Education Gazette* XIII, no. 5 (1919).

90 Inspector Campling (Wellington District), "Extracts from Inspectors' Reports for the Year 1918," 108.

91 Inspector Cornish (Chatswood District), "Extracts from Inspectors' Reports for the Year 1918," 75.

92 Inspector Campling (Wellington District), "Extracts from Inspectors' Reports for the Year 1918," 108.

93 Miss Simpson (Inspector of Infant Schools), "Extracts from Inspectors' Reports for the Year 1918," *The Education Gazette* XIII, no. 5 (1919): 119-20.

A number of the inspectors took the opportunity to focus on the benefits school music could bring to children. Inspector Dart, from the Wagga District, reflected that many teachers did not recognise the ability of singing to brighten up, give zest to and clothe with interest all school work. He lamented, "A songless school must be a dreary place for young children."[94] Similarly, Inspector Mannell explained that teachers in the Goulburn District did not sufficiently consider the benefits which singing could bring to both the body and mind; and that while many schools had pleasing singing, it was too often confined to set lessons, without the benefit of sufficient theoretical training.[95]

That music times, in the Tamworth District, were too often limited to the mere teaching of songs was of concern to Inspector Telfer who viewed the tasteful singing of a number of well-selected songs to be a most desirable achievement. Telfer believed that every child, by the end of primary school, should have a repertoire of standard songs, which "would probably be a source of consolation and entertainment many years after school life".[96]

The need for teachers to select an appropriate repertoire was an issue for two inspectors: Inspector West from the Hay District and Miss Simpson, Inspector of Infants School. Miss Simpson's, while acknowledging that most infants teachers had a good variety of songs, advised teachers to keep a list of the songs taught to pass on to the next teacher of the class.[97]

Another disappointment in the Chatswood and Taree Districts was the failure of teachers to make the best use of the song material which was published each month in *The School Magazine.*[98] Senior Inspector Cornish explained that:

> It has been my practice throughout the year to call upon a class to sing the songs published in the "School Magazines", the results are at times disappointing.[99]

Inspector Black was equally disappointed:

> As the School Magazines provide a new song each month, and the score of the music is in every child's hand, the failure to make the best use of such admirable facilities must lie wholly with the teacher. It is a matter of regret that this is so, for the songs provided are of excellent quality, and when preserved, form a fine library of very suitable school music.[100]

School Bands

The June 1919 issue of *The Education Gazette* contained Inspectors' Extracts related to School Exhibitions and Displays. This section included an abridged report by Inspector Riley

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94 Inspector Dart (Wagga Wagga District), "Extracts from Inspectors' Reports for the Year 1918," *The Education Gazette* XIII, no. 4 (1919): 83.

95 Inspector Mannell (Goulburn District), "Extracts from Inspectors' Reports for the Year 1918," 107.

96 Inspector Telfer (Tamworth District), "Extracts from Inspectors' Reports for the Year 1918," 82.

97 Miss Simpson (Inspector of Infant Schools), "Extracts from Inspectors' Reports for the Year 1918," 119-20.

98 *The School Magazine* was published monthly by the Department of Education New South Wales beginning in February 1916. For decades the back page of each issue contained a song either in sol-fa or staff notation.

99 Inspector Cornish (Chatswood District), "Extracts from Inspectors' Reports for the Year 1918," 75.

100 Inspector Black (Taree District), "Extracts from Inspectors' Reports for the Year 1918," 81.

on the high standard of the juvenile brass bands at Cook's Hill and Hamilton Superior Public Schools. The bands were described as a fine hobby for the boys, an important feature of the schools and an equally valuable link with the community:

> Many of the boys play exceedingly well, and bandmasters welcome them eagerly into the adult bands when they leave school.
>
> During the war the school bands have taken a prominent part in the many patriotic functions, which have taken place. Their aid has been eagerly sought and freely given by the boys. So far the financing of the bands has been entirely borne by the school community.[101]

Tearne's Annual Report of 1918

Tearne's Annual Report of 1918 is another source of data about the state of music in New South Wales schools in this year. As a result of his official inspections of various schools, Tearne determined that: vocal production had improved with less shouting and forced singing, instead the soft, natural singing produced by the head voice was now more popular; the modulator was being used more frequently with acceptable results in most cases; sight reading in most schools was poor but could be improved if taught using a simple and recognised method; song repertoire chosen by teachers was not always of an appropriate style and standard; the theory of music was generally well taught but would benefit from a more pragmatic approach.[102]

Discussion

Generisable Findings

The inspectors' extracts which mention music provide an opportunity to glimpse through the windows of New South Wales primary classrooms in some Districts to obtain a picture of music teaching there in 1908, 1914 and 1918. Although abridged reports from only some Districts have been published, and the Chief Inspector acknowledged that, when selecting sections to publish, possibly undue prominence had been given to the weak features mentioned in the inspectors' reports, the findings of this study are considered generisable across New South Wales, while recognising that the findings may possibly be biased somewhat towards the weaknesses rather than the strengths in music education.[103]

A Shift in Emphasis in the Syllabi

One finding which emerged from the study was that, during the period of the research, the syllabi which guided teaching were the 1905 then 1916 *Course of Instruction for Primary Schools* published by the New South Wales Department of Education. Both these syllabi were vocal music syllabi, and both were very similar: in the Infants, children sang melodies by ear; in Second to Fourth Classes the focus was on singing using the tonic sol-fa method; then in Fifth Class—the last year of Primary School—staff notation was the method used. The difference in the syllabi was that the 1905 syllabus emphasised unison singing, rounds, progressing to two and three-part singing, together with sight-singing and voice production. The main aim of the

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[101] Inspector Riley (Newcastle South District), "Extracts from Inspectors' Reports for the Year 1918," 140.

[102] Theodore Tearne, "Report Upon Music in the Schools: 1918," (Sydney: New South Wales State Archives, P2670, 1919, March).

[103] "Extracts from Inspectors' Reports for the Year 1918," *The Education Gazette* XIII, no. 4 (1919): 73.

1916 syllabus was voice-training with the objective of children acquiring soft, sweet singing and careful pronunciation, and the development of the head-voice. Under the 1916 syllabus unison, solo singing, rounds and two-part singing were to be taught. Although three-part singing was not banned, it certainly was not recommended.

Finding of the 1908 Extracts

The findings related to the 1908 inspectors' reports were that in 1908 music was well-taught in accordance with the 1905 syllabus in most Sydney schools and in the regional Districts close to Sydney. In the Districts further distant from Sydney, however, the results were uneven, with high quality music occurring in some schools while in others in the same District music was not always taught. Some teachers who did not teach music blamed this on their limited music teaching experience or claimed that their children could not sing. Other issues raised in the 1908 extracts were that: some inspectors were concerned that teachers did not appreciate the value of music to brighten the school day; and, that musical experiences beyond the requirements of the syllabus, that is brass bands, were present in Newcastle.

Finding of the 1914 Extracts

The 1914 Extracts of Inspectors' Reports again revealed quality music in accordance with the 1905 syllabus in the Metropolitan Districts and large country schools, but poorer results in smaller schools and schools distant from Sydney. Once again inspectors commented that some teachers did not use music to brighten and lighten the work of the school and unfortunately confined music to time-tabled lessons. Two other issues in the 1914 Extracts were that some teachers needed to be more selective in their choice of repertoire, and that voice production needed to be addressed in some schools.

Finding of the 1918 Extracts

In 1918, the inspectors reported singing taught in the majority of Districts. Music in 1918, however, was guided by a different syllabus to 1908 and 1914; a syllabus which emphasised the quality of voice production, unison, solo singing, rounds and some two-part songs, where as the syllabus which had guided 1908 and 1914 teachers had included two and three-part singing and sight-reading as major sections. Areas inspectors identified as requiring improvement in 1918 were, in descending order of priority: sight-reading; part-singing; then equally, vocal production, more appropriate repertoire, and better use to be made of the songs in *The School Magazine.* In 1918, for the third time in a decade, inspectors lamented that some teachers did not appreciate the value of music in the lives of children and confined it to set lessons. School bands, while not considered in the syllabus, were an important feature in two Newcastle South schools.

Lack of Data

Another finding of this study was that no District was reported on in all three years of Extracts of Inspectors' Reports. Some Districts made an appearance in two different years' Extracts, while others were only reported for the one year. It was therefore, unfortunately not possible to track the teaching of music in any District across the ten years from 1908 to 1918.

Conclusions

This paper has considered the teaching of music in New South Wales state primary schools from 1908 to 1918. It has shown that during the first two decades of the twentieth century many generalist primary teachers were able to successfully teach a vocal music program in

accordance with a syllabus which involved a developmental program of voice training and musical literacy via tonic sol-fa and later staff notation. The results of such a program were quality tuneful singing, and, for some children, the skills of sight-singing and singing in parts.

The major issue which this research raises, but does not answer, is what occurred in New South Wales between 1918 and the late 1960s such that, in 1968, while music education was found to be thoroughly wholesome in some Australian schools, in others not even the minimal requirements for an adequate music course were being met?[104] Or why, two years later, in 1970, Covell painted an even bleaker picture when he described the Australian music education scene as "bad and depressing", and that the critical place where the "battle" for music education was being lost was in the primary schools"?[105] Or why, a quarter of a century later, in 1994, the Australian Senate revealed a cycle of neglect in the teaching of the arts in Australian schools? Generalist primary teachers, it reported, generally had poor arts experiences when they themselves were at schools, and inadequate training in the arts in their pre-service courses. As a result, they lack confidence in teaching the arts in primary schools, and so tend to marginalise the arts in their teaching.[106]

About the Author

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[104] Ibid.
[105] R Covell, *Music in Australia: Needs and Prospects* (Sydney: Unisearch (UNSW), 1970), 19.
[106] Australian Parliament, Senate Environment Recreation Communications and the Arts References Committee, and John Coulter, *Arts Education* (Canberra: Parliament of the Commonwealth of Australia, 1995), 49.

Instrument Teaching and Learning: An Exploration of Self-Reflection on Action and Resultant Impact on a Small Group Learning Environment

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One of the emerging areas of focus in the higher education music environment is the means by which to engage students more directly in the teaching and learning process. While expert guidance is clearly critical, the need to enable students to acquire and develop independent learning skills is arguably critical during undergraduate education with its increasing emphasis on generic skills. This paper outlines the rationale for, methodology applied, and reflections on the introduction of a self-reflection mechanism for students participating in a trial of small-group tertiary piano teaching. Initially, a number of key principles to emerge from the literature are synthesised, as the basis for the design and implementation of a self-reflection mechanism which involved sixteen undergraduate degree students engaging in a process of self-evaluation across a range of key areas including preparation, playing, progress and contribution. Reflections on positive and unsatisfactory aspects, as well as planned strategies were included. An explanation of the methods developed to analyse the resultant substantial body of quantitative and qualitative data, gathered over the two-year trial period, foregrounds the discussion of results. Critical insights into how students perceive their role in the learning process, along with the impact that students' work ethic has on the learning environment demonstrate the benefits of reflective mechanisms and lead to a number of directions for future research across the musical instrument teaching and learning field.

Introduction

Musical instrument teaching and learning traditionally forms a core component of a performance music degree at the higher education level. Students work with teachers in order to develop their skills on an instrument or in voice, relying on the guidance of qualified mentors and practitioners. While expert guidance is clearly critical, the role of the learner in the process is arguably equally important, not only in terms of the work undertaken outside the teaching and learning environment, but also the work completed during the relevant session(s). The latter is arguably a critical factor in the success of the teaching and learning process, in that the work brought to, achieved during and reflected on will impact on future practice and additional sessions with the teacher. While students engage in a variety of practice-based tasks and hours of instruction while learning an instrument, it is arguably less common that they actively engage in self-reflection of their practice or consider their role in the learning environment in a systematic manner.

An Overview of the Literature

Reflection on practice is an area of teaching and learning that continues to attract attention in the literature (e.g. Newton 2004, Green 2001, Renshaw 2000, Brown & Glasner 1999, Murray-Harvey 1997, Lee 1997). The literature (e.g. Dann 2002, Brew 1999, Jordan 1999, Cowan 1998, Boud 1995, Schön 1987) contains numerous references to the potential benefits of self-reflection or assessment, including greater understanding of the learning process, enhanced

critical assessment skills, and a greater grasp of progress and/or development. Newton (2004) proposes the argument that "to make sense of what we see, learn, hear and experience one needs to be able to reflect on practice" (Newton 2004, p. 155). Mallonee (1999) presents a similar view and states that encouraging students to "assess their own progress gives them confidence in their increasing competence, strengthens self-efficacy, and keeps students working productively" (Mallonee 1999, p. 69). Dann (2002) encapsulates the critical nature of including the learner in the assessment process and argues that "self assessment is part of the process of learning rather than just being one way of measuring it" (Dann 2002, p. 74). At the same time, Dann (2002) refers to one of the challenges of self-reflection where students are required and/or expected to "reveal his/her feelings and reflections on learning" (Dann 2002, p. 75). Brown & Glasner (1999) also refer to some of the issues associated with implementing tasks such as self assessment, e.g. the additional time and careful management involved, however they argue the benefits of engaging students in the process and sharing the learning partnership more actively. In terms of the implementation of new procedures such as self assessment, Boud (1995) argues the reality of the situation and that it is "rare to have an innovation work perfectly first time" (Boud 1995, p. 63).

Self-reflection tasks have been introduced in a range of disciplines and using various mechanisms. Often, self-reflection on practice is undertaken via the use of journals (Tsang 2003, Mueller 2003, Daniel 2001a). For instance, Mueller (2003) had teacher education students write at the end of each lesson what they had learnt, as a mechanism by which to probe their understanding and development. Lebler (2003), working in the area of popular music performance, required students to submit a journal "detailing the intentions, processes and outcomes of the activities connected with [their] recorded portfolio" (Lebler 2003, p. 37).

Other research projects implementing reflection on practice include those involving:

- self-assessment of individual roles in an information and technology skills group module (Roach 1999);
- self-marking (using model answers) of examination papers in an electronics subject (Boud & Holmes 1995);
- self-critical reports of music performances (Daniel 2001); and
- self-grading sheets in an ethnography and language module (Jordan 1999).

In general, the literature proposes that the introduction of self-reflection tasks:

- requires additional time and resources from the teaching and administrative perspective;
- has the potential to contribute to students' skills development, particularly when they are encouraged to continue to practise this skill over time;
- enables students to gain a greater understanding of their own progress; and
- offers teaching staff the opportunity to consider how the teaching and learning environment impacts upon student roles and responsibilities, the learning framework, and the extent to which the teaching and learning aims are met.

Methodology

An ongoing research trial involving a small-group piano teaching model, initially reported in an earlier study (Daniel 2002), continues to involve the implementation of a range of teaching and learning initiatives. One of the key recent procedures is the requirement that students reflect on their work in sessions, not only to enable them to explore their practice but to enable the researcher an opportunity to examine the way students engage with the learning environment and to consider its impact on the teaching and learning process. Therefore, the key

aims of the process to be implemented were developed, and which were to:

- encourage students to be reflective in relation to their work during lessons and to be diagnostic in terms of how they plan to proceed;
- enable students to gain a deeper understanding of the importance of their role in and contribution to sessions;
- require students to diagnose strengths, weaknesses and strategies to emerge in the more performance-oriented environment of the group sessions; and
- assist the teacher/researcher in considering the potential impact of the learning environment on students' development.

While verbal self-assessment during sessions was a possibility, the evanescence of the spoken word militated against this as an effective mode of recording these self-reflections, hence a non-obtrusive and reliable recording medium was required. Even if audio tapes were used, the time involved in the transcription, given the potential volume of data, was likely to be prohibitive. In addition, the practicality of having each student engage in this process would not only be time consuming from a teaching point of view, but potentially equally frustrating for students, given the time commitment. A short written self-assessment was not only practical as a data recording mechanism given the number of students involved, but potentially equally valuable in terms of encouraging students to think deeply about the responses which they were to commit to paper. Further, given the time pressures associated with university study in general, and class schedules in particular, brevity and simplicity were essential to ensure maximum response on multiple occasions. Hence it was decided that a one-page sheet designed to encourage and reveal a range of aspects related to each student's profile was likely to be optimal.

The need for brevity pointed to a combination of quantitative and qualitative questions in the interests of speed and the generation of a range of data. In relation to the former, the adoption of a seven-point scale as against a five-point scale was a strategy to attempt to encourage greater accuracy of response. The four areas integral to the success of their involvement in the group environment were students':

- *preparation* for the relevant group lesson;
- *playing* during the lesson;
- *progress* since the last lesson; and
- *contribution* to the environment (verbal and otherwise).

While a numerical rating of preparation was potentially valuable, self-analysis was also necessary in relation to experiential factors affecting preparation, which students would be required to identify separately. In order to probe students' qualitative and potentially critical self-reflections, students were then asked to identify:

- three *positive* aspects of their playing and/or contribution during the session;
- three areas they felt were *not satisfactory*; and
- three *strategies* that they were to adopt in proceeding to the next session. (See Appendix one for full version).

Data Collection

Given that this was the pilot trial, a sample of lesson self-reflections was deemed appropriate. All students involved in the group piano trials were required to complete the sheets. Table 1, using pseudonyms, outlines the various self-reflective data that was presented and collected over two years, with nine or more of the various group sessions targeted for self-

reflective feedback. While most students always completed the sheet, on occasions, students left lessons early, and despite requests to submit the sheet subsequently, some did not do so. In total, 151 sheets from sixteen students were collected for analysis.

Developing a Framework for Analysis

The sheets were collated for investigation and analysis. The first data were students' quantitative self-evaluations of the four key areas (progress, contribution, playing, preparation). The average for each was calculated, and this led to the opportunity to explore the full sample of averages, and consider any trends across the data. A table was developed to rank the four averages, from highest average rating to lowest, and this led to an opportunity to view students' perceptions of their success in each of the four areas across the full sample.

In terms of the qualitative responses, a table was initially developed to quantify the number of statements, to consider the number of positive comments compared to negative reflections. Following this, a system of classification was developed to synthesise the various responses, and after engaging in a process of investigation of a number of statements, the following broad areas of focus emerged as relevant:

- *Preparation* - general, targeted, insufficient;
- *Technique* - evaluation of positive and/or negative aspects;
- *Musicality* - evaluation of positive and/or negative aspects;
- *Planned consultations* - staff, peers, recordings, literature; and
- *Progress* - significant, minimal, nil.

This then allowed for the synthesis of each student's qualitative responses related to preparation, positive and unsatisfactory aspects, as well as planned strategies for the following week(s). Tables were developed to summarize the relevant comments. To achieve this, the four key areas (preparation, positive and unsatisfactory aspects, planned strategies) were listed at the start of a row, and across the top of the table the five broad areas of focus presented. The number of relevant comments - as an overall percentage of the total number of reflections for that category - were then presented in the corresponding cell of the table. For example, if a student made references to the need for greater preparation as part of the following week's practice on 15 of 30 occasions, the figure 50% would be presented in the relevant cell of the table. The table then consisted of a range of percentage figures in various columns. Each student's comments were subsequently synthesised into a table, hence the next step required a further synthesis of the material, given that there were sixteen individual tables. In the event, the data was grouped into three tables, designed to summarise the:

1. Most influential factor(s) on preparation;
2. Positive and unsatisfactory aspects identified; and
3. Planned strategies.

Emergent Principles from the Data

In terms of the quantitative self-reflections of the four key areas, it was noteworthy that most participants felt more positive about their *progress* and *contribution* than they did about their *playing* or *preparation* (see Table 2). Indeed the relative negativity about inputs (preparation) and outputs (playing) may well indicate a growing maturity and work ethic – an hypothesis which is consistent with the greater satisfaction with progress/contribution – a sense of working towards a desired goal. In terms of the qualitative reflections, the majority of students (all but 2) on average presented more comments related to aspects of dissatisfaction than positives (see Table 3). While this may reveal the fact that students tend to be more critical than they are

positive, it may also be a reflection of work ethic and/or preparation issues, hence an accurate reflection of students' ability to be diagnostic. Further evidence of work ethic as a key factor is however further revealed in Table 4, where a number of students refer to insufficient preparation as being a critical influence on the lesson. Indeed four third-year students (Delia, Sat, Chia, Francine) reported this for more than half of all lessons, suggesting that work ethic continues to impact significantly on the teaching and learning environment. At the same time, it may be the case that more senior students are aware of the impact of work ethic on lessons, hence these views may have been appropriately critical.

Students' diagnostic capacity is further evidenced when analysing the various qualitative comments, presented in full in Table 5. As evidenced in Table 4, many students refer to insufficient preparation as a key factor affecting the lesson environment. In terms of lesson specifics, music mechanics (technique) are the focus for students, be they positive or negative. Given the physical nature of piano performance, this is not surprising, although most students identify technical aspects in lessons as more problematic than positive (all but four), and which may be a reflection of insufficient preparation in some cases.

At the same time, evidence of the opportunity for students to develop is evidenced in terms of enabling progress, given the frequency by which it appears in some students' evaluations e.g. Betty, Billie, Sallie. Other aspects to emerge from the data include the reported benefits of peer interaction (e.g. Sally, Sophie, Kathy), evidence of the positive outcomes of a shared learning environment. Additional comments to be made are the fact that Chia is clearly harsh in her self-critical reflections, at no stage identifying positive aspects or positive progress, while Sallie's negative views on peer, staff and other consultations relate to her frustrations during the year and subsequent withdrawal from the subject/course. The issue of work ethic and preparation is revealed as having a significant impact on students' planned strategies, with many students focussing on the need for generic preparation (see Table 6). While this is not unexpected or surprising given the nature of the learning process, numerous reflections relate to such simplistic processes as the need for more consistent work or basic time management skills. It is also evidence of the benefits of shared learning environments that, although small in number, some students reflect on the fact that peers offer benefits between lessons, an outcome of the work that is encouraged and promoted during the weekly sessions.

An overview of the self-reflection procedures presents the following general principles in relation to this particular research trial and student sample:

- Work ethic and preparation issues are a significant influence on the teaching and learning process and influence self-reflections on outputs within the lesson environment; and
- Despite challenges associated with preparation and work ethic, students are able to contribute to and gain from the lesson situation in a positive and encouraging manner.

In terms of the introduction of the self-reflection mechanisms, the trial presents the following key findings:

- Engaging students in the process is challenging in terms of time pressures and relevant workloads;
- The process requires students to actively consider various aspects relevant to their contribution to the learning environment and which has the potential to impact positively on their progress; and
- Students are arguably presented with the opportunity to be more aware of their progress within and across lessons and hence in greater control of their development within and beyond the learning environment.

Student Evaluations

In order to further probe these broad findings, it was necessary to consider student reaction to the implemented procedures. As part of a questionnaire requiring students to provide a range of feedback on a range of areas relevant to the teaching and learning environment (e.g. repertoire, interaction, feedback mechanisms), students were asked to evaluate the workload, difficulty and value of the self-reflection mechanism, using a five-point scale (1 – low to 5 – high). The average ratings for the sixteen students involved were 2.66 for workload (SD – 1.25), 3.19 for difficulty (SD – 1.10) and 3.81 (SD – 1.12) for value, and which reveals that while the task was moderately challenging for students, it was viewed as offering a considerable amount of value.

Implications and Directions

The process of requiring students to engage in self-reflection presents a number of implications for the teacher as researcher. Firstly, there is the issue of work ethic and its impact on the lesson environment. Indeed it is clear that there is a demonstrated need to examine ways in which to assist students in maximising their time beyond the learning environment, or at least, to promote ways of achieving a greater control of the learning process outside lessons. Secondly, the data reveal that students find the environment in question beneficial in enabling progress and a sense of contribution, with both rated highly and reflecting the intended goals of the teaching and learning environment. It is possible to hypothesise therefore that if students continue to develop a greater sense of responsibility in the area of preparation, this may be further enhanced, hence the process enables the researcher to reflect on the relative success or otherwise of the lesson environment and pedagogical strategies. Thirdly, while students tend to be highly critical when evaluating their own work, the implemented process allows the teacher an opportunity to consider how individual students approach their learning. With this in mind, a next step may be to further investigate students' views on the implemented procedures, to examine the extent to which they feel it promotes a positive experience of self-analysis and reflection, and to consider their views on the extent to which the process contributes to skill development. Certainly, further research is needed in order to consider how this process of self-reflection impacts directly on students' involvement as key stakeholders in the teaching and learning partnership.

About the Author

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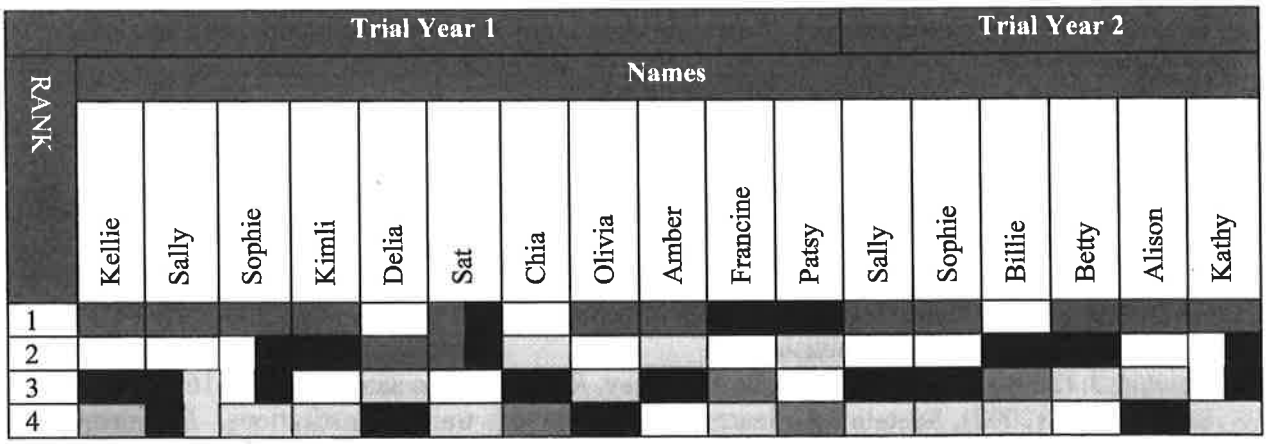
Table 1

Data Collection

Name	Year	Year level	Sheets presented	Sheets collected
Genna	2002	1	12	11
Kellie	2002	1	12	10
Sophie	2002	1	12	12
Sophie	2003	2	15	12
Sallie	2002	1	12	12
Sallie	2003	2	15	12
Kimli	2002	3	9	8
Delia	2002	3	9	9
Sat	2002	3	9	8
Chia	2002	3	9	7
Amber	2002	3	9	6
Olivia	2002	3	9	7
Fran	2002	3	9	6
Patsy	2002	3	9	8
Betty	2003	1	9	6
Billie	2003	1	15	15
Kellie	2003	1	9	6
Alison	2003	1	9	6

Table 2

Self Evaluation of Achievement in Key Areas Ranked Across All Students



Shading key:

Key Area	Shading Applied
Progress	
Contribution	
Playing	
Preparation	

Table 3

Students' Discrete Comments Summarized (Shading Indicates Second Year Of Trial)

Name	Number of Sheets Presented	Satisfactory Aspects Identified	Average Comments	Unsatisfactory Aspects Identified	Average Comments
Genna	11	27	2.45	27	2.45
Kellie	10	21	2.1	26	2.6
Sallie	12	18	1.5	18	1.5
Sallie	14	18	1.29	21	1.5
Sophie	12	34	2.83	33	2.75
Sophie	15	30	2	34	2.27
Kimli	8	17	2.13	22	2.75
Delia	9	27	3	27	3
Sat	8	21	2.63	24	3
Chia	6	0	0	14	2.33
Olivia	7	18	2.57	14	2
Amber	6	13	2.17	15	2.5
Francine	6	9	1.5	14	2.33
Patsy	8	15	1.88	18	2.25
Billie	15	26	1.73	39	2.6
Betty	6	17	2.83	18	3
Alison	6	13	2.17	17	2.83
Kathy	6	14	2.33	17	2.83

Table 4

Students' Self Evaluations of Key Influences on Preparation

Name	Insufficient Work Achieved	General Preparation	Targeted Preparation	Positive Progress	Peer Consultation	Staff Consultation
Genna	16.7	25	41.6	16.7		
Kellie	40	30	20	10		
Sallie		40	50	10		
Sallie		90			10	
Sophie		66.7	25	8.3		
Sophie	8.3	33.4	50			8.3
Kimli	37.5	37.5	25			
Delia	55.6	11.1		33.3		
Sat	62.5		37.5			
Chia	66.7	16.7	16.7			
Olivia	14	43	43			
Amber	20	20	60			
Francine	66.7	33.3				
Patsy	14.3	28.6	57.1			
Billie	14.3	35.7	35.7	14.3		
Betty		16.7	66.6	16.7		
Alison	16.7	33.3	50			
Kathy	33.3	16.7	50			

Table 5

Students' Self Evaluations of Positive and Unsatisfactory Aspects Revealed in Lessons

Name	PREPARATION				TECHNICAL ASPECTS		MUSICAL ASPECTS		PROGRESS		PLANNED CONSULTATIONS					
	Insufficient		General		Targeted						Peers		Staff		Other	
	-ve %	+ve %	-ve %	+ve %	-ve %	+ve %	-ve %	+ve %	-ve %	+ve %	-ve %	+ve %	-ve %	+ve %	-ve %	+ve %
Genna	7.4		3.7			81.3	66.7	3.7	3.7	16.7	18.5					
Kellie				9.5	3.85	76.2	92.3			14.3	3.85					
Sallie	22.2				11.1	22.2	38.9	11.1		61.1	22.2	5.6				5.6
Sallie	33.3					22.2	19			61.1	28.6	16.7	9.5		4.8	
Sophie	3.05					38.2	81.8	8.8	12.1	41.2	3.05	11.8				
Sophie	20.6					46.7	61.8	3.3	17.6	36.7		13.3				
Kimli	5					56	77	25	18	19						
Delia						77.8	92.6	22.2	7.4							
Sat			8.3			61.9	75	14.3	16.7	14.3						
Chia*	14.3						64.3		14.3		7.1					
Olivia		5.5				55.5	64.3	16.7	28.6	22.3	7.1					
Amber	13.3	7.7				46.3	73.4	23	13.3	23						
Francine	14.3		7.1	11.1	7.1	66.7	42.9		7.1	22.2	21.4					
Patsy		6.7				66.7	61.1	13.3	33.3	13.3	5.6					
Billie	23.1	3.85				30.8	33.3		7.7	61.5	35.9	3.85				
Betty						23.5	77.8	5.9	22.2	70.6						
Alison	17.6	7.7	5.9			23.1	47.1	23.1	17.6	38.4	5.9		7.7			
Kathy						14.3	29.4	42.8	70.6	35.8		7.1				

* Did not indicate any positive aspects

Table 6

Planned Strategies Identified

Name	General Preparation	Targeted Preparation	Peer Consultations	Staff Consultations	Other Consultations
Genna	33.3	63.4	3.3		
Kellie	15.4	84.6			
Sallie	40	40	15	5	
Sallie	57.1	39.3	3.6		
Sophie	8.3	91.7			
Sophie	48.4	51.6			
Kimli	25	37.5	4.1	8.4	25
Delia	37	59.3	3.7		
Sat	21.7	78.3			
Chia	15.4	84.6			
Olivia	27.8	61.1			11.1
Amber	46.7	53.3			
Francine	50	50			
Patsy	5.6	94.4			
Billie	28.2	71.8			
Betty		100			
Alison	12.5	56.25			31.25
Kathy		100			

Appendix 1

Self-Reflection Sheet

Self-assessment task for piano lesson in week _____

Name: _____ Year level: _____

What work did you prepare for today's lesson (e.g. Scales, Bach, quick study, none):

_____

On the table below, circle the number that corresponds most clearly to your evaluation. You are encouraged to think carefully about your response and use the full range of the scale.

Practice or performance aspect	Poor			Average			Excellent
Your preparation for today's lesson	1	2	3	4	5	6	7
Your playing in today's lesson	1	2	3	4	5	6	7
Your progress since last lesson	1	2	3	4	5	6	7
Your overall contribution today	1	2	3	4	5	6	7

What aspect of your preparation and study this week was most influential in terms of today's lesson?

_____

_____

A) List three aspects of your playing and/or contribution today that please you and explain why:

- _____
- _____
- _____

B) List three aspects of your playing and/or contribution today with which you are not entirely satisfied:

- _____
- _____
- _____

C) List three strategies you will adopt this week to improve the areas you identified in item B:

- _____
- _____
- _____

_____

Exploring the Piano From the Age of Eight To Thirty Six Months: Implications For Infant and Toddler Musical Development

Dr Peter A. de Vries, *University of Technology, Sydney*

This paper reports on a longitudinal study of a young child's exploration of music on the piano from 8 months to 36 months. Unlike studies of older children playing musical instruments, this study reports on the child's natural exploration of music on the instrument, as opposed to formally taught skill acquisition directly related to the instrument being learnt.

This case study suggests that it is the process of musical exploration, not a final musical product (such as being able to play a specific piece of music) that is of importance at this age in relation to musical development. A number of themes in the child's musical development emerged in relation to musical activities revolving around the piano: 1) initial exploration of sound; 2) playing the piano with a parent was a social experience for the child; 3) a sense of beat developed with musical activities revolving around the piano; 4) playing the piano encouraged singing – particularly the development of accurate pitch; and 5) hearing and being able to see the difference between soft/loud and fast/slow enabled development of the musical concepts of dynamics and tempo.

Introduction

Longitudinal studies of early childhood musical development tend to focus on vocalising and moving to music (e.g., Davidson, McKernon & Gardner, 1981; Gruhn, 2002; Moog, 1976; Moorehead & Pond, 1978; Sundin, 1998). This study reports on my son's musical development in relation to using the piano from 8-36 months of age. Naturally, vocalising and moving to music were also part of his musical development throughout this period, but it was his use of the piano that was interesting, as the role of the piano in general early childhood musical development is barely acknowledged. An exception is Kelley & Sutton-Smith's (1987) case study of an infant, which documented general music development that included exploring the piano from 9 months. The authors noted that exploring the piano with the child's father encouraged singing responses and movement.

In the case outlined by Kelley & Sutton-Smith (1987) and in the current study the young children engaged in a process of musical exploration, with the help of an adult. Studies with young children that focus on the piano or electronic keyboard tend to focus on formal piano/keyboard "lessons", such as Costa-Giomi's (1999) study of the effects of private piano instruction on non-musical cognitive skills, Rauscher & Zupan's (2000) examination of group keyboard lessons on kindergarten children's spatial reasoning, and the study by Marcinkiewicz et al. (1995) that found a group of kindergarten and first grade children who engaged in electronic keyboard instruction in music lessons responded more favourably to music lessons than a non-keyboard group. In each of these cases formal instruction was the focus of musical learning on keyboard, rather than musical play. The latter has been seen by a number of early childhood music researchers as lacking in early childhood music education (Miller, 1989; Morin, 2001; Palmer, 1993; Turner, 2000; Wright, 2003). Alvarez (1989) describes play as "a young child's work", which is more process than product-oriented (p. 61). This was certainly the case in the current study, where my son did not aim to "perform" a musical product (i.e.,

playing a song on piano), but rather took pleasure in the process of exploring the piano and other music-related activities associated with the piano.

Parent-Researchers

When our son Jack was born my partner and I decided that we would document our son's musical development in a naturalistic setting - our home - for the first three years of his life. We were in a position where either my partner or I were at home with Jack for five to six days a week up until he was three years old. From the age of 18 months Jack attended a childcare centre one day a week, and spent occasional time before this (i.e., half days) with relatives.

My partner and I became parent-researchers, a trend in educational research that can be traced back to luminaries such as Jean Piaget and Erik Erikson. Despite this, parent-research has not been dominant in educational research, although there was a resurgence in the 1990s (e.g., Bates et al., 1995; Matthews, 1994). Adler & Adler (1997) have spearheaded the movement in this period, arguing that "it is a naturally-occurring membership role with which children are totally familiar" (p. 22), allowing greater access to children than the position taken by most ethnographers, namely that of either friendly observer or observing friend (p. 21). Graue & Walsh (1995) have called for a change in approach to early childhood research, suggesting that "researchers spend less time attempting to develop grand theories and more time learning to portray the richness of children's lives across the many contexts in which children find themselves" (p. 140). One of the ways this can occur is through parent-research, which allows this richness of children's lives to be portrayed.

As parent-researchers we were engaged in participant observation research, thus analysis of observations and interactions were "carried on sequentially, [with] important parts of the analysis being made" as data was gathered (Becker, 1999, p. 56). As data was gathered themes began to emerge in relation to Jack's musical development revolving around his use of the piano, namely: 1) initial exploration of sound; 2) playing the piano with a parent was a social experience for Jack; 3) a sense of beat developed with musical activities revolving around the piano; 4) playing the piano encouraged singing – particularly the development of accurate pitch; and 5) hearing and being able to see the difference between soft/loud and fast/slow enabled development of the musical concepts of dynamics and tempo.

Theme 1: Initial Exploration of Sound

When Jack was 8 months old we purchased an upright piano. I played the instrument at least four times a week. At first Jack's only interest in the piano was pressing the pedals as I played. However, within the first month he became fascinated with opening and closing the piano lid. This progressed in his ninth month to pressing keys down on the piano keyboard. Jack would sit on the stool with me and press down keys near the keys I was pressing down with the palms of his hands. By his eleventh month Jack would press down keys seemingly at random, without copying where my hands might be on the keyboard. He would also initiate exploration by going to the piano himself and pressing down keys.

At fourteen months I regularly played songs on the piano that my partner and I had sung to Jack. I used my pointer finger only to play the melody, and encouraged Jack to try playing like this. He did, moving from playing the keyboard with his palm to playing single notes with his pointer finger. However, notes were played at random, often close to where my hand was if I was playing. In these initial six months of being exposed to a piano Jack was content to explore sounds he could make on the piano.

Theme 2: Playing the Piano With a Parent Was a Social Experience For Jack

From the first time Jack sat on the piano stool next to me my partner and I referred to this as "piano time with Dad." Sitting together at the piano quickly became a social experience for Jack. From 10 months onwards Jack would continually want to sit next to me at the piano, whether he was invited or not. This became a time when we would exchange hugs, smiles and talk to each other as we explored the piano. Trehub (2001) points to feelings of well-being that are generated between mother and infant when the mother sings to the infant: "songs could be considered embellishments of human vocal communication or ritualized expressions of love, hope, or complaint. In all likelihood, this type of behavior, by ministering to the emotional needs of mother and infant, promotes reciprocal affectional ties" (p. 441). A similar promotion of reciprocal emotional ties occurred between Jack and I at the piano.

When Jack was 10 months I would play "Hot Cross Buns" on the piano with my right pointer finger, while singing the song. For the next four months this was the most played song on piano, with Jack often requesting "Hot Buns" when we sat at the piano together. Curious about my playing, at 12 months Jack said, "Me Hot Buns." He placed his pointer finger near my hand as I was playing. I took Jack's hand and tried to guide it over the piano keyboard to play "Hot Cross Buns" with him. He resisted, saying, "I do." He then proceeded to play a series of random notes with his pointer finger while singing parts of the song. At the conclusion of his rendition he looked at me and said, "You play." I would play and sing the song, then Jack would give me a big hug. This interplay between us became commonplace over the next two months at the piano, reinforcing that playing the piano "with Dad" was a social experience for Jack, and a time of bonding for both father and son.

As Jack progressed through his second year of life he was exposed to a variety of other musical instruments, both "found" (i.e., wooden spoons as clap sticks; a tin can with a spoon) and percussion instruments. However, he would always want the piano above these other instruments. From the age of 24 months Jack would come to my office once a week before going to the university childcare centre. For half an hour he had free reign of a variety of percussion instruments. He would explore these, but always ended up wanting to sit at the piano in a music practice room and "play with Dad." It was never sufficient for me to be nearby if Jack was at the piano; I had to be sitting next to him, playing and singing with him, thus reinforcing that playing the piano was a social experience for Jack.

Theme 3: A Sense of Beat Developed with Musical Activities Revolving Around the Piano

Over the year spanning Jack's age of 24-36 months the most remarkable area of his musical development was his gradual beat acquisition. At 24 months Jack had no sense of beat. Like many young children he responded to music through movement, but his movements were not synchronised to a steady beat (Rainbow, 1981; Sims, 1985; Moog, 1976). During this year he became gradually synchronised to the beat when moving to music. This occurred initially through Jack copying movements to the beat that accompanied songs he knew (i.e., "Everybody Do This") and actions copied from television programs (i.e., Teletubbies and Play School). However, at 28 months Jack began keeping a synchronised beat with me at the piano.

At this time Jack began bobbing up and down to the beat when sitting next to me on the piano stool as I played a boogie woogie. As I played I too was bobbing up and down to the beat. I saw Jack initially looking at me and copying me. From the onset there was no lag time between the beat and Jack's movement response to the beat.

Playing the boogie woogie became a regular occurrence at our piano sessions. From the

third week of being exposed to the boogie woogie Jack would no longer look at me moving to the beat as I played. Rather, he became focused on looking at my hands move over the keyboard as he bobbed up and down to the beat. It was at this time that he would often join in with me, pressing his palms down on the keyboard in time with the beat.

Following on from this, with Jack aged 29 months, I began playing the one chord (C major) to the beat while moving my body to the beat. I encouraged Jack to join in. With his pointer finger Jack began playing single, random notes to the beat. I kept playing, but ceased moving my body to the beat. Jack continued moving his body and playing random notes to the beat. Finally, I stopped playing. Jack continued playing and moving, but within five seconds he had lost the synchronised beat. This episode demonstrates the use of "scaffolding", a term coined by Vygotsky (1978 translation) to describe the way an adult or more capable peer guides the learner through the Zone of Proximal Development, this being "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (Vygotsky, 1978, p. 86 translation). With scaffolding the adult-peer gradually withdraws support as the learner's mastery of a given task increases. As was demonstrated in this episode Jack was not ready for complete withdrawal of my support in order to keep a synchronised beat.

Over the next four months this continued, with Jack unable to keep the beat for longer than 5-10 seconds once I had stopped playing. At 33 months, however, Jack demonstrated that he was ready to keep a synchronised beat for a longer period of time. Again, I had been playing a beat-heavy boogie woogie. As I played Jack bobbed up and down to the beat with me and pretended to move his hands along the keyboard as I did. When I stopped playing Jack continued to bob up and down. Using his left hand he began to play a single note to the beat. He continued to bob up and down. Thirty seconds passed before he began to stray from a synchronised beat. At this point I began playing the boogie woogie again. Jack continued moving and playing his single note and retained a synchronised beat as I joined in. Jack had progressed in his ability to retain a synchronised beat, albeit with the aid of continual scaffolding provided by me at the piano.

Theme 4: Playing the Piano Encouraged Singing: Particularly the Development of Accurate Pitch

Singing was a part of Jack's musical life since his birth. He was sung to daily, and began responding to singing through his own musical babbling at 6 months, described by Moog (1976) as consisting of "sounds of varied pitch, produced either on one vowel or on very few syllables" (p. 63).

Jack's first attempts at singing known songs (sung to him by adults) consisted of singing fragments of known songs. This began with simply imitating some words from a song (e.g., "Baa black sheep hab any wool"), through to singing entire phrases with accurate rhythm and partially accurate pitch, with the melodic contour of songs being generally accurate. Jack initially built up a vocabulary of lyrics from known songs, preferring to speak these than sing them. There were occasions where he did sing specific pitches, sometimes even accurately. This occasional singing of fragments from known songs occurred from 18 months. However, it was only from 28 months that Jack was consistently *singing*, rather than speaking or speak-singing fragments from known songs.

Ever since we had sat at the piano together I had sung while I played songs on the piano to Jack. It was only at 30 months, however, that Jack began singing at the piano with me. Prior to

this his focus had been on moving to music I played, and exploring the sounds the instrument made. I had encouraged Jack to sing, but his focus was solely on the piano. At 30 months we were sitting down at the beginning of a piano session when I asked Jack, "What will Dad sing?" He replied: "Let's sing ABC." I began, not expecting him to join in. I sat there playing the melody of the song with my right hand as I sang the first phrase. To my surprise, he began singing the ends of phrases with me. At the end of the song he clapped and laughed. "Let's do it again!" he said. We did – another seven times, each time Jack contributing more and more to the singing. By the seventh rendition he was singing the entire song with me.

Following this breakthrough Jack always wanted to sing at the piano if I was singing and playing the melody on piano. At 30 months I began withdrawing my vocal support, allowing Jack more opportunities to sing with the piano. I would begin by singing a song Jack would know while playing the melody on piano. "Your turn", I would say, while playing and singing. Jack would join in, but as I continued to play the melody on piano I would not sing. Jack would continue singing. With the piano melody as a guide he sung in time, reaching the end of the song at the same time as I did on the piano. This became a new musical game, one which I made more challenging for Jack at 34 months when I would sometimes stop playing the piano melody all together, only re-entering if he was having trouble keeping in time or keeping accurate pitch.

At 28 months Jack invariably sang the correct rhythm when singing entire songs, but pitch was not always accurate. He tended to correctly pitch intervals such as the minor 3rd and major 2nd, but intervals like the perfect 4th or 5th were problematic. During the 30-34 month period where we played our singing games at the piano and I gradually withdrew my vocal support and ultimately parts of the piano melody, there was a marked increase in Jack's pitch accuracy. He was able to correctly pitch intervals of a 4th or 5th. In addition, by 34 months he was often accurately finding a starting pitch that I played on the piano prior to singing a song. I would say, "Okay, let's sing laa", play the starting pitch on piano, and Jack would generally slide into this pitch. A second later, when he began singing, he generally retained this starting pitch.

During this period Jack preferred to do his singing at the piano. My partner and I would often encourage him to sing throughout the day, as he had done in the past, but during this period he would often decide not to sing (i.e., "I not sing now, sing later") unless at the piano. The piano and singing had become intertwined, with Jack's singing developing in a short period of time due to his singing at the piano.

Theme 5: Hearing and Being Able to See the Difference Between Soft/Loud and Fast/Slow Enabled Development of the Musical Concepts of Dynamics and Tempo

At 29 months Jack concurrently began showing an interest in the highness and lowness of sounds on the piano and the softness and loudness of sounds. Prior to this Jack had managed to play the piano extremely loudly; he took great joy in doing this. However, he did not explore moving from loud to soft, or vice-versa, until he was 29 months. At this time he would play the same note repeatedly, beginning very softly, then suddenly playing very loudly. As he played loudly he made exaggerated movements with his body. "That's very loud," I commented. Jack continued playing loudly. Suddenly he played softly, still on the same note. "Not loud," he commented. "No," I whispered, "it's *soft* now." I reinforced this by playing loudly, then softly, firstly on the one note, then playing "Twinkle Twinkle Little Star" loudly, then softly. Following my piano renditions (without singing) Jack insisted I play "Twinkle Twinkle" again. "Softly first," I whispered, and he proceeded to whisper-sing as I played. Naturally, when I played it loudly, Jack was nearly shouting. Following on from this, Jack would either choose to sing songs softly or loudly, whether at the piano or away from it. At night, for his bed-time

song, he would say, "Sing softly, Daddy, Jack sleeps now."

Just as Jack's awareness of soft and loud began at the piano, so too did his awareness of high and low pitches. At 30 months Jack was sitting beside me at the instrument while I played and sang "Baa Baa Black Sheep", looking at my right hand as it pressed down keys and joining in with the singing. "Watch," I said to Jack, "I can play the song very high." I reached over Jack to the upper octave of the piano and played the melody once again. "Down there," said Jack, pointing to the lower register of the keyboard. "That's low," I said in an exaggerated low voice, then proceeded to play the song in the lower range. "Can Jack play low?" I asked. Jack slid across the piano stool and started pressing random low notes. "What about high?" I said. He slid back across the stool and played high notes. Over the next weeks when Jack sat at the piano he would either choose to start by playing either in the higher pitch range or lower pitch range. When asked what notes he was playing, he would quickly answer either high or low, depending on the range.

At 31 months I found Jack with his arms apart, left arms stretched towards the lower range of the keyboard and right stretched towards the upper range. He was playing both hands together. "What are you doing?" I asked. "Jack play high and low," he replied, and grinned.

Conclusion

The piano has played a crucial role in Jack's musical development up until 36 months, as indicated in the areas outlined in this paper. In saying this, I do not want to over-emphasise its importance, as I have solely focused on musical development that involved Jack's interactions with the piano. A number of musical experiences have contributed to Jack's musical development, not just music activities involving the piano.

Jack's use of the piano almost exclusively occurred when I was present, hence the theme *playing the piano with a parent was a social experience for the child.* However, our time at the piano together did not consist of formal music instruction. Rather, Jack directed what we did at the piano through musical play. As was indicated at the beginning of this paper, numerous early childhood music educators have called for greater emphasis on musical play in early childhood music programs. However, John Feierabend (1998), director of The National Center for Music and Movement in the Early Years, stresses not only the need for free musical play, but that parents be involved in their children's free musical play. This occurred in the way Jack and I interacted at the piano. I involved myself in what interested him at the piano, frequently providing scaffolding to help Jack move through his Zone of Proximal Development.

As Jack is now three years old many people ask me, "So when is he going to start taking piano lessons?" There appears to be this belief that from the age of 3 it is time to begin instrumental music lessons (as evidenced on the Internet with the dozens of pages devoted to the topic). Gordon (1997) stresses that there is no correct chronological age to begin taking instrumental lessons, but rather it should be the child's "musical age", whereby a child can sing in tune and move her/his body with "good rhythm" (p. 103). Jack may not be there yet, but his musical play on the piano has helped move him in that direction, with an emphasis on musical process (through musical exploration) rather than on musical product (being able to "play" *x* number of songs on piano). So when I am asked the when-is-he-going-to-start-piano-lessons question, I reply, "He already has. He started at 8 months with me."

About the Author

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Modelling, Meaning Through Software Design

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This paper builds upon an approach to modelling music education philosophy through the design and subsequent interaction of children and generative music making software. The research draws upon a 2004 case study where 600 four to eight -year old children were observed interacting with network improvisation using jam2jam software on laptops, electronic percussion and break dancing at Brisbane's Out of the Box festival of early childhood. The research examines the development of analytical tools which might be used to evaluate the qualities of meaning and engagement experienced by students by observing and recording evidence of personal, social and cultural meaning in dance, physical electronic percussion and laptop music performance. Issues about the nature and connection of gesture and sound are also raised through a comparison between the activities of dance, percussion and laptop manipulation. These data also generate implications for the further development of the software as a learning environment.

Introduction

The idea of computer based modelling of theory is common in scientific research and mathematical modelling is also a well established means for researchers to observe how phenomenon act and interact under laboratory conditions where variables can be easily controlled and environments can be created where a phenomenon can be tested with frequent repetitions and varied contexts. In education and the social sciences this kind of experimental study is more difficult to create and hence the social sciences have developed post positivistic methodologies to handle the complexities of human systems. In the world of computer music, mathematical modelling has been used by many composers to model musical structures (Xenakis, 1991) and forms, recreate algorithms of musical style (Cope, 1992), create new and exciting timbres in synthesis (Chowning, 1973) and perform and compose music that might be impossible for human performers to play (Cage, 1961). Mathematics educators like Seymour Papert, the inventor of the computer language Logo for children- created micro worlds for children to experience philosophy, engineering and music making through creation of micro environments where students could construct their own objects using mathematical reasoning in a concrete and experiential environment (Papert, 1980, 1994, 1991). Recently, Andrew Brown at Queensland University of technology has created a java based musical programming language called *jMusic* (http://jmusic.ci.qut.edu.au/) and sets of online tools (http://musictools.ci.qut.edu.au/) that facilitate the creation of musical tools that are capable of performing musical transformations and analytical tasks as an adjunct to composition and creative music education. It is the purpose of this paper to examine the idea of modelling theory through software design and observing the interaction between music making software that creates focused environments or micro-worlds where music students can encounter useful learning experiences and teachers can design musical experiences that lead to musical knowledge and understanding. I will do this through a recent iteration of ongoing research using a jam2jam software case example which took place at a musical workshop called 'Jam' as part of a festival of early childhood called 'Out of the Box' (see Appendix 1) held in Brisbane Australia in 2004. Firstly I will briefly reiterate the background to the *jam2jam* study and describe the software focussing upon the development of *jam2jam* as a model of a 'living

curriculum' where the software development responds to the needs of teacher control over the focus of musical knowledge and learning and teaching strategies combine in their adoption of philosophical principles of meaning and engagement.

Background to the Study (See Figure 1)

> *jam2jam* is an online interactive generative music making software program developed by Brown, Sorensen and Dillon in 2002. The program utilises simple sliders and dials as an interface for controlling generative music algorithms. These algorithms were based upon popular music styles such as Hip Hop/Rap and Grunge/Guitar band styles. A survey was conducted among young people in Delaware, Ohio that suggested a range of popular performing artists and these recordings were used as templates for constructing the algorithms. These styles were analysed (Pratt, 1990) in detail by Brown and Dillon and a template for algorithms for three genres was developed that provided for the generation of distinct patterns of intensity, timbre and rhythmic/groove qualities. The specific polyphonic instruments timbres (Bass, drums, guitar, keyboards, percussion) were selected based on their likeness to those in the analysed works and are able to be controlled in real time by several students who interact on a network, the internet or solo (Dillon, 2003).

jam2jam enables quite complex musical interactions with algorithms that are based on popular music styles although it is not necessary to confine the generative structures to popular music ostinato as I will discuss later in this paper. The software gives access to collaborative music making/ networked improvisation through gesture (the movement of a screen based slider or dial). The movement of the slider controls degrees of intensity of activity and sound in time and space. For example in a *Grunge* song the activity of snare drum at it's lowest level might be a cross stick on the rim played on two and four whilst the most activity might be quaver triplets with a 'gated' effect on the snare sound and a significant increase in volume. Shifting the slider between these two intensities allows a range of stylistically appropriate snare drum events that update within an eighth note of the movement of the slider. This kind of mapping of intensity has been undertaken for every timbre represented on the interface and each instrument can be played by a number of musicians simultaneously. Jam2jam uses a peer-to-peer network that can operate over a Local Area Network (LAN) or the internet. We call this kind of collaborative activity networked improvisation.

Whilst *jam2jam* is primarily software to be used for educational purposes it is important to reiterate here that both the design and development of the software were based upon distinct philosophical principles derived from two doctoral theses. My own thesis which examined the idea of giving access to meaning in music making proposes that musical experience needs to be personal, social and cultural (S. C. Dillon, 2001) and Andrew Brown who describes modes of compositional engagement (See figure 2) (Brown, 2003) based upon research that explored how expert composers interact with software and hardware in creative production. *jam2jam* software referred to these principles in its design and hundreds of repetitions of users interacting with the software were observed, analysed and integrated into the software development in several contexts. The software effectively models these theories and then through observation of student interaction with the software and teacher organization, generates further data about the theory itself and its robustness in fresh contexts and with different student/teacher demographics. There have been four cycles of development for *jam2jam* both in the USA and Australia over the past three years the iteration that is the focus of this paper occurred in June 2004 as part of Brisbane's Festival of Early Childhood 'Out of the Box' (See Appendix A) where six hundred three to eight-year old children interacted with the software alongside hip-hop/break dancing and electronic percussion activities in fifty-minute sessions which will be described in detail in the methodology to follow.

Methodology

As this approach to research does not fit neatly into existing 'off the shelf' methodologies we have adopted a new approach to method and data analysis called SoDaR:

> ... where researcher and student understanding and learning is exposed through interaction with activities with specifically developed software. The SoDaR methodology involves the concurrent cyclical development of the theories, activities, and software.

The SoDaR methodology has three stages:

1. identifying the learning opportunity for which software development is required,
2. design and production of the software, and
3. implementation and refinement in an educational setting. Within each of these three stages there are processes of description, data collection, and reflection (Brown, 2004).

In this current cycle of activity the learning opportunity builds on the previous design of *jam2jam* as a networked improvisational tool for children. The specific case involved an opportunity to observe a context where varying degrees of gestural input could be compared in terms of their meaningfulness, ability to engage students and educational effectiveness. Design and adjustment to design occurred within this cycle of intense use. We were also able to observe further refinement of the software and curriculum approaches to its use through teachers other than ourselves using the software that provided curriculum design data.

Description of the Case

The 'Out of the Box' festival is an internationally acclaimed biennial event held at the Queensland Performing Arts Centre and specifically aimed at children aged between three and eight years of age. Our research took place as part of a workshop event called *Jam*. The following was the workshop overview:

> The *jam* workshop will introduce children to digital sound production through constructing music using *jam2jam* software on Apple laptops via a wireless intranet and DJ style sampling technology. Children become live DJ producers and participate in a continuous dance party exploring basic mixing concepts that control the rhythmic groove, timbre, texture and dynamics of a generative techno dance piece. Children will be able to jam with their online neighbours creating live dance music and respond through expressive dance facilitated by a hip-hop dance educator as they rotate between sound-making and dance experiences (Appendix A).

Jam consisted of three interrelated activities:

1. playing with *jam2jam* on a Local Area Network (Apple airport) and amplified through speakers.
2. playing with electronic instruments and DJ Microphones ie. amplified guiro, claves and percussion sample triggers, theremin etc.
3. a hip hop/ break dancing activity.

Participants rotated through each activity. The music made by the interaction between the percussion and *jam2jam* performers was used as a continuous pulse by the dancers to rehearse and perform their routine. Three coaches supervised the participants one for each activity and students rotated in twenty-minute cycles between music and dance activities with a performance

to parents, who were seated on the floor in the centre of the room. Each session held between 30 and 36 participants with three sessions per day for six days.

The significance of this sample is firstly the number and intensity of the interaction with the software and secondly the opportunity to compare the engagement with the direct kinaesthetic experiences of dance and more familiar use of un-tuned percussion and instruments that required less abstract means of sound making such as hitting, scraping and hand gestures that result in a direct sound. Data was collected from coaches reflections and Digital video footage of sessions and exposed to analytical tools to focus and organise data.

Analytical Tools

Students defined personal meaning as a communication between self and music making.

Social meaning: was warmly outlined as a 'deeper way of knowing'.
Participants described the process as getting to know other members of an ensemble through the music, through their expression, the commonality of the musical experience and the challenge of the task rather than words alone.

Cultural Meaning: is influential in the sense of self, the sense of self and others and reflects personal and community character. It is about expressiveness and the reciprocal interaction that both the artistic product and the maker have with the community (Dillon, 2004).

The above-mentioned definitions of the meaning were found to be inherent in musical activity in a long termed doctoral study in 2001. They were used as a basis for the design of *jam2jam* to ensure building meaningfulness into the software interface and development. Observation of interaction with users presented an opportunity to observe the phenomena of meaning demonstrated by users as well as facilitated by the interaction with software which suggests that the three notions of personal, social and cultural might be useful analytical tools to describe, categorise and theme observations of meaningful music making. As a tool for data analysis this allows both an opportunity to gain further evidence of the concepts of meaning and a means of analysing the quality and nature of interaction.

Brown's notions of modes of creative engagement (Brown, 2003) derived from a doctoral study that examined the modes of interaction between professional electronic composers and their tools provides a useful analytical framework for describing and categorising the relationships between music makers and their production tools. This model as represented in figure 2 enables a detailed observation of this relationship.

Player: describing the role of the music maker as an expressive maker of sound
Explorer: a compositional/improvisers role where the user playfully experiments with expressive gestures and associated musical outcomes
Selector: refers to making creative decisions about the material that the player might use in the creative process
Audient: refers to the sensory perception and analytical understanding of sound as perceived as sonic representation
Director: refers to the control that the user has over the creative materials
Instrument, Model, Generator, Container and Tool define the changing function of the creative idea or expressive medium/instrument in the process of creative engagement. The terms themselves are self-explanatory and we can see in this model that the role changes depending on the kind of creative process at the time. What is important here is being able to identify the modes of engagement and the emphasis upon these in ways that enable expressive control and production that is meaningful to the student and the community (Brown, 2000; Brown, 2003).

The model was also used in the design of *jam2jam* and was also integral to the observation and feedback derived from previous iterations of the research and development of *jam2jam*.

These tools provide frameworks for observation and a language to describe interaction and meaning that was further enhanced by the immediacy of the action feeding back research into design of the lesson structures and into the software design. A significant difference in this iteration was the use of facilitators or coaches rather than teaching/ facilitating the sessions ourselves which allowed a further aspect of interaction from a curriculum and curriculum interpretation point of view.

Discussion of Emergent Themes

Engagement and Meaning

Parents, children, Administrators and facilitators all commented effusively about the degree of engagement and meaningfulness of the encounters with the *jam* workshop. Interestingly a distinction between the activities of dance, electronic percussion and using *jam2jam* on laptops was rarely made.

> The highlight would have to be a young boy who came up to me afterwards and said that he had "the best time EVER!" I knew that he was into the workshop, and very cheery and present – making eye contact with me and smiling, but I was frankly surprised that he was experiencing so much joy. This made me consider the many other young kids who expressed their enjoyment at the time to whatever degree (Ande Foster: Facilitator).
>
> I think that the kids enjoyed the variety of activities and saw little distinction between dancing, percussion and software operation. To them they were all activities – fun things to do.
>
> I was impressed by the capacity of the students to learn the dance/music activities quickly and then operationalise them (Andrew Brown observer/software developer).

Rene the *jam2jam* facilitator did however observe a difference in the kind of interaction:

> The level of interaction was similar – kids are kids, and they seemed to engage with most things… However the type of interaction was quite different. When using the computers, they lost connection to the outside world to a certain extent – it was much more difficult to give directions once they were using the computer. When dancing or playing instruments however, their attention was mostly on the facilitator (Rene Wooller j2j facilitator).

Interpreting these observations is important because the students demonstrated an intense degree of engagement with the laptops and with the chaotic sounds of three simultaneous workshops it was important that they concentrate on listening and connecting with the sound they were making and associating the gesture with the sound which in a sense underlines the abstractness of the interface when compared to the directness of banging percussion or the interpretive movement of the dance activity. Jam2jam participants were also responsible for the groove that held the room together and so the concentration and 'other world' focus suggests the multiple roles of explorer, player and director as descriptions of the modes of creative engagement and intense personal meaning as suggested by the 'lost connection to the outside world' the social connection becoming more apparent as the sense of control and connection between sounds and gesture and the associated audient mode that was partially due to the chaotic nature of the activity and sounds. What was clear from this was the need for attention to

curriculum design and implementation to allow the modes of engagement and meaning to be more discrete and dynamic.

Implications for Curriculum Design

> On the whole, I think the curriculum was well designed. Considering the workshop ran for the first time, and we received several compliments on the good planning of the activity from teachers and parents, I think we are onto a winning formula. (Ande Foster).

The perception of the curriculum design by the facilitators parents and organisers was indeed a positive one. The movement between activities offered a smorgasbord approach to short and intense activity.

> It worked quite well switching from a totally physical activity, to a musically physical activity, to a musically intellectual activity. This provided a complete spectrum of experience. (Rene Wooller j2j facilitator).

Nevertheless the separation of activity into discrete and focused mini workshops was observed:

> I think acoustic percussion is sufficient, and the electronic percussion is cute but unnecessary. Better coordination of the overall session into mini-sessions might help make more sense to kids. For example a more clear delineation into 'practice' then 'perform' times for each of the three groups. This would make 6 distinct sections, with an MC perhaps commenting (with a microphone) at each break. Changes to *jam2jam* as mentioned above have or are almost completed. There could be a vocal (rap) element. (Andrew Brown observer/ software developer)

The wide range of ages and social self-consciousness of older boys also had a marked effect on what was possible in terms of motor skill and communication levels:

> If any difference were perceptible it would only be in the age group of 7-8 YO boys who thought they were too cool to dance. Also having mixed age groups affected the dance section in particular. Different skill levels made it difficult for the facilitator to make a cohesive routine that was achievable by all of the children, and this sometimes left the little kids disengaged.

This further suggests the need for more discrete sessions, which allow focused engagement on each activity. The degree of control needed by the facilitator is also an important observation. Whilst dance presented the greatest demand on the facilitator the abstract and extreme focus of the *jam2jam* players presented another concern:

> The dance was the most 'directed' and centralised around the instructor, the percussion was somewhat centralised, and the j2j activity was the least reliant on the continual input of the instructor. This may have serious implications for classroom management (as all keyboard-lab child minding loving teachers know). This difference in engagement also results from the degree to which the activity is structured – j2j provides clear pathways for action and prevents significant deviation from them, whilst dancing is potentially open-slather and so the director is required to continually delimit the space of potential actions. (Andrew Brown observer/ software developer)

What is reinforced here is that for meaning to be accessible the curriculum also needs to provide access to each aspect of personal, social and cultural meaning. It was only after comments made by the designers that the end session provide a discrete performance for parents that cultural meaning became accessible for participants who could display their instrument and dancing

skills in a focused environment where parents and fellow participants could share in the meaning of the music making.

> More attention could have been paid to more clearly demarcating the session into smaller event with their own closure. (Andrew Brown observer/ software developer)

> We also experimented with "performance time" which worked quite well in one or two of the workshops. Sometimes, depending on circumstances, this was more difficult, and we would not worry about it. Other times we did it, but the kids didn't really realise that they were doing a performance, or the tempo would change wildly, making for a bit of dance floor havoc. (Rene Wooller j2j Facilitator)

The implications for software development refer to the teachers notes for the software where it should be made very clear that the lesson plan should provide access to three areas of meaning developed in discrete time allocations beginning with personal exploration and then gaining control over collaborative activity and finally presenting and improvisation to an audience or making a CD recording of the result as we did in our first iteration of this research. When asked whether they noticed any differences in levels and type of engagement between workstations? The response was:

> Between kids yes, but not between workstations. Generally students were highly absorbed in the j2j activities. There was some confusion at times. I expect that if the activity went for more than 10 mins then a goal more developed than 'play' would need to be provided.

The suggestion here is that any further iteration will need to look at more in depth and long termed engagement with the interface like that perhaps of an ensemble use.

Implications for Software Design

The implications for software design were focused upon teacher and curriculum in this iteration. There was a need for teacher control over some parameters so students could focus on control over specific elements:

> It would be beneficial to be able to lock screen sets so children assigned to control one sound would not stumble upon the other pages of the program that other kids are controlling. This could prevent the virtual tug-of-wars that I observed on occasion. (Ande Foster)

Andrew Brown who corrected faults and integrated new design features into the software in the cycle of research and post case suggests:

> The software changes resulting from the event included the reconfirmation that an even simpler interface would be useful. That external hardware controllers would add a degree of concreteness to the operations and so should be supported, and to assist in group activities various aspects of the functionality should be able to be hidden – in particular the transport and chat panels. (Andrew Brown observer/ software developer)

The implication here is that we need an interface that allows elements of to be turned on and off to focus the aural perception of players and allow a degree of stability to the learning.

Primarily the data gathered from this iteration with over 600 players and new facilitators refers to focusing the learning activity through switch on/off menu features, the design of lesson checklists as associated materials for using the software that allow and promote discrete modes

of engagement and meaning. What was surprising was that despite the chaotic and noisy environment with three simultaneous activities engagement and meaningful outcomes were clearly observed in repeated sessions by facilitators and in the digital video recordings as well as through the comments of parents, organisers and observers. Nevertheless for these positive aspects to be sustainable there will be a need to make the adjustments to both software design and curriculum. There is a further need to examine a longer period of engagement with a small group or ensemble to establish meaning and engagement beyond the novel.

jam2jam and the Potential for Music Education

> The value of software for education is most clearly evident when the computer opens up new opportunities for music making not previously possible or accessible. Software adds greatest value when it makes a qualitative, rather than quantitative, difference. For example, the combination of generative music algorithms, and Internet connectivity were two aspects of computing technology that added to the unique features of the *jam2jam* software. (Brown, 2004)

The educational applications of *jam2jam* become clearer with each iteration which enriches the concept within data from fresh contexts. Further iterations beginning in late 2004/5 include:

1. Use as a participatory-networked aural musicianship tool.
2. Networked improvisation to connect remote aboriginal communities and city schools.
3. Jam2jam taught to 500 pre service primary general classroom teachers as a tool for non-music experienced teachers to use in cross-curricular studies. These teachers are developing lesson plans for use in the general classroom.
4. Jam2jam as a basis for electro acoustic ensembles where acoustic instruments play/improvise with a laptop/USB interface musician who controls the electronic aspects in a DJ like manner in real time.
5. The creation of networked improvisational music environments (NIME). Using algorithms from minimalism, Chaos/ stochastic, DJ-ing, electro acoustic music, music concrete, world music origins etc to enable an immersive and collaborative interaction with music making that is structured by a learning focused and designed interface that equates the gesture and the resultant sound with musical knowledge.

It is this last idea which holds the most exciting possibilities for music education and technology. The creation of virtual music environments where students can experience previously abstract musical ideas through gesture and interaction. Brown and Jenkins (Brown & Jenkins, 2004) performance of a 1972 Xenakis algorithm at the Australasian Computer music conference this year demonstrated that complex algorithmic music can be controlled and influenced through gesture using USB controller mixing desks and an interface that allows the player to control the outcome and participate in 'live' performance of complex music making. These structures, modes of control and interfaces can be relatively easily assigned to musical elements and musical styles which would provide a useful learning environment that would give access to experiential learning and expressive control over complex musical ideas.

Conclusion

From a philosophical perspective there is evidence here that meaning and engagement can be modelled and observed as interactive components of a music learning experience. What has emerged most clearly from this research has been the need to link software design to curriculum theory and to teacher interpretation of curriculum and emphasise the importance of discrete access to meaning and modes of engagement. The problem of software being used as child

minding activity when it is intensely engaging needs to be considered and the connection between curriculum and software needs to be clearly detailed in the design and production of educational materials. Further projects with this software should explore longer termed engagement and use with acoustic instruments such as a children's electro-acoustic ensemble would provide more knowledge outcome focused evidence. Whilst the current iterations are engaging and meaningful, a more detailed assessment of the knowledge gained and transformative effects software use has upon users would be an appropriate next step. Whilst demonstrated control, tasteful collaborative activity and effective performance are observable in current usage as learning outcomes there is a further need to examine long term effects. The potential of the concept however is exciting. If we consider the building of Networked Improvisational Music Environments (NIME) with associated contextual materials as immersive virtual learning, the opportunity to explore complex sound structures in a classroom or online presents an exciting direction for music learning.

Note: Shareware versions of j2j Jam2jam are available for Apple OSX and PC Windows XP users at: http:www.explodingart.com/

About the Author

Steve Dillon is a singer, composer and senior lecturer in music and music education at Queensland University of Technology in Brisbane. His major research foci revolve around creative practice as research, digital media portfolio systems, music education and meaning and the development of interactive music software for children.

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Appendix A

Out of the Box Overview of Jam Workshop
JAM

Workshop

Age:	4-8
Date and Time:	Daily 10:30am, 11:30pm & 1:30pm
Venue:	Playhouse Lounge
Cost:	$8
Duration:	45 mins
Capacity:	30

Workshop Overview

The jam workshop will introduce children to digital sound production through constructing music using *jam2jam* software on Apple laptops via a wireless intranet and DJ style sampling technology. Children become live DJ producers and participate in a continuous dance party exploring basic mixing concepts that control the rhythmic groove, timbre, texture and dynamics of a generative techno dance piece. Children will be able to jam with their online neighbours creating live dance music and respond through expressive dance facilitated by a hip-hop dance educator as they rotate between sound-making and dance experiences.

Classroom Context

Children will engage in manipulative play that allows them to arrange, compare and contrast sensory motor experience. Knowledge and understanding in the areas of music, sound, dance and technology will be extended and strengthened as children interact with music and audio technology materials for their own purposes and enjoyment. This workshop draws upon content and contexts from Key Learning Areas of The Arts and Technology. Jam will heighten children's listening and kinaesthetic skills and encourage children to respond to, enjoy and appreciate the personal, social and cultural aspects of group music making.

Foundation Learning Areas

- Thinking
- Communicating
- Understanding Environments
- Cultural Understanding

Education Queensland Priorities

Productive Pedagogies – Intellectual Quality (Higher-Order Thinking, Deep Understanding, Substantive Conversation); Connectedness (Knowledge Integration, Connectedness to the World, Problem-based Curriculum).

New Basics – Environments and Technologies (working with design and engineering technologies); Life Pathways and Social Futures (collaborating with peers and others, Learning about and preparing for new worlds of work, Developing initiative and enterprise); Multi-literacies and Communications Media (making creative judgments and engaging in performance).

Suggested Topics

- Sounds
- Beat and rhythm
- Electronic and acoustic music
- How sound is made and how it travels

Suggested Learning Experiences

Teachers may choose to extend this in depth by integrating a variety of learning activities from Key Learning Areas.

- THE ARTS: Role-play DJs and radio presenters using appropriate language and vocal styles; identify different styles and forms of music they are familiar with; share their favourite music with each other; record themselves singing a variety of songs; make sound effects and record them on an audio tape; learn a dance specific to a particular piece of music or song; listen to a variety of songs and music scores and respond through movement to the moods evoked by each piece; respond to feelings music evokes through painting with different colours; build and re-enact an imaginary radio station.
- ENGLISH: Listen to a variety of music evoking different moods and respond to the music through stories or descriptive statements; learn songs with distinctive rhyming sequences and innovate own lyrics.
- MATHEMATICS: Listen to favourite songs, sort and arrange them according to their preference; and count beats.
- SCIENCE: Learning activities could involve categorising songs.
- STUDIES OF SOCIETY AND ENVIRONMENT: Focus on the interaction between sound/ music and society in our culture.
- TECHNOLOGY: Design and make musical instruments using available resources and materials; learn how to use simple musical and recording equipment.
- HEALTH AND PHYSICAL EDUCATION: Learn about hearing and how the human ear receives and understands sound.

Figure 1

The *jam2jam* Interface

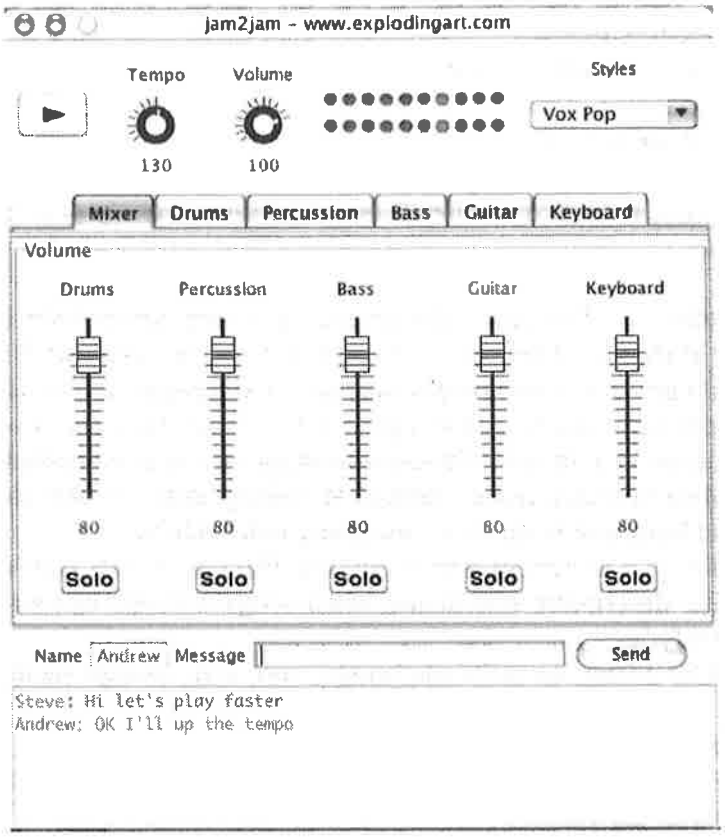

Figure 2

Brown's Modes of Creative Engagement

save to DISC: Documenting Innovation in Music Learning

Dr Steve C. Dillon, *Queensland University of Technology*

The paper discusses an approach to determining the worth and value of innovation in music education and measuring the capacity for meaning and engagement. It also aims to identify new examples of innovation across a broad range of music learning contexts and establish a rigorous digital process for documenting, evaluating and distributing innovative cases and resources for present and future contexts.

It discusses specifically a pilot project that seeks to document innovation in sound curriculum (DISC). *save to DISC* is an exploratory study in an Australasian CRC for Interaction Design (ACID) project that proposes to establish flexible and effective procedures for the sourcing, evaluating, refereeing, editing, producing, validating, storing, publishing, and distributing of a wide range of media and content types.

It involves documenting innovative and successful practice in music education, creating and evaluating programs in difficult/challenging school contexts and commissioning and encouraging the production of resource materials for 21st century contexts.

Introduction

This paper explores the idea that there is a need for rigorous and accountable documentation of 'best or successful practice' in music and sound education that extends beyond curriculum. The latter includes developing processes for the evaluation of methods, the teacher's approach, stance, and value structure. A further approach to resources and contexts that take into account the qualities of meaning and engagement of all of these factors. It also proposes a need for documentation in multi-media form that can be used effectively as advocacy and the development of a 'scientific model' research concentration for postgraduate research and research collaboration. Finally, it outlines a meta-research project that provides a framework for managing, evaluating and distributing this research and resource production content.

Background

The research I am currently engaged in about music technology, classroom practice, curriculum or contemporary music, e–portfolios or inclusive music and sound philosophy is unified by the notion of what it contributes to understanding and giving access to meaning and engagement in music learning. By way of illustration let me provide a simple scenario. If a drum is placed in a room with a four-year old child it is inevitable that the child will hit the drum. The experience for the child is practically always pleasurable and this attraction to making sounds expressively and discovering its expressive qualities is meaningful and encourages further interaction. Such is human intrinsic motivation when it comes to sound and music. As a music teacher, the crucial question is if that kind of motivation is not there what is 'wrong' with the teaching, the curriculum or the context? In a recent article for *Music in Action* I propose that if we have to advocate on behalf of music education then perhaps we as teachers might be putting something in the way of the child and the drum and there is cause for us to

analyse the relevance and meaningfulness and ability of the teaching-learning activities, methods and approaches to engage children in music making that results in real learning (Dillon, 2004).

As a tertiary music educator, I have noted the excellent resource structures, in-service and community idea exchanges that occur with methods such as Suzuki, Orff, Kodaly and Dalacroiz. On the other hand, successful classroom programs and ideas that are personality dependent disappear with the teacher. Even excellent conceptual approaches to contemporary music making such as Paynter and Aston (Paynter, 1992, 1997; Paynter & Aston, 1970), Self (1967) and Murray Schafer (1976) who provided twentieth century focused resources and conceptual frameworks that could be wrought into effective classroom tools appear to have been lost or watered down to a point of obscurity. The choice between taking 'off the shelf', well supported and resourced methods as a basis for a sustainable music culture as against the eclectic personality dependent methods seems an obvious choice that lead inevitably to the conservative. Nevertheless on one hand there are effective and successful programs that have always occurred in schools that are not method bound, nor conservative but these are seldom documented or evaluated. Alternatively the traditional methods whilst creating strong internally consistent approaches and resources are seldom measured for their relevance to community. Observations of culturally exclusive or elitist interpretations of these methods are common but they carry with them a message that suggests we need to evaluate the appropriateness of these programs as Hartwig has done in Queensland (Hartwig, 2003). We also need to document practice in those schools that are doing innovative and effective things, compare them to try to draw some conceptual framework that has transferable qualities and build a model for evaluating the meaningfulness of music education that considers the whole community. It struck me that creating evaluative analytical tools that are able to diagnose and prescribe the right diet and exercise plan for lifelong music education health are long overdue. So too is the need for rigorous and accountable documentation of best/ effective/innovative practice in music education.

What Is *save to DISC?*

In 1983-4 at Northwest University in the USA, Bennett Reimer and associates set up a significant research community that sought to be 'more scientific in the way it organised its efforts, because its typically atomistic, uncoordinated studies had not yet yielded, and likely would never yield, significant knowledge about the major problems of the profession.' (Reimer & Wright, 1992: vii) This research concentration resulted in CSEME the Center for the Study of Education and Music Experience, which generated significant philosophical, organisational and practical research that focused upon solutions that were politically poignant and professionally useful. More recently Arnold Aprill and the Chicago Arts Partnership in Education (CAPE Project) have set up sustainable arts education communities (Burnaford, April, & Weiss, 2004). Parents and politicians suggest that what is needed is evidence that music education is worthwhile and has significant transferable implications to other aspects of learning and living. This evidence needs to be compelling and easily understood and based upon rigorous and accountable research that add up to meta-arguments and like scientific research continuously seeks proof and disproof of theory through constant replication in new contexts and times. *save to DISC* proposes to construct a similar approach to research into the meaning of music but add the dimension of multi media inclusive data and method not available to Reimer in the 1980s.

save to DISC represents the ideas of saving, evaluating, recalling and *Documenting Innovation in Sound Curriculum.* The project involves documenting effective and innovative music programs in primary and secondary schools, local communities for youth and mature

citizens. The focus is upon building culturally sustainable environments where expressive music making that is relevant to the local community is central. The intention is that models will be drawn from case studies and diagnostic tools for building culturally sustainable programs in diverse communities nationally and internationally will be created.

The project aims:

1. To document and evaluate effective/successful music programs.

2. Create a suite of diagnostic measurement tools for evaluating meaning and engagement outcomes in programs and software. (Note rather than being linked to 'Australian norms' as in psychometric models these tools will refer to multi media example that will increase as the diversity of cases grows.)

3. To create models of sustainable school and community music making approaches curricular and resources (system of coaches, community evaluation, diagnostic tools, business models) that will be transferable to other community contexts.

4. Creating a cohort model for postgraduate study for music coaches, researchers and design research methods and pedagogical model for community coach training.

The Australasian CRC for Interaction Design (ACID) project ACID Press will provide an infrastructure for setting up an online entity that can collect, manage, evaluate and distribute the documented research in multimedia form. *save to DISC* has been selected as a case in a feasibility study to create a working interactive model. ACID Press will build a project management system that allows the processing of content as well as the reviewing and quality control of content.'(Cunningham et al., 2004) The linking of ACID Press and *save to DISC* provides a unique opportunity to generate and collect research that documents innovation and creates resources at the same time as providing frameworks for rigorous and accountable evaluation of this material alongside an opportunity for multiple modes of distribution from on demand printing to online download.

Outline of Project Meta-Methodology

The meta-methodology utilised in these projects is commensurate with the two areas of generation of research data and the management and distribution of data/content. For the ACID Press aspect of the research that aims to observe the interaction between users, content and feed into software production.

> This project [ACID Press] will employ a Software Development as Research (SoDaR) methodology which involves a process of modelling and interaction 'where understanding and learning is exposed during activities using specifically developed software and where there is concurrent cyclical development of the theories, activities, and software' (Brown, 2003b).

This approach allows a unique blend of action research, software development and case study that is dynamic and responsive. At the meta level ACID press will draw data that makes sense of the interaction, demands and problems generated by multi media content that comprises music education research content. Further more it will generate models for evaluating multi media content or creative practice as peer refereed research. The *save to DISC* project revolves around multiple lenses on the phenomenon of culturally sustainable and meaningful music learning and teaching environments. Primarily this will be concerned with creating a suite of

music education specific analytical tools and strategies drawn from evaluation methodologies (Asher, 1976; Cohen & Manion, 1989; Denzin & Lincoln, 2000; Miles & Huberman, 1984; Strauss, 1990) and based upon theories of meaning and engagement developed for real and virtual music learning environments (Brown, 2003a, 2004; Dillon, 2003). Furthermore, the research will employ qualitative, quantitative and creative practice research strategies. In particular the production of curricular and the development of context specific resources will be included alongside creative practice as a strategy for making sense of or analysing data, as a means of presenting data and as a means of generating data itself. Much of what is done in curriculum design and implementation is itself a process of creative production. Refinement of methodology and creation of strategies for creative practice as research forms part of the postgraduate program. Another aspect of the meta study will be to collect and evaluate appropriate methodology. The most important methodological consideration is the development of the analytical tools for evaluating meaning, to which I now turn.

Developing of a Range of Analytical Tools for Meaningful Music Education

For almost five years I have been testing a model of philosophy in action with undergraduate music education students at Griffith University and Queensland University of Technology. The model is provided in Figure 1 below. (Dillon, 2002; Dillon, Brown, Smith, & Nalder, 2003; Dillon & Nalder, 2003, 2004; Dillon, Nalder, Brown, & Smith, 2003a, 2003b, 2003; Nalder, Dillon, Brown, & Smith, 2004) In simple terms, it proposes that once a problem or issue is identified through situational analysis, an examination is made of the teaching-learning context: teacher, institutional, pedagogical, student, and community-wider community. It is necessary to examine the demands that each of these spheres of influence has upon how the teacher is able to interpret and implement music learning. Once data has been collected from theses viewpoints the phenomenon/issue is examined against a set of indicators of meaning which refer to music and arts education literature, philosophy, psychology and sociology. If the phenomenon or issue does not reflect these fundamental values then it is necessary to refer back to the context data to examine where the impediment to realising this fundamental lies. In many cases when this approach has been used, we have found that the impediment lies either in the teacher's values or in the interpretation of the teacher to impose vales from institutional and pedagogical influence. For example, imposing European art music values on people whose culture is not European. Once the indications of meaning can be determined or the potential and impediments identified through a description of the location and nature of meaningful activity. At this point in the evaluative process we need to further identify both the kinds of engagement and the nature of meaning inherent in the context and activity and compare them against a theory of meaning. In (Dillon, 2001c) three essential areas of meaning were identified, the personal, social and cultural.

Personal

Personal meaning in this research was defined as a communication between self and music making. Participants described the activity of making music expressively, and attentive listening to music, as evocative of a personal response, a feeling of well being and an emotive and aesthetic relationship with the music. It also promoted for them, an understanding of self as an expressive being, something that 'acquaints us with ourselves'.

Social

Students and teachers alike reported that music making provided them with a broader social contact with musicians from a variety of social contexts. They met and worked creatively with people of different genders, ages and cultural backgrounds. The relationship they described with others in ensembles was warmly outlined as a 'deeper way of knowing'. Participants described the process as getting to know other members of the ensemble

through the music, through their expression, the commonality of the musical experience and the challenge of the task rather than words alone.

Cultural meaning
Cultural meaning is the most complex area of meaning explored in this research. It is a particularly powerful meaning. It is influential in the sense of self, the sense of self and others and reflects personal and community character. It is about expressiveness and the reciprocal interaction that both the artistic product and the maker have with the community. (Dillon, 2001c)

These areas of meaning are identifiable within a music learning context or the potential for encouraging them can be easily perceived within music resources. The methodological problem here will simply be concerned with turning these concepts into evaluative tool and producing a range of norm-like mini documentaries as examples of each that demonstrate evidence of meaning in multi media form.

Further to this model I propose to utilise Brown's modes of creative engagement to examine the kinds of engagement that are inherent within creative production in music learning. The implication here, is that the musician and the creative product take on different roles and different modes of engagement depending upon their experience, and relation to the task. Figure 2, illustrates the latter. The roles of: Player, Explorer, Selector, Audient and Director, describe the modes of engagement that can be adopted by the user of musical instruments and processes.

Player: describing the role of the music maker as an expressive maker of sound

Explorer: a compositional/improvisers role where the user playfully experiments with expressive gestures and associated musical outcomes

Selector: refers to making creative decisions about the material that the player might use in the creative process. Audient: refers to the sensory perception and analytical understanding of sound as perceived as sonic representation

Director: refers to the control that the user has over the creative materials

Instrument, Model, Generator, Container and **Tool** define the changing function of the creative idea or expressive medium/instrument in the process of creative engagement. The terms themselves are self-explanatory and we can see in this model that the role changes depending on the kind of creative process at the time. What is important here is being able to identify the modes of engagement and the emphasis upon these in ways that enable expressive control and production that is meaningful to the student and the community. (Brown, 2000, 2003a)

These three tools provide a basis for focusing the examination of context, meaning and engagement and potentially allow a thick description of the phenomenon from a variety of perspectives. These analytical tools can be used both in conjunction with qualitative methods such as participant observation cases study, action research and grounded theory as well as quantitative methodology that can provide useful broader based statistical evidence of effectiveness and enable a meld of hard data and qualitative example in multi media form.

Further to this notion of analytical tools as suggested in Dillon (2004) we need to consider phenomenological implications of data analysis by referring to a set of indicators of meaning:

1. **Degree of intrinsicality:** Music is an intrinsically motivated activity (Abbs, 1990; Aronoff, 1969; Dewey, 1989). Assess the opportunity for intrinsic motivated activity, access to self

directed activity, student initiative. Examine the impediments to intrinsicality identifying the nature of activity in terms of opportunity for student-initiated activities.

2. **Appropriate balance between activity and reflection** Activity and reflection should ideally complement and support each other. Action by itself is blind, and reflection impotent. If students gain broad general music experiences in the classroom and they also learn to be reflective and self critical about music then this skill enables them to make sense and gain access to the meaning of music wherever they find it. (Dillon, 2001a, 2001c; Fiske, 2000; Saatchi & Saatchi, 2000; Schon, 1984)

3. **Authenticity of the experience.** Music lessons should be taught within a context that is real or simulated so that it is relevant to community (Dewey, 1989; Dillon, 1995, 1999a, 1999b, 2000, 2001b; Swanwick, 1981).

4. **Focus music experience upon intuitive making and listening activity** with technical aspects providing a supporting and enabling role. (Swanwick, 1981, 1988, 1994, 1999).

5. **Iteration of core principles of musical knowledge**. Identify important musical principles and revisit these at progressively deeper levels. Understanding the concepts of the musical elements and sound in time and space in increasingly deeper and more complex ways that build on understanding (J. Bruner, S, 1973; J. Bruner, S., 1966; J. S. Bruner, 1986; Dewey, 1989; Swanwick, 1981, 1988, 1994, 1999).

6. **Relevant and valued.** Music is a part of life and community – It needs to be integrated into school communities as a way of knowing and as a discrete and important aspect of expression within the community. (Dillon, 2000; Fiske, 2000; Gardner, 1992; Bennett Reimer, 1989; Saatchi & Saatchi, 2000; Swanwick, 1999)

7. **Connectedness of musical experiences.** All experiences from the classroom, studio, instrumental performance and ensemble program in the school environment need to be connected if students are to make sense of musical experience. (Csikszentmihalyi, 1994; Dewey, 1989; Dillon, 2001a, 2001c; Elliott, 1995; Fiske, 2000; Paynter & Aston, 1970; Reimer, 1989; Saatchi & Saatchi, 2000; Swanwick, 1994; Vella, 2000).

8. **Multiple modes of engagement with music**, and the exploration of these can enhance the richness of musical experiences.(Brown, 2000, 2003a; Brown & Jenkins, 2004; Dillon, 2001b, 2001c)

These indicators of meaning have emerged from music and arts education literature and practice and arise as being necessary for quality music education to occur. Referring to these as a set of indicative phenomenon allows the robustness of each tenet to be continuously tested in practice whilst also allowing their worth to be identified and replicated in new contexts. These analytical tools and others that may necessarily emerge from sustained engagement with documenting innovation in music and sound education refer specifically to the theory of meaning that suggest meaningful music is that which is intrinsically engaging.

Meaning and Music Making and Multi Media Data

> According to Reimer and Wright 'While authors offer various explanations as to what constitutes musical meaning, there seems to be a general consensus that the intrinsic qualities of a piece of music (its dynamic relationships) account for its meaningfulness (Reimer & Wright, 1992).

The notions of 'dynamic relationships' and 'intrinsic qualities' are fundamental to this project. While these ideas have been discussed at length in philosophy and theory of music education as evidenced by the examples of those that are linked to the fundamental tenets outlined above, the opportunity to document these in an accessible form has not been fully utilised. Furthermore the notion that music experience might result in 'transformation of self, gaining a broadened perspective, a shift of attitude, an increase in knowledge or any of a host of other enduring alterations of a psychological nature' (Jackson, 1998) has been observed frequently but rarely rigorously and accountably documented with clear example provided. This is perhaps why we clutch at tenuous relationships like the 'Mozart effect' because we know it exists but the evidence is neither compelling nor able to show causal links (Winner & Cooper, 2000; Winner & Hetland, 2000). Certainly in scholarly journals and publications we have been able to extract useful theory to apply to curriculum design such as Swanwick's concept of CLASP (Swanwick, 1981) which provides a useful checklist and framework for balanced music education in classrooms. What has yet to be provided is assessed multi media example of these ideas. Increasingly in curriculum documents such as the Queensland Studies authority CD Rom (QSA reference CD) there are compelling examples of curriculum outcomes in audio visual form which when accompanied by the textual descriptions comprise more immediately understandable concepts than the text alone. Through research into eportfolio systems (Dillon, Nalder, Brown, Smith, 2003: 60) the 'processes [of multi media portfolios] have been identified and are able to provide better quality feedback and more rigorous and accountable systems for aesthetic assessment.' The potential to apply this model to research data is also poignant. It presents the opportunity to show documentaries or visual vignettes that are comprehensively assessed, demonstrate meaning and when placed amongst multiple forms of evidence that include but do not necessarily privilege text represent a potentially powerful tool for research. ACID Press will provide access to these systems of multi media document management as a means of evaluating and presenting creative practice as research alongside and woven together with 'traditional' peer refereed research data. It allows theoretical and ephemeral notions like music and meaning to be represented in identifiable multi media forms that can be simultaneously rigorously documented and evaluated and also be used in a living advocacy statement in DVD form. This will place a particular importance on the selection of cases in the initial study.

Selection of Case Studies

The intention is to purposively select case studies that span the primary, secondary, community youth and mature community age demographic. In the selection of cases for *save to DISC* two schools have been identified that represent difficult and diverse cultural environments that have demonstrated a significant change in their school community when an innovative and community responsive music program was implemented. Further cases will be drawn form the eminently successful *Weekend Warrior* program that operates amongst a 'baby boomer' community demographic and the *AMP'd up* program that has operated as a community music school holiday program, each case problematises the idea of meaningful music education in unique and diverse community contexts.

Case 1: Zillmere State School: Aim High Project: The community hub project linked school and community (School-Lifeline- Brisbane City Council. The community gained a sense of achievement through involvement in a specific project (The Aim High song project). The CD was launched at a Multicultural day that also launched the long termed community hub initiatives that employed coordinators based at the school to:

1. Build community capacity

2. Improve social capital
3. Set up parents networks
4. Link new and existing programs
5. Access funding for progress
6. Establish networks of agencies
7. Build community spirit
8. Retain parents for jobs
9. Engage in carers' school activities

These initiatives are undertaken with consultation with a broad network of community organisations.(Zillmere, 2002)

The school demographic is diverse culturally and economically, with 30% indigenous, 20% Pacific Islander, 12% from non-English speaking background with 50% who do not speak English as a first language. Zillmere is in the lowest 10% of socio economic areas in Queensland. The project provides and excellent example of how music making has been instrumental in raising social awareness social capital and at the centre of community building. Zillmere's production of Kev Carmody's 'From little things Big things grow...'was played on 55 ABC radio stations across Australia and the project and earned the school an Education Queensland's 2002 Showcase award (Zillmere, 2002).

Case 2: Glenala State High School has a culturally diverse demographic consisting of low socio-economic families from Indigenous, Islander, Polynesian, Vietnamese and European Australians. Low self esteem, motivation and attendance has been a problem for staff and students and during a recent program called *The Band Thing*: *Bringing New Styles* a profound change occurred in student behaviour, focus and attendance during the brief eleven week program.

> The Band Thing gave an opportunity to approximately 30 students from grades 9 through 12 to participate in song writing and performance in an 11-week program that involved song writing and performance development. A final outcome objective was to create enough original material that would form a set of music to be performed at the Stylin' Up concert on Saturday 22 May 2004.
>
> For many years The Brisbane City Council has organized a community event in Inala called Stylin' Up which showcases new & emerging R&B and Hip Hop artists both Indigenous & non-Indigenous. It encourages people of all ages and cultures from the Inala community to come together. As a part of the community focus the organizing committee wanted to give a special opportunity to students of Glenala Stage High School to be involved in the event. The Band Thing was bound to succeed as the Principal of Glenala SHS, Suzan Healy and her team, enthusiastically supported the program from its conception. (Spirovski, 2004)

The 'Styling up' community festival was an incredible success with large media coverage on television and newspapers and several appearances for the minister of education. Early data drawn from a questionnaire based research method did not reveal a significant outcome, perhaps because of the problem with literacy amongst families. The research also suggests the need for further attention to qualitative evidence. Subsequently Daniel Spirovski created a documentary that documented the project and drew upon theories of meaning to analyse multi media data as a research methodology that provided both evidence and advocacy material for the school community to acknowledge and document the effect of the program. The schools principal is interested in harnessing this approach and turning it into a culturally sustainable environment.

Case 3: AMP'd Up. Amp'd up is a community based music program that is being developed by Oxygen 42 and Greg Dodge in collaboration with Queensland University of Technology, the Australian Music Association and Ellaways music, Kedron-Wavell Service Club, Black-Beat. The program operates as a school holidays workshop for primary aged children and works on similar principles to the Weekend Warriors and Bringing New Styles in that it involves the community in structuring and providing a musical experience involving song writing, performance and recording over a two week period.

Case 4: Weekend Warriors

> The Weekend Warriors is a program that aims to bring old guitars and old players out of their hideaways and get them playing together in bands. It's an American idea that has been brought here by the Australian Music Association and implemented by Ellaways, a music store in Brisbane. The program has been a tear-away success and is being set up in other music stores across the country. Five are starting programs and Ellaways are gearing up to train another ten. This is a commercially run program that achieves one of the major objectives of community music development: simply to get people playing music (Oxygen 42 advertisement).

The weekend warriors originated as a US franchise that focused upon mature musicians normally in the baby boomer demographic, mostly male but women and younger participants are becoming more prominent as the program is established. Oxygen42 and the AMA have implemented this program across Australia and there are coaches and programs operating in most states. The program invites participants to play in a band where instruments, technological and coaching support are provided. The bands rehearse cover versions of rock songs and then perform at a concert to friends and relatives that raises money for charity. The program has had profound success and many participants continue their involvement with the bands beyond the programs time scale, the personal, social and cultural effects of the program have been immediately apparent with a flow on effect that has clearly had transformative effects on participants lives.

All of these programs have demonstrated intrinsicality, a connection with music making and an outcome that suggests transformation of participants. Broad based evidence, critical review and evaluation of the inherent meaning and engagement is vital to support these qualitative observations. Furthermore, documentation of effects on individuals and communities and an analysis of the characteristics of coaches/teachers and community interaction that may be replicable in other contexts is also essential to create a comprehensive description of the phenomenon in practice. The abovementioned cases will constitute pilot studies for the program and will serve as models for constructing transferable and sustainable pioneer frameworks for an approach to music education in other contexts.

Developing a Transferable Conceptual Framework

The most difficult aspect of the development of music programs is sustainability. As suggested in the introduction personality dependent programs disappear when the 'personality' leaves, whilst philosophical and pedagogical programs are sustainable but often loose relevance as the context and demographic changes. The challenge here is to develop systems that are able to be continuously evaluated and 'tweaked' to respond to changes in the community, institution, pedagogy, teaching staff and student needs. The intention of *save to DISC* is to provide a dynamic framework that is supported by continuously documented and rigorously assessed examples of the framework in a broad selection of contexts. It seeks to encourage the development and distribution of innovative resources that respond to community needs and

provide a model for a postgraduate program that will feed both the community coach/teacher need and document process. Concept transferability might be secured by transferring the postgraduate cohort model to as many universities as possible both in Australia and overseas which would increase the range and diversity of cases across contexts and demographics. Sustainability within communities can requires 'building in' regular auditing and evaluative procedures that document each successive stage- a kind of regular cultural health check.

Conclusion

Whilst the vision of this project might be interpreted as grandiose, the model proposed by this paper which links ACID Press as a publishing and distribution entity for rigorous and accountable review and storage to the *save to DISC* as a postgraduate cohort and research focus is an achievable one. The project proposes to develop a working model in a twelve-month time frame. What it seeks to do is document innovative and effective music and sound education across school and local communities, create a 'brand name' program model from cases that problematises music education. It also aims to identify and organise transferable characteristics, develop analytical and evaluative tools for diagnosing and identifying both the location of meaningful experience and clearly defining its nature so that this kind of experience is accessible to all in the community. It will further provide multi media examples of meaningful music education as advocacy materials in compelling short documentary form supported by rigorous and replicated research as well as develop music education specific methodologies and strategies for analysis and data collection. The argument in this paper has mainly focused around the need for such an approach. To support this idea I have drawn from Reimer and Wright's effective CSEME model and research into music and meaning, along with research drawn from the world of music technology, which enables the scientific style modelling of musically interactive environments. From this model I have suggested an approach to evaluating the cultural health of communities utilising analytical tools such as the demand model, the location of meaning and Brown's Modes of creative engagement. It is proposed that these be developed as tools for analysis alongside qualitative and quantitative strategies to gather information about contexts and identify the dynamic relationships and impediments to intrinsically motivated music learning experiences. The importance of multi media methods as data and presentation and the use of techniques that harness the immediacy and compelling effect of such media as advocacy has been presented and the importance of rigorous and accountable documentation that provide multiple lenses on the phenomenon of music and meaning is emphasised. The purposively selected cases outlined here provide a strong indicator of the potential of these kinds of 'difficult contexts' to provide important data and potentially transferable models.

The question of cultural sustainability has been emphasised, the attachment to ACID press as an online entity that provides a place where data can be stored and managed put forward for consideration, whilst the creation of a system of ongoing auditing processes and regular documentation procedures seeks to build in a model that is able to dynamically interact with cases over time. The development of a transferable and dynamically responsive conceptual framework will be the central focus for the cross case analysis alongside the production and development of the analytical tools. The intention is to have a working model of the online entity, alliances with funding bodies and community and industry partners and a cohort of postgraduates beginning in 2005. Once a working model is established phase two of the project will be embarked upon. It will involve developing partnerships with universities nationally and internationally. Internally over the next three years the intention is to grow the quantity of cases as the models are exported to new locations and as the research focus attracts members who participate in replication and development of the model.

About the Author

Steve Dillon is a singer, composer and senior lecturer in music and music education at Queensland University of Technology in the faculty of Creative Industries: Music and Sound, Brisbane. His major research foci revolve around music and meaning, creative practice as research, eportfolio systems, philosophy of music education and the development of interactive music software for children. Steve is also a researcher with (ACID) the Australasian CRC for Interaction Design.

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Figure 1

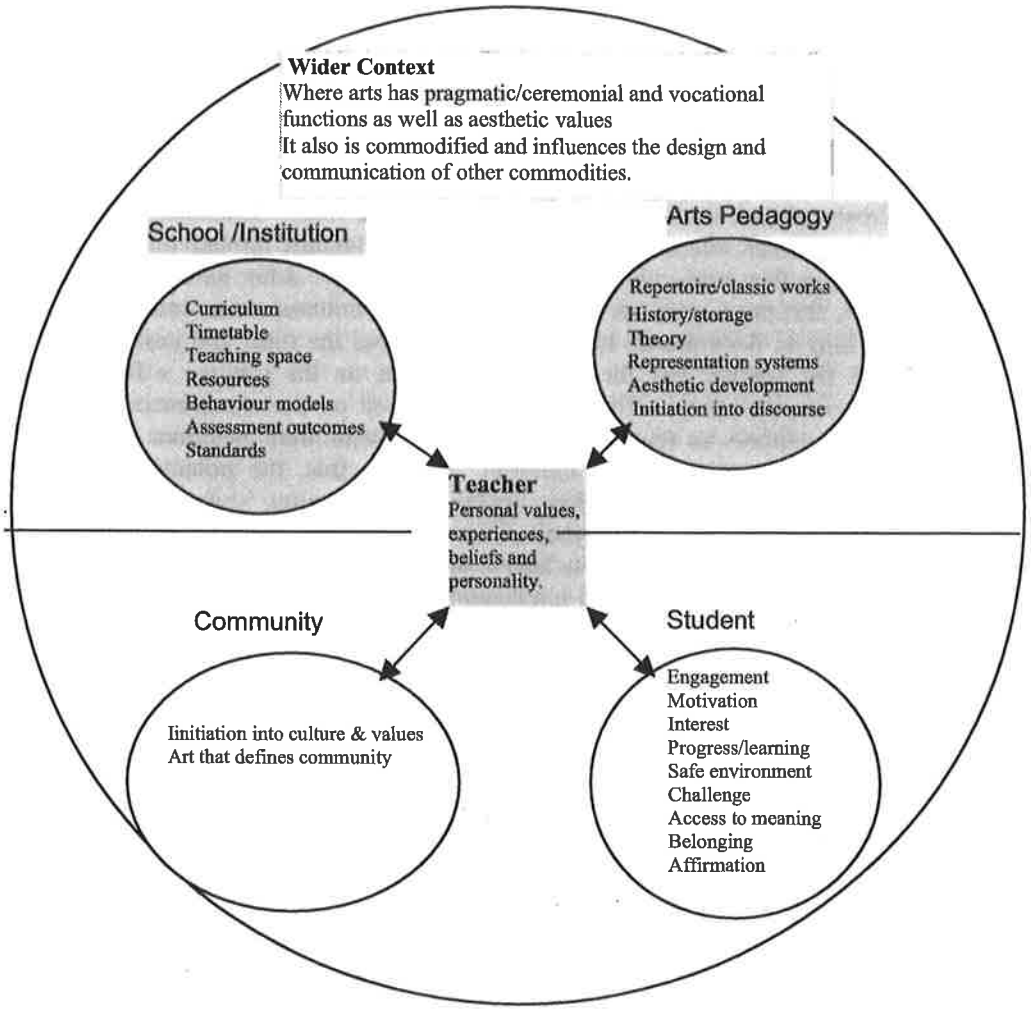

Figure 2

Expectations and Outcomes of Inter-Cultural Music Education: A Case Study in Teaching and Learning a Balinese *Gamelan* Instrument

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Cross-cultural, multi-cultural and inter-cultural music education are three types of music education that can be defined differently through reference to the ways they treat culture as a factor of pedagogy. After defining each of these, this paper presents a case study of inter-cultural music teaching and learning to demonstrate how culture influences the roles and positions of both the teacher and the learner in lessons on the *gangsa*, a Balinese *gamelan* instrument. The case study is based on the experiences of the paper's authors as teachers/learners and presents their positions through transcription of interview material. Through this, the potential of the situation to influence teaching methods and learning styles, which are culturally derived, is analysed. The ability of the cultural differences between teacher and learner to lead to musical meta-learning (learning about learning) is investigated, and implications for teaching music across cultural domains are considered.

Introduction

Debates over the pedagogical and philosophical implications of 'cross-cultural', 'inter-cultural' and 'multi-cultural' music teaching and learning have become regular tropes of music education research, and account for a large component of published material in this discipline. This has become so much so that it is difficult to imagine music education discourse in which they do not figure or have an influence. By the fact that music is a cultural object, study of any piece of music automatically references the culture from which it originates. Whether this fact is made explicit or not, music education engages teachers and learners in an enterprise inherently implicative of levels of cultural awareness and interaction, regardless of the type of music under consideration, its geographical or historical origins (Dunbar-Hall, 1992).

In addition to the large amount of theorising in music education literature about the cultural perspectives of music teaching and learning, focus on different ways of implementing music teaching and learning which acknowledge these cultural implications has been assisted over recent decades by three major epistemological developments. First, international codification of government policies on and practices of multiculturalism since the early 1970s, and ways in which these flow down to formalised teaching situations through curriculum expectations, has solidified music teaching and learning which draws on musics from a wide range of sources in many countries. This has also helped to make visible the links between music education and the wider musical contexts of everyday existence. Second, philosophical debates that position the individual as the source of meaning have effected definitions of the relationships between the personnel involved in teaching and learning. Often grouped under headings such as 'post-modern' or 'post-structuralist', these debates have reshaped the settings of education so that they have become sites of valid, interacting, individual cultures, each of which has the right to be acknowledged and to influence the intentions, content, processes and outcomes of education (Hooks, 1994). The role of individual cultural identity in constructivist learning, although little

researched or analysed, is also acknowledged in this respect (Mahalingam & McCarthy, 2000). Third, research into the relationships between culturally diverse musics and the teaching methods endemic to them has resulted in questioning of numerous issues surrounding the teaching of music. Linked to ethnomusicological research that positions the teaching and learning of music as a significant component of the system of a culture's music (Berliner, 1994; Rice, 1994), and at times referencing post-colonialist discourse (Partington, 1998; Battiste, 2000), this includes: critiques of the cultural biases of education systems; awareness of potential cultural misrepresentation of music through canonical, inappropriate teaching methods; and realisation that music teaching and learning involve learners and educators in relationships which are culturally influenced in expectations, teaching practices, and learning styles (York, 1995; Scheurich, 1997). Increasing recognition that a music may best be understood through its own teaching style/s is an outcome of this line of argument (Trimillos, 1989: Dunbar-Hall, 2000; Green, 2001). Through these avenues, culture can be positioned as a major factor in music teaching and learning in ways much more complex and influential than those found at the superficial day-to-day level on which musics from different sources are used to provide the content for music lessons, or pieces of diverse music are used as exemplification of musical concepts and practices.

Three types of music education qualified in some way as '-cultural' are regularly discussed: cross-cultural, inter-cultural and multi-cultural. While there is a degree of overlap between them, most noticeably in their reliance on cultural disjuncture between learners and the music under consideration, these terms are used by writers to connote different types of music education. Despite research on many aspects of these types of culturally defined music education, exploration of their differences, the tensions between them, and their possible contributions to music education remains preliminary. The purpose of this paper is to clarify these differences, and to investigate inter-cultural music education as a type of music education little analysed. This is done by raising issues arising from a case study in the teaching of a Balinese *gamelan* instrument by a Balinese musician to a non-Balinese student.

The outcomes of this case study, analysed from pedagogic and philosophic perspectives, are considered for their potential to benefit music teaching and learning in the broadest sense, and to focus on culture as a factor influencing the delivery of teaching and the successful achievement of musical knowledge and skills. This is a different approach from that normally found in the literature on forms of culturally defined music education. Typically, work in this area addresses pedagogic problems, lack of teaching resources, or system specific examples of practice. Discussion of these issues is not central to this paper. Rather it investigates how the experience of learning the music of a culture foreign to one's background from a teacher of that music's culture has the potential to emphasise culture as an influence on teaching and learning, and to effect an individual's construction of music education. Such an experience becomes, therefore, a form of meta-learning - or a case of learning about learning. It not only provides instruction in the musical system under study, but also allows the learner to reflect on the learning processes in use, to identify aspects of these processes that differ from those of the learner's previous training or from the music teaching and learning system in which the learner currently exists. Equally, the situation might affect the teacher in the ways teaching is delivered; it might question teaching practice and influence how teaching is perceived. Ultimately, reflection on the experience from both the teacher's and the learner's perspectives is positioned as a means for developing pedagogy which acknowledges culture as a parameter in the agendas, expectations and outcomes of music teaching and learning.

Cross-Cultural, Inter-Cultural and Multi-Cultural Music Education

For this discussion cross-cultural, inter-cultural and multi-cultural music education are defined as different from each other. The most commonly used of these terms in analyses of music education is multi-cultural, used here refer to music education which utilises different types of music primarily to demonstrate ways in which music functions as a set of materials handled in similar or dissimilar ways in different settings. Often this is explicitly linked to a 'concept approach' to music (McPherson & Dunbar-Hall, 2001). There is an implication, extrapolated from practice, that multi-cultural music education is taught by a teacher who covers all types of music. The importance accorded this form of music education is demonstrated by its widespread presence as a focus of pre-service training (Royse et al, 1999), and the amount of pedagogic materials that support it (for example, Dunbar-Hall & Hodge, 1991; Anderson & Campbell, 1996). While cultural sensitivity is encouraged in multi-cultural music education, it is not guaranteed, and student access to different types of music is mediated through a music educator who is expected to know many types of music, or through commercially available texts and recorded resources. Despite its obvious benefits, particularly in ways since the 1970s in which it opened up music education to a wide range of musics, there are criticisms of this approach: can teachers know all types of music and each music's cultural perspectives? does the concept approach represent music respectfully, or is it a form of educational colonialism perpetuating a Western-based perspective on music and ways it is taught and learnt? how can music educators be trained to teach multi-culturally? who decides which music is selected for educational purposes? how are the dangers of potential tokenism and misrepresentation in multi-cultural music education addressed?

Cross-cultural music education is defined here as that in which students interact with one music, which differs from that in their own cultures, through the mediation of a teacher who is not of the culture being studied. In many Western universities, this is through study of an Asian music system. An intention to study 'social, ethical, (and) pedagogical' issues in addition to musical ones (Goldsworthy, 1997, 3) is often present, and at times such study is part of a course in ethnomusicology, demonstrating increasingly closer links between music education and the contextualised study of music. In this type of teaching/learning, the focus of study is performance oriented, and there is a wider consideration of cultural issues than that defined in multi-cultural music education.

A third type of music education is labelled inter-cultural, a term used here to refer to music teaching and learning in which a culture bearer teaches her/his music to students who are not of the same culture as s/he (Schippers, 2000). While in multi-cultural and cross-cultural music education, educators and students can be from the same culture, inter-cultural music education differs by the presence of an educator who is culturally different from her/his students. This draws attention to cultural difference as a factor influencing pedagogy, as the following case study demonstrates.

Case Study: Learning a *Gamelan* Instrument in Bali

This case study concerns the teaching and learning of the *gangsa*, a Balinese *gamelan* instrument, in Bali. It is presented from the perspectives of the teacher (who is Balinese) and the learner (who is Australian), and can be defined as inter-cultural music education according to the criteria outlined above. The teacher is the leader of a *gamelan* in his own village, and also the leader of a commercial performance troupe. He is a graduate of Sekolah Tinggi Seni Indonesia (STSI), in Denpasar, and a composer and teacher who has toured and performed internationally. The student is a university trained academic who teaches Music Education in an Australian

university. The lessons take place for short periods at six monthly intervals in Bali on a one-to-one basis. The overall impression to the student of these experiences and of observing *gamelan* rehearsals while in Bali is that Balinese *gamelan* has a pedagogy, whether this is articulated or not, and that this is linked strongly to characteristics of Balinese *gamelan* music (Dunbar-Hall, 2000).

As non-Balinese researchers who have written about learning music in Bali (for example, Kitley, 1995; Bakan, 1999) have commented, in this case study all teaching occurs by rote, involving much repetition. Notation is not a teaching support; instead, the student is expected to develop an extensive musical memory, and to be able to respond to structural clues, which indicate when changes occur throughout a piece of music. One specific strategy experienced both in this setting and with other Balinese teachers is a process in which one instrumental line is taught and when the teacher perceives that this has been mastered, a complementary, rhythmically and melodically contrasting one is played against it by the teacher. If the student cannot hold her/his part, the teacher reverts to teaching the original part again until it can be played. In this manner, whole pieces of music are built up. Another important aspect of this teaching is that it occurs through complete pieces of music; technical exercises discrete from the repertoire are not used. As much as possible, the few verbal instructions used are given in the teacher's language, not that of the student. This problematises language as a factor in teaching and learning, creating an additional barrier to student progress. From the student's position, having to deal with lessons conducted in a foreign language requires learning of the vocabulary of Balinese music, and recognition that a vocabulary to describe music implies the existence of conceptualisation of music in an abstract way. This decentres the student's position as the holder of musical knowledge, and emphasises that each music has its own aesthetic position. In addition, because any dialogue will be in a language foreign to the student, the ability to respond to musical signals (such as those which indicate sectional changes within a piece, or which dictate speed and dynamics) becomes a necessity and an expectation of the learning. Use of the teacher's language also allows his 'voice', with all its implications of cultural membership, ownership of music, and authority to speak, to be heard. It constructs a situation in which the teacher's language becomes the official language of the dialogue, thus empowering the teacher's culture as the dominant one in any interaction between teacher and student.

To the teacher, problems which non-Balinese students experience in learning a *gamelan* instrument are partly the result of not hearing Balinese *gamelan* music on the same continual basis that a Balinese person encounters it. In Bali, music plays an important role in the daily life of all communities. *Gamelans* are heard throughout religious observances, *gamelan* accompanied dance is a significant part of the many temple celebrations required by the Balinese Hindu calendar, *gamelan* instruments accompany *ngaben* (cremations), much income from tourists is derived from nightly *gamelan* concerts, and it is rare, except in the most tourist developed parts of the island, not to hear ensembles practising or performing on a daily basis. The continual exposure to *gamelan* music that this provides acts as a means of developing what Western educational theorists refer to as 'tacit knowledge' (Polanyi, 1967, in Green, 2001) or enculturation, 'the acquisition of musical skills and knowledge by immersion in the everyday music and musical practices of one's social context' (Green, 2001, p. 22), as the following excerpt from discussion between the teacher (T) and student (S) indicates:

S: Why do you think it is difficult for students like me to learn gamelan?
T: Maybe different culture, and maybe you don't hear gamelan everyday . . . the Balinese people hear gamelan everyday . . . (they) hear the gamelan at every ceremony . . .
S: setiap puri, setiap pura? (at every palace, every temple?)
T: setiap pura (every temple)

S: setiap desa? (in every village?)
T: ya, ya (yes, yes)
S: ngaben, odalan? (at cremations, temple festivals?)
T: ngaben . . . (cremations . . .).

That constant exposure to this music was one of the main ways in which it was learnt, but not it should be noted, taught, was revealed by two other of the teacher's comments: first that he had learnt *'dalam keluarga'* ('within the family'):

S: When you started learning, when you were a child - how did you learn?
T: Just by listening, because in my village there is a gamelan ensemble and my father is the drummer. Everyday I follow my father to practise gamelan, and I try, but no teacher, I just try to learn and I just hear the technique, how the people play and I see and hear and I practice . . . I just watch and hear . . . if a grandfather is a musician, maybe anaknya ('his child') is a musician . . .
S: so it could be dalam keluarga? (within the family?)
T: dalam keluarga, ya
S: bisa dengar dan. . . (you could hear and . . .)
T: bisa kakeknya mengajar . . . bapaknya mengajar . . . (your grandfather could teach . . . your father could teach).

Second, that for attendance at STSI, where Balinese music and dance are studied at a tertiary education level, there was an expectation that students could already play, and that from the basic germ of a *gamelan* piece (what is referred to below as the *tabuh*) a student would know how to derive the complete *gamelan* texture - a culturally learnt musical practice:

S: And then you went to Sekolah Tinggi Seni Indonesia - how do they teach?
T: In STSI my teacher just gives the song, the melody . . . just the tabuh . . . they don't teach how to play - they just give the melody, just give the song, because in STSI all students bisa bermain gamelan (can play gamelan)
S: dari desa? (from their village?)
T: dari desanya, ya (from their village, yes)
S: mahasiswa yang pergi dan belajar di STSI sudah bisa bermain? (students who come to STSI to learn can already play?)
T: sudah bisa bermain (they can already play) . . . students at STSI, they are already experienced.

From the student's perspective, the main problems in learning a Balinese *gamelan* instrument were not the lack of notation or dependence on aural transmission. The problems of learning were related to the music itself, and the teaching style used. Like many other types of music throughout history and in diverse locations, much Balinese *gamelan* music is constructed from an inventory of patterns (McPhee, 1966), many of which are readily recognisable to Balinese players. The student's initial attempts at learning were confounded by the inability to recognise these patterns as the building blocks from which *gamelan* textures are constructed, both vertically (in combination between instruments at different pitch layers in a *gamelan*) and horizontally (in the alternation of patterns to construct pieces of music or sections within them). After the first two sessions of lessons, however, the realisation was made that these patterns existed, that they adhered to recurring constructional protocols, and that they were used in certain ways. This realisation was a definable point in the learning and facilitated subsequent learning of new pieces. This is also partly the outcome of learning a number of pieces which all used the same or similar patterns.

A second point of development was the student's identification of the teacher's method, and realisation of the links between this and a specific characteristic of Balinese *gamelan* music.

This specific characteristic of the music is *kotekan*, the combination of two complementary parts, known as *polos* and *sangsih*. The *kotekan*, played by the main melodic instruments of the *gamelan*, the *gangsa*, involves complex rhythmic and melodic interplay. Having learnt the *polos* part of a piece, it is possible to predict a related *sangsih* part, or at least to know melodically and rhythmically how the *sangsih* will relate to the *polos* part in the creation of *kotekan*. Alongside the realisation that the pieces being learnt were based on formulaic patterns, and that from these patterns *kotekan* could be constructed, understanding of *kotekan* as a defining aspect of Balinese *gamelan* music became a definable stage in the learning process. Recognition that *polos* and *sangsih* also provided the basis of the teaching style, the immediate aim of which is the ability to play the *kotekan* parts of a piece of *gamelan* music, was also a definable step in the learner's progress; once the teaching style had been identified, the student's ability to learn underwent a developmental change.

Another aspect of the teaching style was its use of musical completeness. While the teaching style necessitated attention to short sections of music, this is horizontally broken up, not vertically. That is, a complete 'chunk' of music is taught, rather than its rhythm being given separately from its melody. In this way, a sense of the whole texture of a piece is conveyed to the student throughout the learning. The idea of completeness also occurs in the choice of teaching material: as noted above, there are no exercises divorced from actual pieces of music. Lessons commence with a simple piece, which presents the student with enough technical factors to cope, but also enough to create a learning problem. Confrontation by completeness of the music, rather than the use of a conceptual atomisation of it as occurs in many Western-style ensembles and classrooms, required the student from a Western background to acquire different ways of learning. In combination with identification of other aspects of the teaching style, cognitive steps at which the teaching style was recognised and assimilated became a stage in the ability to learn more effectively.

It is worth noting that while the student consciously made an effort not to rely on notation as a learning assistance, the teacher identified the use of notation as a way of solving learning problems. In discussing how he overcame students' difficulties he commented on this:

> S: When someone like me has difficulty with kotekan with the rhythms . . . how do you teach that, how do you get around the problems that I have trying to learn this music, because it's difficult for me?
> T: I teach very slowly . . . maybe it's good for me to teach by paper . . . I write the notation . . . but just simple notation . . .

Conclusion

Rather than add to the debate on how types of culturally defined music education can proceed, their problems and possible solutions, this paper has discussed an example of inter-cultural music education for the purpose of identifying ways that culture acts as a parameter in music teaching and learning. These include the effects of the teaching and learning proceeding in the teacher's language; ways in which teaching to native students relies on the expectation that they already 'know' the music; the problems which lack of cultural knowledge engenders for a non-native learner; and links between the teaching style and the music being taught. Considered together, these factors contribute to a culturally defined style of music teaching and learning. Understanding of these issues might have implications for music education which seeks to adjust to student diversity by alerting music educators to a range of culturally shaped ways in which students approach music as an object of learning. This suggests the need for greater understanding of the role of assumed cultural knowledge in music teaching and learning. Extended to music teaching and learning in the widest sense, such a realisation affects all

teaching; not only in the handling of musics from a diversity of geographically or ethnically defined origins, but also in the teaching of Western music, which as Green (2001) shows in her analysis of how popular musicians learn, also consists of different teaching/learning cultures.

As this case study demonstrates, the ability of the student to learn was assisted at various stages by realisation that a teaching style different from that of the student's own learning background and subsequent teaching career was in use. This emphasises the existence of different pedagogical cultures, in which not only methods but also the roles of and expectations placed on teachers and students differ. That both the teacher and student in this case study had adapted their respective pedagogic strategies to accommodate each other's positions demonstrates how they had come to terms in some way with the differing cultural expectations of the situation. By isolating ways in which cultural assumptions of music teaching and learning required the development of pedagogic strategies on the part of both the teacher and the student, inter-cultural music education acts as a means of revealing one way in which learning about music learning, that is musical meta-learning, occurs.

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Alternative Mixes: A Comparative Discussion of the Contemporary Music Programs at Macquarie and Southern Cross Universities

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This paper analyses and compares two successful New South Wales tertiary popular music programs offering a combination of practical and theoretical music study. The Bachelor of Contemporary Music degree at Southern Cross University was accredited in 1997, and was based on a decade of experience in teaching popular music at the university and its forerunner institutions. The degree offers a practical studies double major (with specialisations in performance, composition or music production) together with studies in contemporary music theory, history, technology and business. Students can also create a music major within the university's generic Bachelor of Arts. Macquarie University's Department of Contemporary Music Studies began in 1998 and has experienced rapid growth in enrolments. A popular music major is offered within the Bachelor of Arts, and students choose from practical studies options (e.g. digital music composition, vocal studies, guitar) supported by range of theoretical studies in areas such as popular music culture and "world" music. This paper briefly traces the history of both programs and explores the general aims and philosophies which have informed their creation, then goes on to discuss general issues and compare educational objectives and teaching and learning strategies in relation to a number of areas – including instrumental skills, music notation, music technology, critical-historical and cultural-economic analysis, and music theory. The paper concludes with some comments about graduate career destinations.

Formation of Programs: Brief History

The development of the Contemporary Music program within the Bachelor of Arts at Southern Cross University began in 1984 when Professor Clive Pascoe was appointed as Dean of the School of Arts at the (then) Northern Rivers College of Advanced Education (NRCAE). Professor Pascoe's tenure as Head of the Music Board of the Australia Council made him aware of the lack of educational opportunities within Australia for those interested in contemporary popular music and he envisaged that a contemporary music program at NRCAE would fill a niche in this area and experience strong student demand.

In 1986, Dr Michael Hannan was appointed Senior Lecturer in Music to oversee the establishment of a program based on contemporary popular music styles. In the same year, the Australian Contemporary Music Institute (ACMI) was formed to provide an interface between the music program and the popular music industry. In 1989 a Contemporary Music double major was created within the Bachelor of Arts, and the program quickly began to draw large numbers of applicants from across the country. A generic BA was established in 1993, with Contemporary Music and Visual Art remaining as specialised majors within the BA.

The year 1998 saw the commencement of a new (and still current) specialist degree, the Bachelor of Contemporary Music. This degree was designed to improve standards of musical performance, composition and production through a new practical studies double major

sequence combined with specialised instruction in popular music theory, history and music business. More recent developments have been the accreditation of a five-year Bachelor of Contemporary Music/Bachelor of Laws double degree, and a four-year Bachelor of Contemporary Music/Bachelor of Education (Secondary) combined degree.

The Department of Contemporary Music Studies at Macquarie University, Sydney was formally established in 2001, following two years operation as a smaller administrative unit (a centre) and two years of pilot courses. Contemporary Music Studies at Macquarie emerged out of two initiatives. The first of these was developed within the Department of Media and Communication Studies in 1991. Media lecturer Philip Hayward was interested in developing research and teaching in aspects of contemporary music, and he introduced two undergraduate courses in music video - one a critical/analytical course, the other a practical production course. At the same time, the Department initiated funding and production of a biannual, refereed contemporary music research journal (Perfect Beat) to act as stimulus for academic research in the field and an attractor for postgraduate research music students, the first of whom enrolled in 1993.

In an unrelated move, the university appointed Richard Vella as composer-in-residence in 1992 and established three undergraduate units in music production/performance/study (based in the School of Mathematics, Physics, Computing and Electronics) that ran during 1994-1996. Upon Vella's resignation from the University these units were slated to fold, but the Media Department successfully applied to take them over and ran them from 1997. Drawing on elements of a plan for a Bachelor of Arts major in music drawn up during Vella's period at the university, and substantially re-inflecting this to meet the orientations and philosophies of the Media Department's music co-ordinator Philip Hayward, the BA major in Contemporary Music Studies became operational in 1998, with a series of new courses being added each year since.

Undergraduate Music Units

The current undergraduate music offerings in each institution are as follows:

Southern Cross University

Practical Studies Units
- MUS00497 Introduction to Music Technology
- MUS00641-646 Practical Studies I-VI (Practical Studies II-VI are double weighted and also include ear training, ensemble, computer lab, concert practice etc.)

Music Theory Units
- MUS00620 Contemporary Music Theory I
- MUS00630 Songwriting
- MUS00621 Contemporary Music Theory II
- MUS00622 Contemporary Style Analysis

Music History Units
- MUS00600 World Music Perspectives
- MUS00601 Popular Music Since 1940

Music Business Units
- MUS00610 Music Industry Studies
- MUS00611 Music Business

Electives

- ENE00400 Audio Engineering I
- ENE00401 Audio Engineering II
- MUS00624 Introduction to Vocal Studies
- MUS00623 Functional Keyboard

Macquarie University

- MUS100 Reading Contemporary Music
- MUS102 Passion, Rebellion and Identity in Popular Music

- MUS202 Introduction to Music Technique
- MUS203 Virtual Studio Music Technology
- MUS204 Sound Explorations
- MUS205 Introduction to Vocal Studies
- MUS206 Intermediate Vocal Studies
- MUS207 Guitar Principles
- MUS211 Digital Rhythms & Dance Cultures
- MUS230 African Drumming

- MUS300 VST CD Production
- MUS301 World Music
- MUS302 Music and Multimedia
- MUS303 Screen Soundtracks
- MUS304 Advanced Vocal Techniques
- MUS305 Rock/ Blues Guitar
- MUS306 Pacific Guitar Styles
- MUS311 Digital Music Practice: Mixing and DJ-ing
- MUS315 Introduction to Improvisation in Music

Aims of Programs

The Southern Cross University degree was designed to develop a knowledge and skills base relevant to students interested in careers in the contemporary popular music industry. A major aim of the degree is to produce specialist contemporary music practitioners, and the course follows the template for most "traditional" music degrees – wherein major studies in performance, composition or music production are supplemented by studies in areas such as music theory, musicianship, history, ensembles and computer music. The distinguishing aspect of the degree lies in its specialised focus on contemporary popular music styles (from blues and roots styles to contemporary electronic and alternate rock) rather than classical styles. There is no specified University Admission Index (UAI) entrance score, but students are required to audition for entry and have (at least) a basic knowledge of music theory and notation.

The generic aspects of the degree should also be emphasised. Graduates are familiar with music equipment systems and a wide range of computer applications, and the degree also includes compulsory music business units designed to make the student aware of areas such as recording and publishing contracts, band management, marketing. The program provides something of a "mini music-industry" environment, with performers, composers and producers collaborating on a range of projects, and students are encouraged to diversify their skills and knowledge base through elective studies in areas such as audio engineering – thereby allowing them to consider a range of vocations. Until recently students who wished to become secondary

music teachers continued on to a one-year Diploma in Education. Recently, the Diploma has been replaced by a four-year combined Bachelor of Contemporary Music/Bachelor of Education.

The basic philosophy behind the Macquarie University degree is one that derives from 1980s' European Media Studies, in that it is held that critical-historical and cultural-economic analysis can significantly inform musical creativity and skills development and vice versa. Drawing on this premise, the BA major in Contemporary Music Studies has aimed to produce students with a varied multi-perspectival approach to and understanding of contemporary music. Unlike traditional conservatoria it does not aim to produce skilled specialist instrumentalists and is, in this sense, not vocationally orientated. In another major departure from traditional conservatoria, the BA major is available to students on a UAI score entry alone (currently 86). No Higher School Certificate (HSC) or Australian Music Examinations Board (AMEB) music qualifications are required, and students are not required to audition for entry, nor to have performing skills on traditional analogue instruments. All students who gain entry into the BA programme at Macquarie University are allowed to enrol in the foundation unit "Reading Contemporary Music" (which has a typical annual enrolment of around 200 students) and, provided they pass, can go on to second and third-year studies and production/performance units (if they continue to pass sequential units).

Music technology has been a key element to the program since its earliest days. Second and third year units in digital music production and multimedia are a cornerstone of the BA major, and computer-based technology has proved to be a significant enabler of students who do not have prior musical training. The Department has also established a three-stage vocal studies strand and, more recently, a guitar studies strand. While these obviously involve aspects of more traditional musical training and pedagogy, they have also proceeded without audition and have allowed students to explore and develop their skills in genres they are interested in, from hard rock forms such as "death metal" through to Celtic and Pacific musical styles. The emphasis has been on enabling rather than prescribing.

"Traditional" Instrumental Skills

The two programs differ in relation to the emphasis on traditional "analogue" music skills. In the performance area the Southern Cross University program requires intermediate-advanced levels of practical skills and believes this is consistent with the aim of producing skilled practitioners. It should be noted, however, that general musical ability (aural skills, sense of rhythm etc.) and students' attitude to learning have tended to be better predictors of achievement than entry-level practical skills. Previous classical music training can prove advantageous in areas such as sight-reading and technical work, but classical music's pre-occupation with the notated score and solo performance typically results in serious problems for classically-trained students when they are required to play by ear, improvise, and work with a rhythm section. As Swanwick (1996, p. 21) notes, playing by ear involves high levels of skill, and he argues musicians from non-classical traditions such as Indian, jazz, rock, folk music "have much to teach about the virtues of playing 'by ear' and collective improvisation and composition".

In the areas of music production (live and studio-based) and composition, considerable emphasis is placed on students' familiarity with and attitude to contemporary music technology. At least a basic level of computer literacy and interest in music technology is essential for students joining these majors, since many of the creative activities revolve around the use of digital music technology.

The Macquarie University program completely dispenses with any requirement for pre-existing traditional music training. It is based on the principle that traditional analogue instrumental skills are not necessary or even, in some instances, *appropriate* for aspects of contemporary music making. The program views digital music production – and particularly that which does not use standard instrumental keyboard interfaces – as representing a dynamic new performance/composition medium which can be explored with approaches that are outside the mindset of traditional musical imagination patterns and default modes of performance. The latter sense is one in which it might be considered positive *not* to have a preset musical imagination and skills-base – rather than un-learning aspects of these in order to move on to novel areas and approaches.

This aspect of digital music production links to a fundamental aspect of Macquarie University's pedagogical philosophy. This is that it is the duty of educators to empower and extend the sonic and musical imaginations and abilities of a wide range of students rather than just those who have been trained to express themselves within conventional traditional parameters. This is an extending, inclusive approach rather than a focused exclusive one.

In terms of how the courses work when the two streams of traditional music educated and non-traditional music students join in the classroom and in course assessment exercises, the skills gap is evident in the early units. Traditionally-educated students have a number of conceptual skills to fall back on, even if they don't embrace the new digital approaches on offer. But this gap disappears by the final third-year units, with prior musical experience being largely irrelevant as a predictor of final course marks. The acceleration of learning amongst non-traditional students in fact puts them at an advantage in the mid-stages of their degree studies since the "traditionals" are often finding difficulties in un-learning and opening up to new approaches.

The results of the skills acquisitions and imaginative development can be witnessed on CDs such as Macquarie's recent compilation *DCMS '04* or on the stages of various venues round Sydney where current and former students perform. Southern Cross University has also released a number of student compilation CDs. The most recent of these, *Anticipating Footprints* (2004) is showcased on the contemporary music program's website. Current and former Southern Cross University students are also active performers at regional and national venues.

Notation

Terry (1994, p. 105) argues that "the greater part of music throughout the world is not notated", and it is indisputable that "in the [popular] music industry, untrained or unlearned beginners can achieve spectacularly successful outcomes" (Moorhead, 1999, p. 64). Numerous contemporary music performers across a range of genres (such as electronic music, heavy metal, rap) create, perform and record music without (or with minimal) reference to musical notation.

The Macquarie University program therefore dispenses with any use of standard musical notation in its undergraduate program. Digital music production students use visual/graphic-based compositional and sound editing software. Vocalists, working in a wide variety of genres, learn new material and techniques (and refine their own technique) through listening, imitation, practice and improvisation. When necessary, guitarists use tablature and/or devise their own analytical-notational techniques for techniques such as slide guitar playing. More often than not they learn from watching and hearing and attempting to replicate and/or develop what they encounter. In these approaches, the developing performer-composers, the majority of whom are

not focused on western classical music styles, can be seen to be following traditional approaches to instrumental and vocal learning in oral cultures.

The Southern Cross University program believes that a specialist popular music degree should deal with musical notation. Despite the fact that many popular musicians function entirely without formal music theory and notation, knowledge of theory and notation can enhance the musician's understanding of the art form, open up new areas to explore creatively, and allow for improved communication with other musicians. Most mature working musicians who come to study at Southern Cross University have discovered that a lack of theory knowledge has ultimately impaired their musical progress, and one of the main reasons they choose to study music at university is to develop theory and notation skills. The ability to communicate with other musicians musically in written form can add greatly to the musical experience (in the same way that reading and writing add greatly to the spoken language) and music notation can prove an invaluable aid in assisting the student to assimilate a range of basic music theory concepts. In certain areas (such as instrumental session work, cruise ship performance) competent chart-reading skills are a professional requirement.

It is important, however, that any training in notation is oriented to the practical requirements of the particular idiom, and the music educator should be familiar with the notational conventions associated with specific popular music forms. As Dunbar-Hall and Wemyss (2000, p. 24) note: "To turn a lead sheet into a performance requires mastery of numerous musical skills and knowledge of music theory which the passive observation of a full score cannot teach". At Southern Cross University notated music can therefore take many forms – from a basic chord chart or lead sheet (with chords and melody) to a fully notated score for big band or orchestra. When a popular music style has no notational imperatives (contemporary collage-style electronic composition is a good example) students will submit folio work in recorded form only. Almost a decade ago Terry (1994, p. 107) observed that that "recording technology now allowed composers to by-pass notational limits altogether".

Role and Importance of Technology

Both programs emphasise the importance of music technology in contemporary music education. Macquarie University's digital music units are based around Apple Mac computer hardware (regularly updated during the program's existence) and have relied principally on Cubase compositional software and a variety of multimedia applications. The Southern Cross University computer music lab uses Emac computers together with Cubase, Protools and Reason compositional software. The program also has numerous multi-track recording studios employing a range of digital and analogue equipment, and also stresses the importance of live concert sound production.

Digital music production was conceived from the outset as the core performance/production facility and activity within the Macquarie University program. Vocal studies students are taught to use technology (for performance and recording) as a core aspect of their undergraduate vocal studies and, similarly, guitar students are introduced to recording and postproduction.

Southern Cross University is in the process of reviewing its music technology curriculum in response to a recent (2004) course review, with a view to further emphasising the importance of technology within the program. This will be done through strategies such as prescribing more compulsory digital music content, providing more flexible pathways through the curriculum and better integrating digital composition and production. It also makes also good sense that musicianship training relating to electronic music be extended to include the identification of

elements of musical production, such as effects, stereo panning and aspects of the sound mix. Similarly, musical analysis can make effective use of contemporary technology. As work such as Robison's (2002) study of electronic collage-style composition has demonstrated, audio-visual representations of the various grooves used as building blocks within loop-based electronic music compositions can provide considerable insight into this type of creative work.

Critical-Historical and Cultural-Economic Analysis

Another important aspect of the Macquarie University philosophy is that critical-historical and cultural-economic analysis should be a central concern for all music students, and not just treated as an extra and/or elective element added to production and performance. This conviction rests on the perception that music is not a sphere of activity that exists outside of ideology, culture and economics, but rather is one fundamentally determined by and reflective of these aspects. This is not conceived of in the crudely reductionist manner of mid-late twentieth-century Marxist analysts - where every tune is a stitch in the fabric of class conflict - but rather a more complex holistic model. In this regard, music is regarded as a cultural product produced by cultural work, and its pleasures are those produced by real world processes rather than "divine interventions" (remembering *Facing the music*, the documentary on Sydney University's Music Department released in 2002) or the actions of virtuoso-geniuses.

Macquarie University music units thereby analyse economic and sociological aspects, the influence of drugs, religion and belief on various music forms, particularities of geographical and linguistic contexts. Music is always carefully placed, rather than regarded as free-floating aesthetic activity.

The Southern Cross University program follows a more traditional approach in offering discreet practical units and cultural perspectives units, with the latter delivered by staff with special interests in this area. It should be noted however that, as a dynamic creative contemporary music environment, the music program sees ongoing lively (at times heated) debate about cultural practice in contemporary society. Students tend to have strong opinions about the contemporary music environment and the place of their creative practice within this environment. Over the past decade or so, the program has also had a small number (up to ten in a given year) of international music major students - from countries such as Malaysia, Japan, Thailand, Sweden, UK, and USA. These students make a significant contribution to the understanding of cultural diversity within the program. Music students are also able to take electives through the College of Indigenous Australian Peoples, and the World Music Perspectives lecturer - Carl Cleves - is an international touring musician who has lived in Brazil, Europe and West Africa, and is a passionate advocate for the consideration of music in its cultural context.

Music Theory

The Southern Cross University program believes that music theory instruction is essential for degree students, and the course structure includes four compulsory theory units. It should be noted that numerous authors have pointed out the inappropriateness of any whole-sale adoption of techniques developed within Western classical musicology. For example, Middleton (1990, p. 104) contrasts the "rich vocabulary" available in classical musicology to describe harmony, with the "impoverished vocabulary" applicable to aspects such as rhythm - an important element in much popular music. Middleton (1983, p. 258) also cites the concept of riff structures, which are not referred to in the language of traditional musicology, but which form an integral part of many African-American influenced popular songs. McClary and Walser

(1990, p. 281) argue against the "obsession with pitch organization" which is often displayed by music analysts, while Schwartz (1993) notes the inadequacy of conventional notation for portraying some of the subtle nuances of popular music.

Accordingly, theory units at Southern Cross University have been purpose-designed, and differ significantly from classical models by illustrating concepts through popular music styles, and covering areas of relevance to popular styles but not covered in traditional theory. The first semester program is based around a text designed especially for the program (Fitzgerald, 1999/2003) and used by a number of tertiary and secondary programs in Australia and overseas.

The Macquarie University program acknowledges that traditional music theory is important as a resource for areas of traditional music practice but does not concede that the only way to mastery of particular skills is through traditional theoretical ways of approaching them or standard modes of learning. The program nevertheless concedes that if a student wishes to be an analogue arranger within traditional western music styles, knowledge of the traditions (and traditional estimations of competence) associated with these styles is the best way to become established as a professional practitioner in these areas. In that sense non-traditional music education tends to limit students to certain genres and approaches – just as the reverse is true.

Graduate Careers

Students who have studied in the Contemporary Music program at Southern Cross University have been successful in diverse areas of the music industry. Some notable examples include Joe Hansen (Grinspoon), Warwick Scott (Skunkhour, producer and owner of Maxitone Studios), Sam Hawksley (professional touring guitarist and singer-songwriter), Dave Sanders (session and touring drummer), Rose Pearse (manager of Secret Street Record label and former general manager, Music NSW), Cathy O'Brien (intellectual property lawyer, formerly with ARIA), Ramesh Satiah (SongZu). Dr Michael Hannan, Associate Professor in the contemporary music program, is the author of The Australian Guide to Careers in Music (2003), a comprehensive coverage of music career options. Table I provides some examples of known career pathways for Southern Cross University graduates.

While no formal student career follow-up surveys have yet been mounted, due to the relative youth of the program, anecdotal evidence and personal communications indicate that students who have completed a BA major in Contemporary Music Studies at Macquarie have entered areas such as music publishing, tertiary and private music teaching (although not high school, since there is no formal teaching program in this area) freelance production and performance work and the common split career (occasional gigging combined with some other form of other part-time work) that is endemic to the performance sector.

Note: The historical notes on the Southern Cross University program presented in the first section of this paper are adapted from notes originally written for the program's website by Associate Professor Michael Hannan.

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Table 1

Examples of Southern Cross University Graduate Destinations

Original band, Solo recording artist, Electronic dance music composer/recording artist, Music theatre composer, Screen composer, Radiophonic artist , Musical theatre composer, Screen composer, Interactive multimedia composer, Advertising music composer, Actor/ TV presenter, Children's music performer and recording artist, Folk performer and recording artist, Backing musician/Session Musician, Defence force band musician, Cruise ship entertainer, Artistic director of community music company, Musical theatre/cabaret performer, Piano bar performer, Record producer, Television producer, Production company manager, Production company employee, Programmer, Recording engineer, Mastering engineer, Recording studio manager, Freelance live sound engineer, Sound designer, IT consultant, Graphic designer, Sound designer (film), Film postproduction, Music lawyer, Booking agent, Artist manager, Independent record label manager, Independent record label marketing manager, Music store owner/manager, Manager of a music industry service organization, Owner/manager of a music teaching business employing teachers, Director of a Conservatorium Center, Full-time high school music teacher, Arts education Consultant, TAFE institute teacher, TAFE institute head teacher, Full-time university music academic, University/TAFE administrative officer, University/TAFE technical officer (AV), Instructional designer.

The Impact of Music Education on Children's Overall Development: Towards a Proactive Advocacy

Dr Noel Geoghegan, *University of Southern Queensland*
Ms Janine M. McCaffrey, *University of Southern Queensland*

Children aged 3-5 years display natural ability in musical intelligence. Gardner (1983) has stated that of all the gifts with which individuals may be endowed, none emerges earlier than musical talent. Assisting young children to develop this early intelligence enables them to use and develop their natural strengths and build on positive experiences to channel into less dominant areas of intelligence.

Teaching music to pre-school children has tended to focus on a random activity approach. Such an approach may be playful and enjoyable for the child, but the curriculum is often fragmented and lacks a well-defined, organised curriculum plan through which to guide children's development. Pre-school education endeavours to consider the whole child in terms of developing intelligence, personality, competencies and social-consciousness. If music is to be a central focus of learning in the early years, it must not be entirely directed towards music outcomes, but aimed at the development of the whole child. Early childhood programs based on musical play allow the child to develop a whole range of skills which are much broader than a pre-academic program.

Richard Gill, one of Australia's leading music educators, has noted that serious music education in schools is under threat (2003). There is a dumbing-down in the approach to music, which, he says, favours "fun-filled transient musical moments" over a structured and disciplined education. Although there have been outstanding pioneers in the field of music education, music advocacy in Australia lags well behind that of the United States. A more proactive approach is required in lobbying politicians and in this respect the U.S. experience is helpful.

For the last 30 years behavioural sciences, not the biological sciences have dominated the epistemological agenda. This limitation no longer applies, because a scientific understanding of the brain and mind has been revealed through empirical research which is readily available, showing that music training in early childhood enhances spatial-temporal reasoning.

This paper explores, with reference to multiple intelligences theory, the impact of early music education on a child's overall development, but especially on cognition and spatial-temporal reasoning. Music advocacy in Australia will be discussed, with a view to encouraging a change in the present perception of music as an exclusively fun experience for children. Brain research and current childhood education indicate the type of music experiences that impact brain development. These two sources have shown that active engagement, not passive response, is what changes brain development.

Three Major Developments

In recent years, three major developments have strengthened music educators' position in

promoting music as a curriculum subject.

- The extensive amount of brain research, using music to understand human brain functioning;
- Howard Gardner's "Theory of Multiple Intelligences," providing a model of human intelligence for educational reform that gives music a significant place in the development of educational programs; and
- Research of Frances Rauscher, Gordon Shaw and colleagues at the University of California, Irvine on "The Mozart Effect" that showed a causal relationship between music and aspects of intelligence.

Brain Research

While the Mozart Effect has been promoted via the media with an excess of hype, and often misleading reports, causing considerable scepticism, the *Reviewing Education and Arts Project* (REAP) Report, carried out by the Graduate School of Education at Harvard University, (of which Howard Gardner was a Project Director) has supported Rauscher and Shaw's work.

A study published in *Science* in 1995 reported that musicians who learned to play string or keyboard instruments before adolescence appear to have larger areas of the brain devoted to touch perception of the fingers. The journal *Neuropsychologia* (1995) reported that research done by Dr. Gottfried Schlaug of the Beth Israel Hospital in Boston, Massachusetts, who is himself a musician as well as a neurologist, shows a physical change in the brain structure in people who started music training at an early age. He reported that a bundle of nerve fibers called the corpus callosum, which carries signals between the two brain hemispheres, is about 12 percent thicker among keyboard players who started training before the age of 7, compared to keyboard players trained later, or to non-musicians. Sharon Begley's article, "Your Child's Brain..." in *Newsweek* (1995) reported that researchers at the University of Konstanz in Germany had evidence that exposure to music rewires neural circuits.

At the International Alliance for Learning Conference (1997) called "Unleashing the Brain's Potential" in San Antonio, Texas, the majority of the presentations focused on the use of music to accelerate learning, as initially developed by Dr. Georgi Lazanov, and now used throughout the world as an important educational methodology, to optimize memory and other cognitive processes. Educational Listening Centers around the United States utilizing the research of Dr. Alfred Tomatis, use the music of Mozart as a vehicle for remediating audiological and neurological dysfunctions and facilitating higher levels of brain function.

Multiple Intelligences (Howard Gardner)

Of equal importance in understanding the role that music can play in education is the work of Howard Gardner, a cognitive psychologist from Harvard University, who developed a "Theory of Multiple Intelligences." In his *Frames of Mind: The Theory of Multiple Intelligences* (1983), he first challenged the commonly held practice of categorizing people by single measures of intelligence and proposed that there are seven basic intelligences.

In 1991, Gardner published *To Open Minds* and in 1993 *Multiple Intelligences: The Theory in Practice* updating the theory to reflect developments in his thinking. In *Multiple Intelligences in the Classroom* (1994), Thomas Armstrong describes Gardner's seven basic intelligences as a framework for educational practice. An eighth intelligence - naturalist: the ability to recognize

species of plants or animals in one's environment, was added by Gardner in 1997. More recently (1999), he added a ninth intelligence, existentialist intelligence related to learners who show sensitivity and capacity to tackle deep questions on human existence.

- Linguistic intelligence: The capacity to use words effectively, orally or written
- Logical-Mathematical Intelligence: The capacity to use numbers effectively and to reason well
- Spatial Intelligence: The ability to perceive the visual-spatial world accurately and to perform transformations upon those perceptions
- Bodily-Kinaesthetic Intelligence: Expertise in using one's whole body to express ideas and feelings and facility in using one's hands to produce or transform things
- Musical Intelligence: The capacity to perceive, discriminate, transform, and express musical forms
- According to Gardner musical intelligence runs in almost structural parallel to linguistic intelligence
- Interpersonal Intelligence: The ability to perceive and make distinctions in the moods, intentions, motivations, and feelings of other people
- Intrapersonal Intelligence: Self-knowledge and the ability to act adaptively on the basis of that knowledge
- Naturalist Intelligence: refers to the ability to recognize and classify plants, minerals, and animals, including rocks and grass and all variety of flora and fauna
- Existentialist Intelligence: Relates to students who show sensitivity and capacity to tackle deep questions on human existence. This intelligence is considered to be within the discipline of philosophy.

At the *Music as Intelligence 1996 Conference* in New York, Gardner identified a primary concern for the application of his theory: "MI [Multiple Intelligence Theory] is not a goal, as in 'I teach MI'." Rather, he explained, "it is a good tool, a technique, a technology for the study of evolution, a 5 year-old's mind... It answers questions about new discoveries. The power of MI [is that] you think about something in many ways, at different entry points . . . there are many ways to show what you know . . . MI is a powerful tool in understanding connections" (p. 1).

In the January 1997 *The American School Board Journal* article, "The Musical Mind," Gardner, a musician himself noted - "I was a studious child who gained much pleasure from playing the piano; music has remained very important throughout my life" (2003) was quoted as saying that music might be a special intelligence which should be viewed differently from other intelligences. He stated that musical intelligence probably carries more emotional, spiritual and cultural weight than the other intelligences. But perhaps most important, Gardner says, is that music helps some people organize the way they think and work by helping them develop in other areas, such as math, language, and spatial reasoning.

In response to the question, "Can MI save music in the schools?" Gardner explained that "music versus basics doesn't make the case. We need to change the rhetoric. Answer the hard questions. Do our homework" (p. 1). Using a popular analogy, he suggested that music be considered as the client and the school administration as the jury. Supporting arguments include the degree to which music contributes to the economy, the degree to which research studies demonstrate the efficacy of music education, and the relationship between "function and economics versus caring"(p. 1). Gardner urged the audience to take "the rhetorical high ground," reiterating his position on the importance of music in the early years. He suggested that "music may be a privileged organizer of cognition, especially among young people."

It is believed that music may help children develop positive beliefs and experiences regarding learning (Nadon-Gabrion, 1984), and increase performance IQ scores through song play (Gromko & Poorman, 1998). Music instruction also seems to facilitate mathematical

ability (Cheek, 1999; Gardiner, Fox & Knowles, 1996; Geoghegan & Mitchelmore, 1996; Geoghegan, 1995; Geoghegan, 1993); Martin, 1995, Rayl, 1995), as well as language acquisition and retention (Chan, Ho, & Cheung, 1998).

Music, the Brain, and Its Synapses

Weinberger (1998) asserted that as long as educators and parents view music as relatively unimportant, schools will continue to adopt a take-it-or-leave-it philosophy. But because musical competency is part of our biological heritage - part of human nature - it should not continue to be treated as a frill. In addition, when the benefits of music for brain development are considered, the act of reducing or even eliminating music from the curriculum becomes indefensible. Weinberger further notes that learning and performing music actually exercise the brain - not merely by developing specific music skills, but also by strengthening the synapses between brain cells. Literature in neuroscience now strongly supports the conclusion that synapses grow stronger through use and become weakened through disuse.

The major functional systems of the human brain (Weinberger, 1998) which depend on synaptic strength are:

- The sensory and perceptual systems: auditory, visual, tactile, and kinaesthetic;
- The cognitive system: symbolic, linguistic, and reading;
- Planning movements: fine and gross muscle action and coordination;
- Feedback and evaluation of actions;
- The motivational/hedonic (pleasure) system; and
- Learning memory.

Dr. Gordon Shaw, a physicist and brain researcher at the University of California-Irvine claimed that the 1990s would be known as the "decade of the brain." His own research has opened fruitful avenues into how the brain functions. Shaw's work has led him to posit that when the brain does certain tasks related to learning and memory, it reflects a structure that is, for all intents and purposes, "musical" in its form, shape, and timing. By using music, Shaw believes, we can examine higher creative and learning functions in new and potentially more productive ways.

Richard Voss at IBM's Thomas J. Watson Center has found that nearly all music shares a simple mathematical formulation that expresses how notes change in pitch over the course of a musical work. This same mathematical relationship is found in a wide variety of other natural patterns, including the changes in the electrical patterns of brain cells, the fluctuations of sunspots, and the growth of tree rings. As a living organism our brain is, it seems, "built" to learn, and where music offers a structural analogue to the learning process, it can and should be tapped into at the earliest possible age and used to the greatest possible extent. To ignore the significance of that for pedagogy would not only be foolish, it would be tragic.

What musicians know experientially and intuitively, scientific studies on the brain, intelligence and music are confirming that we hold in our hands as music educators a powerful tool, a key that may unlock the door to developing the great potential residing in the human brain (c.f. Zatorre, 1999).

Mozart and Spatial Temporal Reasoning: More Than Just Music

While it is understood that music education can have an important impact on musical intelligence, a significant amount of research is accumulating to support the impact of music education on all intelligences. Historically music education and music therapy researchers have provided clear evidence that music and music education does have a measurable impact on

individuals. However, it was the research efforts of Frances Rauscher (now at the University of Wisconsin, Oshkosh), Gordon Shaw and colleagues, at the Center for the Neurobiology of Learning and Memory at the University of California, Irvine dealing with the causal relationship between music and spatial task performance (Spatial Temporal Reasoning) that resulted in the creation of the term "The Mozart Effect."

In 1993, the first report of a causal relationship between music and abstract reasoning was published. It supported the view that listening to music can improve the ability to perform complex tasks of spatial reasoning. Frances Rauscher, Gordon Shaw and Katherine Ky (*Nature*, 1993) gave college students standard tests of spatial reasoning after they had experienced each of three conditions for 10 minutes: listening to Mozart (sonata for two pianos in D major, K448), listening to a relaxation tape, or silence. Performance was significantly better after listening to Mozart than for the other two conditions. The authors selected Mozart because they believed that its musical structure facilitates cognitive processing in the brain and predicted that music which lacks sufficient complexity or is too repetitive would interfere with abstract reasoning.

In 1995, Rauscher and other researchers replicated and extended their findings concerning the Mozart Effect and reported the results in *Neuroscience Letters*. In the most recent study, they used the same task as in their first experiment but extended the types of listening experienced. Seventy-nine college students were divided into three groups: silence, the same Mozart as used in the 1993 study and a work by Philip Glass. Only the Mozart group showed a significant increase in spatial IQ score.

Rauscher and Shaw developed their research based on a neurobiological model that posits that music will enhance higher brain functions. There are certain synaptic connections being made through music training that are similar to those required for abstract and spatial reasoning.

REAP Report

The *Reviewing Education and Arts Project* (REAP) conducted by a team including Howard Gardner, Lois Hetland and Ellen Winner at Harvard University involved a comprehensive search of all studies from 1950-1999 that have tested the claim that studying the arts leads to some form of academic improvement.

The authors of the REAP report have drawn attention to the dangers of using instrumental claims to strengthen the position of the arts in US schools. If the arts are given a role in our schools because people believe the arts cause academic improvement, then the arts will quickly lose their position if academic improvement does not result, or if the arts are shown to be less effective than the 3Rs in promoting literacy and numeracy. "Instrumental claims for the arts are a double-edged sword" (Hetland & Winner, 2001, p. 1).

The findings of the REAP report made it clear that, even in cases where arts programs add value to non-arts academic outcomes, it is dangerous to justify arts education by secondary, non-arts effects. Doing so puts the arts in a weakened and vulnerable position. Arts educators must build justifications based on what is inherently valuable about the arts themselves, even when the arts contribute secondary benefits. "We must not allow policy makers to justify (or reject) the arts based on their alleged power to transfer to academic subject matters" (Hetland & Winner, 2001, p. 4). Hetland and Winner see justifying the arts instrumentally as a dangerous and peculiarly American practice. The arts are a fundamentally important part of culture, and an education without them is an impoverished education leading to an impoverished society. Studying the arts should not have to be justified in terms of anything else. The arts are as

important as the sciences: they are time-honoured ways of learning, knowing, and expressing (Hetland & Winner, 2001, p. 4).

While there has been some strong criticism of the REAP report, there has been some positive news for music. REAP found that, out of 10 areas analysed, three areas demonstrate clear causal links between the arts and achievements in a non-arts, academic area. Two of these three areas were related to music, and reliable causal links were found between:

1. Listening to Music and Spatial-Temporal Reasoning
   Although the existing research does not reveal conclusively why listening to music affects spatial-temporal thinking, evidence for a causal link between these two dimensions is very positive. Hetland and Winner (2001 p. 2) claim the finding has little importance for education, since improved spatial-temporal reasoning after listening to music is temporary, rather than long-term. However, scientifically, the finding is of interest because it suggests that music and spatial reasoning are related psychologically (i.e. relying on some underlying skills) and perhaps neurologically (i.e. relying on some of the same, or proximal, brain areas). Remarkably, there now seems to be clear evidence for a "Mozart Effect" (Hetland, 2000).

2. Learning to Play Music and Spatial Reasoning
   The link between these two dimensions was greater when standard music notation was learned, but the causal link between learning to play music and spatial reasoning was found even when standard notation was not used. The value of this result, for education, is that the link between learning to play music and spatial reasoning applies equally to both general and at-risk populations, costs little to the school (since it is based on standard music curricula), and influences many students. However, spatial skills may or may not be of benefit for students, depending upon whether learning in subjects such as maths or geography, offers students chances to apply spatial abilities.

USA Advocacy

Following the initial enthusiasm for the Mozart Effect, there appeared in the USA media unsubstantiated data and anecdotal reports, to the effect that music was the new magic silver bullet to advance children's academic abilities. Following this euphoria, a healthy scepticism has developed, particularly with the publication of the *REAP* Report in 2001. Since its publication, significant articles have appeared in American educational journals such as the *Arts Education Policy Review* signalling a new reality for advocacy.

While reliable scientific research does show that the study of music does correlate with high academic achievement, there is a danger in promoting music education solely on an instrumental basis. Scholars in the USA have recently been more vocal in advocating the *inherent values* of the arts, and in particular music. Instrumental advocacy, as noted earlier, has been shown to be "a two-edged sword."

Hope (2001) notes that if we are too essentialist, an arts discipline becomes isolated; if we are too instrumentalist, the power of the discipline itself is dissipated or lost. The question which needs to be posed is: *Where on the spectrum between pure essentialism and pure instrumentalism will our specific music in education program occupy?*

Currently in the USA, many justifications are tied to instrumentalities, for example, that involvement with music can raise SAT scores. While it is true, it tempts us to create and use a reasoning that tends to invert values. It makes high scores on the SAT the reason for studying

music. This inversion happens to be particularly dangerous because the highest correlation between a body of study and SAT scores is foreign languages (Hope 2003). Students who study four years of a foreign language in high school score significantly higher on the SAT than those who study music. If improving SAT scores is the goal, it is easy to argue that music and the arts should be taken out of the schools, and time devoted instead to the study of foreign languages.

This particular set of facts shows the danger of overemphasizing instrumentalist arguments: *it shows how easy it is to advocate for music in the short term in ways that place at risk the study of music in the long term.* It is necessary to have daily effort in the schools, led by qualified teachers who have high artistic credentials.

Hope (2003) sees a unique role for institutions of higher education, which have a opportunity to bring the community of interested parties together. They teach performance, composition, musicianship, history, and so on. They also have expertise in music education; many have community schools and therefore experts who create a natural community working on behalf of music and the education of children and youth.

Summary of Perspectives from the USA

- the need for balance between essentialist (inherent values) and instrumentalist approaches;
- the need for integrity in advocacy to ensure that the long term requirements for music education are not sublimated to a short-term gratification in a culture where *learning* has been replaced by *winning*;
- the need for integrity to ensure that the efforts of professional advocates whose interest in winning resources, time, recognition, or whatever is perceived to be at stake, do not take precedence over the aims of music's educational efforts;
- potential role for tertiary institutions in bringing the community of interested parties together should not be underestimated.

Australian Advocacy

As of 2004 Australian music education appears to be in a favourable situation vis-à-vis government support. Following the valuable research commissioned by the Music Council of Australia (MCA) in collaboration with the Australian Society for Music Education and co-funded by the Australian Music Association (AMA) and the Australia Council, *Trends in School Music Provision in Australia* (July 2003), reports that there is little information available on the provision of school music education.

In May 2004, the Australian Federal Government announced that it will commission a National Review of School Music Education to investigate the quality and status of music education in our schools and how we can increase both for the benefit of all students. Dr Nelson (Federal Minister for Education, Science and Training) said:

> An early understanding and appreciation for music can play an important role in the development of a student's other learning competencies, often inspiring an interest throughout their lives.

In March 2004 in Sydney, *Music. Play for Life* was officially launched. The campaign was jointly launched by Dr Richard Letts (Music Council of Australia), Brendan Callinan (Australian Music Association) and Dr Neryl Jeanneret (Australian Society for Music Education) as the core campaign partners, in the presence of Dr Brendan Nelson and Senator

Rod Kemp, (Federal Minister for the Arts and Sports).

Recently, a proactive stance has been taken by the AMA and Madison Public Affairs, who together are implementing a detailed action and communications plan, whose focus is:

- To inform government and alternative government decision makers of the values and benefits of an education in music; and
- To partner government and alternative government decision makers to create good public policy that will advance participation in active music making and music education.

With the recent (February, 2003) private member's motion of Christ Pearce MP, it is hoped that "with care, hard work and good will we can put music education 'front and centre' on the arts and education agenda." It is, however, possible to do work in education and around education, and to talk about music in education, all without ever supporting the teaching of music itself.

Richard Gill (2003) noted that the current status of music education is reflected in the national trend towards integrated arts in the primary school system "taught in the main by willing and earnest teachers who are strong on sincerity and short on certitude." He notes:

> We need to be reminded that the arts function differently and therefore have different functions. Music functions in the abstract, requires specialised handling and teaching, early study where possible, a systematic approach to amassing factional information, and its own form of integration – that is, an aurally based approach which combines all of the elements in a united musical way.

His proposed strategy would recognise minimum standards in music education and assert the right of every child to a properly trained and thoroughly prepared music teacher; aim for the study of musical tradition and the canon of Western art music, while also seeking a balance in the types of music studied in a clear and concise curriculum; help identify gifted students; and, give every primary-school student seven years of an intense and rigorous musical study under the tutelage of expert teachers. While this is indeed the ideal, and one to be advocated, it may be that in accepting a government support "package" the integrated approach will, for most students, provide the *status quo*.

Advocacy efforts generally focus on convincing people of the need to support (or support more adequately) the status quo. Where change is needed, this is not necessarily a desirable state of affairs. The question is: do we advocate for keeping the status quo, or the harder road of music education taught by music professionals in schools as part of every child's right to a quality music education?

Early Childhood Music Education

Teaching music to preschool children has tended to focus on a random activity approach. While such an approach may be playful and enjoyable for the child, the curriculum is often fragmented and lacks a well-defined, organised curriculum plan through which to guide children's development. Pre-school education endeavours to consider the whole child in terms of developing intelligence, personality, competencies and social-consciousness. If music is to be a central focus of learning in the early years, it must not be entirely directed towards music outcomes, but aimed at the development of the whole child.

A vast window of learning opportunity occurs between the ages of six months and six years, long before students are of school age. While brain research is not the elusive "magic silver bullet" that will solve all education problems, the following research needs to be given serious consideration:

- Preschoolers who studied piano performed 34 per cent better in spatial and temporal reasoning ability than preschoolers who spent the same amount of time learning to use computers (Rauscher & Shaw, as reported in *Neurological Research*, February 1997). Preschoolers who took singing and keyboard lessons scored 80 per cent higher on object-assembly tests than students at the same preschool who did not have the music lessons (Rauscher & Shaw, as reported in *Symphony* Sep.-Oct. 1996).

- Students in two Rhode Island elementary schools given a sequential, skill-building music program showed a marked improvement in math skills (Gardiner, Fox, Jeffrey, & Knowles, as reported in *Nature,* May 1996).

- After eight months of keyboard lessons, preschoolers demonstrated a 46 per cent boost in their spatial reasoning IQ (Rauscher, Shaw, Levine, Ky, & Wright, 1994).

Both brain research and current childhood education indicate the type of musical experiences that impact brain development. These two sources have shown that *active* engagement, not passive response, is what changes brain development. Any changes in brain structure that have been reported in adult musicians appear to be related to the level of usage, with the active making of music as the defining factor.

Therefore, when developing activities in music, it is important to recognize that providing music for entertainment or for passive listening may serve to change the mood or emotional climate, but these strategies should not be viewed as significant pedagogy for enhancing music learning (Fox, 2000). Parents, caregivers, and teachers should involve children in active and expressive modes of music making, singing moving, and playing instruments. Listening activities should be designed to actively engage the children, through attention to sounds and the changes in sound as they occur, in much the same way that babies learn language through models of interaction.

As noted above, a vast window of learning opportunity occurs between the ages of six months and six years, long before students are of school age. If instruction only starts when children enter school, a unique opportunity is missed.

Theory-Building to Advocate for Music Education

Identifying the values of music education is important for framing agendas in arts research and arts advocacy. Smith (2001) notes that these agendas must emerge from theories and debates about potential research and advocacy directions that have controlling guidelines. Three potential areas for building theory for music advocacy have been identified by Wright (2002). While an in-depth discussion is beyond the scope of the present paper, the following issues are offered for consideration:

- One theory-based issue could be to conduct an analysis of what actually happens in schools when arts are given a prominent role (Hetland & Winner, 2001). The music community could provide leadership in policymaking in music education by carrying out ethnographic studies of exemplary schools that grant music a serious role in the curriculum.

- A second theory-based issue that could assist in advocacy of music education could be related to the REAP finding of the link between music (listening/playing) and forms of spatial reasoning. The finding has powerful implications for justifying music for its inherent power – for its capacity to enhance underlying skills and use specific brain functions in ways not available through other subject areas.

- A third area of research, one that is highly relevant to brain development and could have strong implications for music education, is the theory that musical behaviours have deep biological roots (Weinberger, 1998). The underpinning argument here is that music behaviours are revealed early in life (e.g. at prenatal, neonatal and infant stages) before cultural factors achieve a strong influence.

While the music advocacy agenda is much broader than time allows here, (see Music Council of Australia advocacy in Appendix), the following summary is offered as a starting point.

Summary of Advocacy in Australian Context

To advocate with integrity in the Australian context, it is necessary to:

- Find a balance between essentialist and instrumentalist viewpoints. Advocating for music in education purely on the basis of the other academic benefits it provides has been shown to be dangerous. Handing over music advocacy to professionals, should not indicate abdication of responsibility: there is a need to ensure that advocacy professionals do not opt for short term wins which do not benefit the long term goals of music education.
- Encourage dialogue and collaboration between neuroscientists and music educators.
- Advocate for music professionals in preschools and ensure that early childhood music programs are at the centre of curriculum and simply not only random fun activities and direct advocacy efforts to this end.
- Take collaborative action to develop potential roles for tertiary institutions as a catalyst in bringing the community of interested parties together should not be underestimated.
- Develop a national standards curriculum for school music, identifying a common body of musical knowledge that should be accessible to every Australian child.

Conclusion

It has been said that music teachers are not articulate about their craft. Intuition has worked well in many instances but has left music educators without the ability to articulate their craft to others. Lack of scientific knowledge has put music educators at the mercy of lay boards and politicians who have sometimes made decisions that are unrelated to what teachers know is best for students.

While brain research is not the elusive "magic silver bullet" that will answer all the education problems, new research offers educators an unparalleled opportunity for building a scientific foundation for educational practice which will allow educators to make more informed decisions. However, it is essential that music educators take advantage of this research. It is hoped that a forum for dialogue and future collaboration will be developed for the benefit of music educators and neuroscientists. Scientific research is not needed to justify music, but rather may be able to shed more light on why music justifies itself in the minds and hearts of people over time. Such substance, revealed and generated by both science and music, is a much safer place for music education than any bubble.

It is important to note that there is much in the research that confirms what experienced educators have long known and used in their classrooms. What the research adds for these practices is an understanding of why certain procedures or strategies work so that music educators no longer have to operate entirely intuitively but can articulate and explain the rationale for what they do.

As noted earlier, science is at the edge of an infinitely complicated issue as it uncovers indicators about the nature of musical intelligence and its connections with other kinds of intelligences. This intricate relationship is not a bubble. It is a highly complex, physiological, psychological, and spiritual system.

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Appendix

Extract from MCA Music Policy Position for the 2004 Federal Elections

Music Education

a) Give positive consideration to immediate practical support for the recommendations of the current Ministerial Review of music education in schools, when they appear.
b) Ensure the provision of compulsory music education taught by musically and pedagogically competent teachers for all Australian children aged 5-12.
c) Provide Commonwealth funds to support music specialists in government primary schools.
d) Ensure that tertiary education institutions are providing high quality training for specialist primary and high school music teachers and for primary general teachers.
e) Explore the means of requiring education departments to collect adequate data about their provision of music education programs in schools so that achievements can be known, deficiencies identified and policies can be developed on a basis of fact.
f) Coordinate the development of a national standards curriculum for school music, identifying a common body of musical knowledge that should be accessible to every Australian child.
g) Provide the mechanism for the identification of the talent potential of very young musicians in all areas of music.
h) Recognise the extra costs required internationally to train concert artists in conservatoria, because of the need for individual instruction in instruments or voice. Make special provision to cover these costs. Do not put Australian artists at an educational disadvantage in competition with foreign artists.
i) Recognise the need to train and develop contemporary musicians to be competitive in the international music industry.
j) Move to recognise artistic production as research, in the internal funding assessments of the universities and in the external research funding assessments of the Australian Research Council. Introduce artistic work categories in the National Research Data Collection.
k) Provide Commonwealth funds to support community-based music education initiatives.
l) Provide Commonwealth funds to support music teaching in regional and rural Australia.
m) Encourage the expert provision of music in preschool education programs.