Playing with understanding: constructivist instrumental learning strategies

by

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Statement of Authentication

The work presented in this thesis is, to the best of my knowledge and belief, original except as acknowledged in the text. I hereby declare that I have not submitted this material, either in full or in part, for a degree at this or any other institution.

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Jan Thorp
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Abstract

Playing with understanding: constructivist instrumental learning strategies

This study investigates a constructivist approach to studio instrumental teaching and learning for students identified as having a limited musical background. Such limitations may include a lack of early musical experiences such as singing in the family, not having parents that currently play instruments, a lack of consistent classroom music experience (Stevens, 2002), and a lack of exposure to live performances and CDs. Students who are good workers and performers but with limited musical backgrounds, may not fully understand basic musical concepts and this lack of understanding can be a major barrier to learning. The premise for the study came from my own experiences and observations teaching instrumental music for over 35 years both in public and private schools and my own music school which has over 100 pupils and 10 teachers.

The study focuses on the case studies of four students aged 8-14 years, and their teachers, in a private instrumental music school. There are two wind players and two string players - all with limited musical backgrounds. The study uses an action research approach in which constructivist strategies were adopted to apply the learning and understanding of musical concepts to their playing. Data was collected through videoing lessons, interviewing teachers throughout the study, interviewing students throughout the study, accessing notes of students and teachers from practice books and study workbooks, and observing participants’ preparation and performances unassisted to demonstrate their application of concepts learnt.
As a finding relevant to teachers, the study noted that a less experienced teacher found this method with its use of video very difficult. The study found that the students were able to use the understanding gained from the constructivist strategies in their own solo playing and apply them to ensemble playing. They were able to gain understanding of the process of learning an instrument and creating music, apply it to their own performance and then use this new knowledge to lead a group of players to create a chamber recital. This is best demonstrated in one of the wind playing students, the flautist, who, after some months in the program, was able to train a woodwind ensemble to perform very creditably. These findings suggest that lack of background in music can be overcome by carefully designed teaching and learning strategies which enable students to create and manage their own learning and performing.
Chapter 1- Introduction

This study investigates a constructivist approach to studio instrumental teaching and learning for students identified as having a limited musical background. Such limitations may include a lack of early musical experiences such as singing in the family, not having parents that currently play instruments, and a lack of consistent classroom music experience. The impetus and focus for the study come from my own background and observation of students with limited musical background who learn an instrument at the Music School in which I teach.

The constructivist approach was very appealing to me as it asserts people can only gain knowledge from their own experiences. It sees every learner as an independent person with their own view of the world and their own needs. It also puts the responsibility of learning firmly in the hands of the learner. When I considered that the pupils of my school came from such a wide range of backgrounds and experiences, this became the most appropriate approach to use when researching this study.

Background and context to the study
The focus of the study emerges from my work as an instrumental music teacher for over 30 years in the St. George area of Sydney (encompassing the local government areas of Rockdale, Kogarah and Hurstville). With a few notable exceptions, (such as the Rockdale Musical Society) this area of Sydney is devoid of artistic endeavours. The area heavily supports all sporting activities. The local football club, then known as the St George Dragons, won the premiership from 1956 to 1966 and this has coloured all activities in the community. Even now at a recent mayoral ball the highlight of all the prizes given out was a football jersey signed by Johnny Raper and Grahame Langlands, two football stars from these
golden years. Of the rest of the fifty prizes and auction items, all but five directly related to sporting activities and none had any connection with the arts.

Of the three local St. George councils, only one has a functional theatre, namely, Rockdale Town Hall which was built in 1940. When Hurstville City Council built its new premises in the 1960s, a hall was included but this was intended more for wedding receptions and functions rather than concerts or theatrical productions. For example, when the SBS Youth Orchestra attempted to perform in this theatre they discovered there was no way that a moderate sized orchestra could fit on the stage. Kogarah Council built a new library and town square in the 1990s but decided not to include any type of theatre, opting instead for an open air space where a small temporary stage could be erected as the need arose. This lack of support for the performing arts is in stark contrast with the Sutherland Shire and Bankstown, two adjacent local councils, which both have adequate council theatres. As a result, when local schools wish to put on big productions, they are forced to use the facilities of the Sutherland Shire.

I have often been asked why I continue to live and work in this area of Sydney, and why, as a musician, I have not moved to a part of Sydney where there is a strong culture of music making. My response is that I have lived all my life in the St. George area and regard it as my home. Instead of moving to an area that already has a strong culture of music making I decided to attempt to change the St. George area by developing a local culture of real music making. There are only a very small number of high calibre music teachers working in the area and very few local families regard music as a serious option for their children.

As a girl who grew up in the St. George area, I experienced firsthand the expectation of parents who did not consider music as an option for their children. I loved music, and joined every school ensemble I could and sang and danced constantly. Despite being a professional medical man, my father did not want to spend money on music lessons, so I only began formal lessons on the piano at
the age of 15 (far too late for a serious career as a pianist). When I was growing up, the only institution I could attend for music lessons (such as the flute) was the Sydney Conservatorium in the Sydney CBD. After completing high school, I undertook tertiary music studies and graduated as a high school music teacher. Similarly, when my children were growing up in the St. George area, the eldest (who was very keen on music) also had to also travel into the Sydney CBD in order to attend the Conservatorium High School and Sydney Youth Orchestra so that she could be part of a music community.

During my working life in schools, I developed a passion for creating extracurricular ensembles in the schools in which I taught, as I felt it was always far better to be making music rather than learning about it. I did some training in conducting and served on the board of ABODA (Australian Band and Orchestra Directors Association) and sang for 15 years in the Sydney Philharmonia Choir. Years of singing in that choir with the Sydney Symphony Orchestra made me aware of the skills of rehearsal and performance with top international conductors such as Louis Fremaux, Sir Charles Mackerras and Sir David Wilcox. I have tried to instil some of the processes of professional music making ever since into all my pupils. I gradually became known for my ensembles and began setting up and running bands in the St. George’s area. I was asked to set up a co-curricular instrumental course at McDonald College (a Sydney performing arts high school) and later was employed as head of music at Kogarah Marist High. There the Principal complained about the lack of music in the area, and the perception that this school could not offer instrumental music training similar to that offered by the Department of Education and Training schools or Catholic schools in other areas of Sydney.

As a result of that perception, I established the St George Players (with my daughter who is a qualified music teacher) as a weekend school, originally under the umbrella of Kogarah Marist High. My Music School was always intended as a way of addressing a community need for high quality music teaching in the St.
George area, particularly addressing the needs of students who wished to learn but had no background in music.

The School was based on the best musical practice that I could find from my research and teaching experience and combined the principle of communal music making with normal studio lessons as an effective way of developing musical skills. The School’s mission statement was and still is “Whatever you and I do alone can be even greater - and more fun – together”. At that time I did not know of the educational theorist Vygotsky (see Constructivism in Literature Review below), who espoused this philosophy, but as I have undertaken the research for this study, that philosophy constantly resonates with me. Students are accepted from three years old in early music classes, up to tertiary and older in community bands, jazz bands, string and full orchestras as well as Celtic fiddle bands. My aim has always been to strive for excellence, and to that end only employ high calibre teachers from all over Sydney who are interested in constantly striving to improve the School's teaching methods.

The School functions in two parts. During the week many pupils take private lessons without participating in ensembles. However, I discourage this practice as ensemble playing must be a part of all music making, either in my Music School or elsewhere. Despite my advice, many students (or their parents) just wish to take lessons and sit for their annual music examinations. The other part of the School involves students participating in ensembles. These ensembles vary from three year olds in “Kids' Music Classes,” which consists of eurhythmics, singing, touching and listening to orchestral instruments, writing and reading music, through to young adults who take private lessons, participate in ensembles, and train to teach or perform. There has always been a strongly practical “hands on” philosophy to the whole program with maxims like “fake it till you make it” or “if you want a perfect performance, buy a CD”.

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I have always had a strong egalitarian attitude to education so if a child wants to learn, it is up to me and my teachers to make it happen. This inclusiveness is commented on by many of our migrant parents who find it a different attitude to the teaching method they have previously experienced. This attitude has meant the young people who come to the School on Saturdays are friendly, enthusiastic and willing generally, to give anything “a go”. I say they are the best kids in Sydney because they are willing to give up every Saturday to make music and their attitude has affected this study in a very positive way. Many of these young players have been attending the School for years. One young lad started when he was four and now is seventeen, another started as a young high school lad and is now finishing a music degree and training to teach music. The School has been the focus for both their musical and social life. Most students do not come from a particularly strong musical background but have developed a deep love of everything musical in their time with us.

**Research aims**
The passion for music that many have, coupled with their lack of musical background has created frustrating problems for some students. Many senior students seem to be able to make the leap in understanding, and suffered no consequences as a result of a late start in music, while I found that other students struggled. From research by such people as Feierabend (1990) we know how important early exposure to music is, as the part of the brain that processes music rapidly declines if children do not receive musical stimulation. To try and change this is beyond this research but there is another basic problem and that is one of comprehension that should come from early childhood experience and overcoming that is the basis of this study. The aim of the study is to seek information on what approach a teacher can take to bridge the gaps in the learning of students with very limited musical experience in their pre-adolescent years.
The questions my research seeks to address, therefore, are:

1. What teaching strategies can teachers adopt to help build skills in young musicians who do not come from a home background of music enrichment?

2. What learning strategies can young musicians adopt to overcome a lack of home background of music enrichment?

3. What is the short-term or immediate outcome of these teaching and learning strategies?

These questions have grown naturally out of my work in the School and I hoped would crystallize my previous thinking and reading about what I perceived as a very real problem. The study seeks information on what can help to build skills in young musicians who with all the enthusiasm and joy of music, do not come from a home background of music enrichment.

**Overview of the thesis**

Chapter one describes the background to, and context of, the study, including reflections on my own musical background as a young musician, reasons for establishing a Music School in a musically deprived area, and teaching and learning observations made over many years of teaching. It presents the aims of the study and outlines the three research questions.

Chapter two reviews the literature on one-to-one instrumental music teaching, examines literature on the problems people who have been given inappropriate labels such as “unmusical” have in later life, and also whether there is such a thing as talent. It looks at the importance of a strong musical background to create successful young musicians including the role of musical home background, interested parents and good teachers, whether teachers should be trained to teach not just play and whether young musicians should be taught to teach themselves. Literature on the constructivist learning approach, considered ideal for this study because its flexible approach is pupil-centred and based on
the understanding and application of learning, is analysed. It finds that valid learning can only occur where there is a relationship between what is absorbed and actual experience and this is ideal for situations where this has been lacking. Within a School so focused on group music making, Vygotsky’s theories, where he feels the collective is larger than the sum of the individuals, are pertinent when traditional groups such as orchestras, choirs or bands are involved and these are discussed.

Chapter three describes the methodology chosen to investigate teaching in the one-to-one teaching environment. Research methods can be difficult and intrusive within this intimate teaching environment, and an action research approach, focused on four case studies, was chosen because of the ability to allow time for reflection and change to the investigative process, as is needed when focusing on individual students within a School. This approach was used to examine a constructivist approach to the problem of young people experiencing problems in learning music. A flow chart shows the shape of the study. The participants, consisting of four students, are described. The two teachers (one string and one woodwind) who have given perceptive of the students are also part of the study. As all four students were girls, the feminine personal pronoun is used when discussing these students. Data collection took place from several sources. The study started with a questionnaire sent to all families in the School. A video was made of students preparing their playing of a previously unknown piece of music. Selected students and teachers were given a Blue Book of constructivist techniques to work through together as well as normal lesson material to be recorded in a red practice book. Every third lesson was videoed. The video data was discussed between me and the various participating teachers. A final video of another unknown piece was prepared and performed by the students to examine any difference in their approach from the first time. The more successful teaching and learning approaches were then tried in a more general way on groups in the School, including the chamber music ensembles. The methodology chapter also discusses how the student
participants were selected based on responses to the questionnaire and interviews with parents and how students from musically advantaged backgrounds were excluded from the study. The “constant comparative method” of analysis, in which codings drawn from the interview and survey questions and the Blue Book strategies began the analytical process, is outlined. Validity and ethical issues are also discussed.

Chapter four discusses the results of the questionnaire and the initial taping. It then documents the experiences of the four student participants. It discusses the views of the parents and teachers about the results of the study before examining the result of this approach on the whole school. This chapter looks at the differences occurring between different instruments as well as the abilities and personalities of the participants. It also discusses how the constructivist approach for studio teaching moves usefully over into group music-making.

Chapter five discusses conclusions drawn from the findings. It looks at the positive short term outcomes of the study as well as problems raised. Suggestions for future research and implications for approaches to one-to-one teaching of musically deprived and musically advantaged are made.
Chapter 2 – Literature Review

This study investigates ways of building the musical skills of young musicians, who have not had enriching early music experiences, through effective teaching strategies. This chapter begins by reviewing literature on musical and home background and focuses on the background that is normally needed to produce effective young musicians. This includes parental involvement and home background as well as practice strategies, instrument choice and developmental issues. All of this impacts on a young person’s ability to learn an instrument. It looks at the problems of the performer as a teacher and studio teaching styles. The crux must be effective pedagogy and learning theories relevant to teaching young instrumentalists. These are examined, not only in music teaching but in general education experience. The literature reviewed included research articles but also practical books written by instrumental practitioners offering advice drawn from their own experience.

I am musical – I am unmusical
Although a great deal of research has been done on the problems of teaching young instrumentalists, very little has addressed specific rehearsal strategies to overcome these problems. Howe, Davidson and Sloboda (1998) address the fundamental issue of the existence of talent, an innate trait seen in some people and not in others, which can be viewed as a reason for success. They conclude, however, that what makes a difference are early experiences, opportunities presented to the performers, work habits and sheer hard practice. The saddest result of labels such as being musical or unmusical, is that it causes people to lose motivation and this is the focus of the paper titled “I am unmusical: the verdict of self judgment” by Ruddock and Leong (2005). This study looked at four case studies of people who considered themselves “unmusical” despite an early desire to participate in music. After they tried and failed at formal music studies they labelled themselves as “unmusical”. Generally they felt that to
understand music required a magical quality that could not be learnt. Music was something that only talented people could do. They felt that expressing themselves musically was not a social norm and were afraid of being judged and labelled as “unmusical or crazy” (p.12). This is sadly seen with some young people, such as Anne in my study, who came to me very fearfully because, although she wanted to learn music, she had already been labelled as unmusical and therefore thought she was unable to learn and lost motivation. Ruddock and Leong’s paper notes that music is a fundamental part of human existence from birth and speaks of wishing to make the community feel that “it is as normal to do music as it is to do mathematics” (p.12). This is the idea behind string educator Shinichi Suzuki’s talent schools - “that all children in the world show their splendid capacities by speaking and understanding their mother language, thus displaying the original power of the human mind” (Kendall, 1966, p6).

**Background to Successful Young Musicians**

**Early musical experience**

Strickland (2001) has looked at scientific measurements of brain development in music and noted that the auditory cortex of the brain is completed at the age of three months after which, if not used, its capacities are gradually lost until adolescence. At the same time, when a person manipulates an instrument, the brain seems to form new synapses (connections) within the cortex. The greatest amount of brain activity occurs in those who began to play an instrument before the age of nine, indicating that early exposure to music is of paramount importance for easy learning experience. This research is backed up by Ullman (2007) who discovered that music is processed in the same part of the brain as language and like language, if stimulation is not given at a young age, the ability to process music rapidly declines. To make a difference all children should start with parents singing and reciting poems in infancy. In other research Feierabend (1996) noted that there is evidence that in the modern era, people are losing the ability to express themselves musically. He proposed that to lift general music in
the population it is important to start with the very young and rediscover the good literature sung and played with children in their own culture in the past. As good children’s books are full of wonder, so should music be. Feierabend stated that research has shown the density of synapses increases sharply in the first few months of life and starts to decline from the age of two. Music must be part of a child’s life by this age. A question I ask is why young children with dance in their background often find the move to music-making easy. This is in part answered in a paper by Zachopoulou, et al (2003) who compared children who have been given specific training in the approaches of music educators Dalcroze and Orff with children who just have normal physical training. The differences showed a significant increase of rhythmic ability in all children who took part in the test. The reason was said to be based on the “motor theory” of rhythmic response. This indicates an innate configuration within the body which can be taught to react rhythmically. However early singing has been found to be the best predictor of later musical success (Howe and Sloboda 1991a). Howe and Sloboda also found that successful musicians who started music training later in life were more likely to come from a home in which parent and child listened to music at an early age, and also tended to have a keyboard in the home. It was found however, that the actual age an instrument is started does not necessarily have a bearing on later success (Jorgensen 2001).

**Parent involvement**

Parents play a vital role in creating successful young musicians. McPherson and Davidson (2002) looked deeply into relationships of child beginners with their parents in an analysis of interviews of mothers and their children aged seven to nine years. It was found the mothers usually had a more realistic idea of the likelihood of success than their children. Children who had an unrealistic idea of the amount of practice they would do were more likely to quit. Mothers typically showed more support in the early months unlike school homework where support continued over years. Practice often tended to be no more than playing
through each piece once with no attempt to fix wrong notes or improve sound. Success was more likely to be achieved in a non-threatening home environment where music experimentation was encouraged. Other factors were frequent and regular practice clearly supported by parents, and enthusiasm by the child which developed into a continuing interest as they became involved in communal music making activities.

Creating young musicians must also include educating the parents. In a study by Sloboda, Davidson, and Howe (1995), 257 children who had received lessons on at least one musical instrument were divided into groups according to their musical success. Each was interviewed on their parent involvement in their musical activities. Sloboda et al. discovered a strong correlation between parent involvement in the early stages and success on an instrument. A critical factor was the type of interest the parent showed by, for example, attending concerts or giving positive comments on the child’s musical activities, as compared with a parent who missed concerts and criticised the child’s practice. In a review of literature by Gonzalez-DeHass, Willems and Holbein (2005) it was found that parental involvement benefited children’s academic success to such an extent that parents’ participation in school activities positively predicted school success. The children of involved parents showed more concentration, effort and attention throughout all areas of learning. Interest of parents was detrimental where parents were only involved in grades achieved or merely supervised homework. This was perceived as over-controlling and students then showed less persistence and satisfaction in their work. Suzuki sees the parent as integral to any effective learning. His method requires a parent to attend all lessons to understand the learning process and to feel confident to teach the child at home. He feels “the most important single ingredient for success is the parent’s willingness to devote regular time to work closely with the child and the teacher” (Cooke 1981, p 9).
Where there was regular communication in a positive way between the teacher and parent, the parent was more positively interested in their child’s learning and the child showed more persistence and enthusiasm in conquering the tasks. Generally where parents showed an interest in the child’s education by getting involved, students adopted a goal orientation to learning where they were more likely to seek challenging tasks and showed persistence in them. They also showed much more satisfaction in their work (Gonzalez-DeHass, Willems and Holbein 2005)

**Home background**
Research has also found the home background was very important. The research of Kelley and Sutton-Smith (1987) tracked the development of three first born females, from birth to two years old, who were born into families of contrasting musical backgrounds. One family was professional musicians, one family was musically inclined but not fully professional and the last had no musical orientation. The differences between the families were striking with the musically rich backgrounds developing music skills even before language development, whereas the child from the musically poor background developed musical skills months later and without obvious musical understanding from a language base. In more recent research, Macrae and Dunbar-Hall (2003) examined the placement processes for the Sydney Conservatorium High School. When looking at successful students' background, a very strong history of music in the family and participation in lots of musical activities other than school events and solo instrumental lessons in the primary years was found. The High School felt that to help any musical deficiencies, it was important the school offered a range of experiences which reflected the sort of outcomes expected of professionals. This included choirs, orchestras, chamber music, attendance of concerts, composition, interacting with professionals and a strong emphasis on singing and sight reading.
In a paper on the attitudes to parental involvement on learning the piano, Macmillan (2004) found that it was generally assumed that the highest results came from pupils with the most parental involvement but many teachers did not appreciate help from interested parents and other teachers did not know how to show parents ways to help in a positive way. The teachers who liked parental help were teachers who had more experience of teaching and had a higher level of learning. Creech and Hallam (2003) also found a positive correlation between the amount of time a parent spent supervising practice and attending lessons and the achievements of the pupil. Where a teacher has a good involvement with their pupils’ whole life and integrates the parents into the lessons, their teaching is much more effective. Pupils of all ages welcome appropriate contacts between their teachers and parents. Any break in these relationships causes a lessening of effective learning.

Most important was encouragement of parents and the financial resources to pay for lessons. In a study by Moore, Burland and Davidson (2003) involving 257 children from age 5 to 14+, which looked at the socio-environmental factors of a child’s musical development with a follow up of 20 of the most successful children eight years later, it was found that children had to have a combination of the right sort of teachers, interested but not “pushy” parents, starting at an early age, practice, plus a lot of concert activities. Dai and Schader (2002) found that parents often do not send their child to lessons particularly for music training, but just as part of good general educational training. As their child advances in musical skills the parents become more focused in their child’s development. The parent plays a pivotal role in the child’s training and without their support, musical training could not develop. The paper recognised three stages in musical development. The first stage is experimental and light hearted. External standards are not used. The second stage is a developmental stage where measures are used to evaluate progress. As the child improves, the parent must invest more time and money into developing the young musician. The third stage involved a total commitment to the development of musical excellence and
possibly with a career in music in mind. This study then suggests parents regulate their expectation as their child develops. Parents themselves encourage or discourage according to their own background and expectations of what they think of the use of music. It can be seen that to consider music purely as a solitary exercise - without considering the social dynamics such as parental input - is false.

**Effective Teaching & Practice Strategies**

**Effective pedagogy**
Effective pedagogy must be one of the keys to the problem of teaching children with limited musical background. Without an effective teacher, little can be achieved. If the right parent is important, so too, is the right teacher and the interaction between teacher and parent. Rife, Shnek, Lauby, Blumberg and Lapidus (2001) looked at children’s satisfaction with their lessons and it was found among the 9 to 12 year olds that lessons were more enjoyed and more subsequent practice done if most of the lesson was spent in playing and minimal time in talking. On the other hand, Costa-Giomi, Flowers and Sasaki (2005) looked at the reason for dropouts of piano students and found that those who stopped playing needed more verbal communication and approval from their teachers than those who persisted. So it is apparent that the right sort of talking as well as the right amount is what is important. The question is then what are the characteristics of the right teacher?

**Successful teachers**
A successful teacher is a most important figure both in the musical and whole life of a young person. Howe and Sloboda (1991) found that young performers who had warm and friendly teachers who gave their pupils a sense of their interest and approval had the highest success rate. Mills (2002) agreed with Sloboda saying “inspiring teachers who loved teaching, show interest in
students’ musical and personal development, are firm when necessary, and who present detailed criticism constructively” (p79). Cohler & Galatzer-Levy (1992) felt a teacher must also be able to give the student courage to overcome adversity and to continue trying. Personality of the teacher is not enough. Berliner (1986) says that learning suffers when the teacher includes factors that are not focussed on the task at hand. Teachers must also have a sound knowledge of their subject. Doerksen (1999) talks about the importance of being able to notice a problem, diagnose, then work out a solution to the problem. This can only happen if the teacher has a depth of knowledge and experience in his subject. This they must be able to effectively communicate to their pupils (Brand, 1985).

Kuzmich (2007) looked at the role and influence of music teachers. Great teachers are enthusiastic and in their attempts to reach goals, they are not constrained by allegiance to any method. They challenge pupils into creative problem solving that lasts for life. Woody (2004) agreed with this and continued this thinking even further when he looked at the backgrounds of successful musicians. There he found many common experiences including early musical experiences, warm friendly early teacher, mixing with other musicians of a similar age, lots of opportunities to perform, encouraging parents and set goals. The best predictor of musical success is however just the hours of practice undertaken. Again Cheng and Durrant (2007) looked at the issues that play a part in teaching effectively. It was found that to be effective, teachers should focus on the pupil’s learning rather than the end product. They felt that when real learning occurred, it was a positive experience for both pupil and teacher. It was stated the relationship between pupil and teacher was an unbalanced one with the power totally on the teacher’s side. It was then very important that the pupils felt their lessons were a positive experience as it impinged on their quality of learning and affected their whole life. The teacher who was investigated taught violin in a studio and in groups. This made her teaching much more like wind teaching today. Like the band movement (where students were encouraged to engage with music through playing brass or wind instruments), Cheng and
Durrant found interaction between players of the same level greatly increased musical skills and promoted independent learning.

Bartel and Cameron (2000) explored the good and bad aspects of music teaching both looking at the terrifying experiences of the music student as well as the best experiences and found successful teaching came from acknowledging each pupil as an individual in their own right and providing a compassionate environment in which learning can take place. With this comes the problem of sensitivity to criticism. Atlas, Taggart and Goodell (2004) found overly sensitive students could be badly affected by what they considered to be harsh criticism and this could impinge on their performance ability, motivation and their ability to communicate with their teacher. This all underscores the need to assess each pupil individually.

Berr and Shockley (2003) used a panel of three experts who looked at the motivational strategies used by three teachers as shown by videos of a lesson. Interestingly a large number of teachers throughout America submitted videos but because of self consciousness in front of a camera, most were considered not to show natural teaching. They concluded that “real teaching” was not to do with the amount of knowledge the teacher had, but rather with the teacher’s ability to put his needs second to the needs of the pupil and to concentrate on what works for that student. As Debbie Price (a teacher in the Berr and Shockley study), said, the best results came from:

always knowing that a student has ability and potential for success in learning and enjoying music, never giving up on a child (or parent) and avoiding the notion that someone “lacks talent” as an excuse for them not succeeding. All students will achieve at some level and should be encouraged to thrive in their pursuit of music education. If a student hasn't grasped a musical or technical goal, it is not that they lack ability or “talent,” but they have not been introduced to a pedagogical approach to the learning process that works for them or motivates them to achieve the
desired goal. It is our responsibility as teachers to support and encourage students to learn, and to learn in creative and enjoyable ways, striving to develop students to become their own best lifelong teacher.

An interesting point was made by Haston (2007) who talked about students who “parrot” the teacher thereby bypassing musical growth. In contrast teachers can effectively use modelling to demonstrate new concepts. The students who follow the modelling of their teacher show their understanding of the concept being taught and can apply it to the printed music. (p 45).

The teacher also needs to be able to plan and manage the material that is to be taught. As is taught to classroom teachers, a studio teacher must be able to explain problem solutions clearly as found by Brand (1985). Motivation by itself does not work without a solid knowledge base behind it. The “good enough” teacher described by Swanwick (2008) describes music teachers as also music leaders and talks of the problems of music teachers leading music but never developing educationally themselves.

**Performers as teachers**
Constant problems appear in music teaching situations where a great performer is assumed to be a great educator. This has been examined in many papers notable being Persson’s (1996) study which looked at a brilliant performer with no teaching qualifications and her teaching practice in a conservatory setting. Persson found she failed to provide any real teaching strategy for her pupils and she blamed her frustration at their lack of progress on their supposedly inherent lack of musicality. A far more positive experience was found by Purser (2005). This paper was built on a questionnaire and interview with six wind teachers in a conservatoire setting whose appointment was made on their professional performing career, not their teaching. All were male and they
commented that after their appointment they were left very much to their own devices. Each was asked to examine their own teaching styles and the material was gathered to look at trends apparent in their responses. All respondents felt it was not justified to consider their pupils as only going on to be professional performers, but they considered that a wide range of possible careers could use a good music foundation. Also considered was the problem of the studio one-to-one lesson as there had to be a careful balance of friendship mixed with impartiality which they must have to be an effective teacher. Their main function was to teach students to teach themselves. A syllabus could be helpful, but only as a scaffold within which there should be freedom to express. All teachers talked about the importance of demonstrating techniques – but never so much that the student began to ape the teacher. All said their biggest influence on their teaching style was their own conservatoire teacher although some said in their time as students, the teaching was only for the able students and in their own role as teachers they have been forced to develop techniques that teach all students whatever the ability. They learnt to teach these pupils through trial and error and worked in total isolation. None used books or papers to improve their teaching. All felt intimidated at first about sharing their teaching experiences in a conference setting, but after a little reflection they felt it could be rewarding and even helpful to their own teaching. They were all scared to show what they had developed in the privacy of the studio, to a more public forum. They were all pretty well self taught teachers. The author ended by expressing a desire for some way to broadly share teaching experiences of great conservatoire teachers. Gaunt (2003) also examined the problem of conservatoire teachers where she found many of the same problems including isolation and lack of professional teacher training of performers undermined the effectiveness of these teachers. She found that when a teacher took more interest in the student than just the immediate lesson, they were much more effective.
Contact with professional musicians
Young, “would-be” musicians benefit greatly from contact with successful practicing musicians. Abeles (2004) examined three partnerships between schools and professional orchestras. This was done by bringing orchestral musicians into the schools to help with recruiting, providing specialists to co-teach, to help in the provision of instruments or putting on regular performances. It was found that familiarity with professionals tended to increase pupils’ desire to learn an instrument, encouraged them to join school performance ensembles and to seriously consider performance as a vocational choice later in life. Again in rural America, The United States Chamber Music Association set up residencies as a way of revitalizing music in these areas. They acted on the principle that professional players are the best people to lift both the performance and music appreciation of rural areas (Jacob, 1996). Another paper on the success of using professional performers (Reid, 2003) was about a program which developed young string players in a weekend orchestra. Reid found that when young performers are in a youthful music-making environment they develop musically, very fast. However good the models involving professionals are, there are often problems as Sinsabaugh (2006) found. She found many artists lack teaching skills to successfully pass their knowledge to the students and that many artists do not respect the skills teachers have. This can create tension between the artist and teacher. Often students do not respect the accomplishments of their teachers. One has to ask why teachers and performers do not work together to help in each other’s field of expertise. There are also problems when the school administration used performers instead of using teachers to enhance proper music programs. Peiffer (2004) found that if the goal was to create an exciting vital music community then it was necessary to encourage musicians to interact more in the general community out of their enclosed music community.

Practice and other learning strategies
From the literature, the role of the right teachers, right parents and an early start emerges as the ideal beginning to create a young musician, but what about the
way to teach musical skills? McPherson (2005), in a study of beginning performers and the development of their ability to think and perform musically during three years of learning an instrument, found the most improvement was made by those children given specific strategies to deal with problems, not those who did the most practice. In another paper by McPherson and Renwick (2001), seven children aged between 7 and 9 years at the start of the study, were studied for a three year period. Their practice was regularly videoed and they were interviewed over this time. It was found the children had very little self-regulatory behaviour and very little idea how to practice beyond playing through each piece once. There were very few corrected errors and those errors corrected tended to be pitch errors not rhythmic problems. Practice books tended not to be used and teachers tended to instruct players what to practice not how to practice.

On a more practical level, an article by Hewitt (2001) on teaching practice provided useful tips for players – like "stop, think and identify the problem" (p13), a remedy form to be filled out by player on fixing problems and a policy for repetition. There were also tips for parents like making practice a priority, motivating, using incentives and communicating with the teacher. Like Hewitt, Pearce (2004) argued that self directed practice was the key to being a successful musician. This success became self motivating. She said pupils must play an active part in all lessons and in this paper she listed tactics to achieve this. An example of this is "Play just the last section of this piece. If you have a problem, stop and then show me (show, not tell me) how you'll work on this spot." p29. Also listed were the requirements she felt were needed for effective home practice. These included knowing how to achieve musicality, deciding on a tempo and overcoming technical problems.

Another book on instrumental teaching (Johnston, 2000), outlined techniques developed in a studio for teaching students effective practice strategies that they can implement themselves. The author advised teachers on giving consistent
effective instructions: being specific, giving challenges to practice, testing they have been heard and understood, giving ownership of what has to be done and involving the parents. He provided clues for finding flaws in pupils’ practice, such as those who just practiced pieces they already played successfully (the good pieces keep getting better, the difficult pieces regress) and tips on how to remedy it (split the piece up into sections and rank it worst to best, and get the pupil to work on the passages that are weak). There is also a chapter on why students do not practice and suggestions for time management, including parents’ appropriate input, and dealing with student fear of failure. The last section of the book dealt with learning a new piece from the first reading to the performance. The author always dealt with this from a young player’s point of view and thus there was a check list for the student in the early learning of a piece from “can follow the music when someone else plays it without getting lost” (p102) to “can play correctly with the metronome at three quarters of the recommended tempo” (p102). The performance section dealt with self-analysis of the dress rehearsal, nerves, and the actual performance such as extra work on the first few notes of the piece to overcome fear. The author also discussed project management so the pupil knows he will be ready when the date of a performance comes. The long term aim of this author is to create performers who know how to become independent from their teacher. Johnston’s aim is to shift the focus on practice away from the traditional obsession with time spent and towards a focus on outcomes. While neither Johnston nor Hewitt has peer-reviewed research, both are aiming to produce thinking musicians who will eventually be able to function independently as musicians.

Understanding is again the key used by Yurko (2002) in an attempt to teach concepts of rhythm and pitch as well as concrete music reading skills. She developed a sequential series of games that even preschoolers could understand. She is a Suzuki teacher who has applied his theories of tiny learning steps to music reading. Like all good early music educators, the approach to music literacy is done through play. Games include variations of
bingo, to develop perception of lines and spaces, snakes to develop the concept of reading letter names upward, not downward as you would expect in normal English and develops to quite complex rhythm and pitch dictations and recognition of intervals all done through games and all to can undertaken by very young children.

Current learning approaches

Machover and Uszler (1996) have summarised four very popular approaches to music teaching that grew up in the twentieth century. Each approach is named after their developer and these are Orff, Kodály, Dalcroze and Suzuki. The Orff approach sees music as best learnt by doing it and the class uses techniques such as children’s play. Music is to be experienced thus Orff pupils sing, play instruments and dance and improvise. Orff felt that the natural instruments for children were percussion and he developed a series of tuned and unturned percussion for the children to use in his classes. The music starts from simple rhymes with body percussion based on the child’s own culture, and gradually develops in complexity, adding tuned instruments, extra layers, and more developed improvisation.

Like Orff, Kodály developed his approach by having children learn music by doing. His work is based initially on the songs of the child’s culture, because of their simplicity, shortness and their tendency to be pentatonic. This system is heavily based on singing. Music reading plays an important part with rhythms learnt through set syllables thus crotchets in common time are doh, quavers are ti ti. Pitch is taught using solfege with a movable doh. Thus doh is the keynote of the song to be sung. Hand signs give visual cues to pitch. Kodály borrowed heavily from the Dalcroze method of movement as he felt movement was the best way to internalize a sense of pulse. There is a heavy use of movement to accompany songs.
Dalcroze understanding of music could only come if it was internalized through physical movement. The body should become an instrument as a way of understanding all the facets of music. Music education is entirely dependent on what pupils hear, and the body is the way to develop this understanding. Dalcroze classes use a variety of movements to interpret music experienced. Findlay (1971) asserts that understanding rhythm must precede all other musical instrument learning. Like the other two approaches, Dalcroze places a heavy emphasis on improvisation and solfege.

Machover and Uszler (1996) state that the Suzuki approach, like the previous approaches, was named after the developer, Shinichi Suzuki. This approach was based on the premise that music is a language and a child should learn it as he or she learns their native tongue at the mother’s knee. He developed a program of learning violin starting often as young as two years old. The child first listens then repeats by rote passages played on their instrument. Ideally the parent plays an integral part of the whole learning system as they do in teaching a child to speak. Reading does not begin until the normal age a child learns to read their own language. This system has spread now to include the other stringed instruments as well as the piano and flute.

The very popular Suzuki method shares a lot of ideas with Orff, Kodály and Dalcroze. In a study of this method in actual studios, Duke (1999) found that there was always a great deal of active student involvement in each lesson. Talking by the teacher emphasised the positive aspects of the student's playing. Colprit (2000) commented on clear communication, fast progress and lots of praise used in the Suzuki method. Cooke (1981) looked at both the Suzuki and the Yamaha methods in a study of these systems of music teaching and their effectiveness in Australian conditions. These methods tend to be more rigid than Australian children like, but still extremely effective, although generally not applied in Australia as Suzuki and Yamaha intended. Both methods start children
at a very young age, both require a very big commitment from the parent to succeed – he or she must attend all lessons and participate in all practice sessions. Neither method is aimed at “talented” children but in making all children talented.

Other papers on these systems of teaching include Choksy (2001) who invited experts to look at the Dalcroze, Orff and Kodály methods; Gray (1995) who commented that Orff was one of the first people to use singing, recitation, body percussion and playing instruments together in a childhood music class; and Dutoit (1980) who described the beginning of Dalcroze’s ideas and philosophy of music teaching. Of particular interest was how Dalcroze analysed music teaching so it could be taught to the ordinary “non-musical” student.

Edwin Gordon (1984) created the concept of audiation which is thinking music as you think speech. From his work others have developed new ways of teaching musical understanding such as Dalby (2005) who argued that teaching can never be taught mathematically because this is an intellectual process and does not link to performance. An example of this is audiated rhythm which is based on the beat being felt not counted. This was really trying to explain the processes first started by Dalcroze and developed by Orff, Kodály and other more modern music educators. His audiation is the internalization of music that Dalcroze aimed to achieve with his eurythmics.

**Constructivism**
Teaching young instrumentalists who do not have a background in music requires a flexible approach based on finding and remedying the lack of understanding shown by the pupil. Some insight is to be drawn from educational constructivism as a method to more effectively nurture young musicians. The father of constructivism, Jerome Bruner (1960), proposed that basic concepts can be learnt intuitively at a very early age. He stated that anyone was capable of learning provided the material was organised
appropriately. The advantage of this method was explained by Vermette, Foote, Bird, and Mesibov (2001), who showed how education should be pupil-centred and based on the understanding and application of learning. Quay (2003) looked at experiential education, in particular constructivism and related methods, noting that valid learning can only occur where there is a relationship between what is absorbed and actual experience. This experience is not only within the individual but also within the social and cultural world in which that individual lives.

For Wiggins (2007), best practice in music education is constructivist – breaking down music into elements which then become tools to create expressive music. This is not to imply that music is considered as simply elements taught separately apart from the whole. Rather it requires that it is considered as multidimensional thus learning music is constructing dimensions to make a musical whole. Music teaching suffers from what the author calls “folk practices” because they are rooted in tradition not in what is now known as best educational practice.

Examining the problem of pupils who are overly dependent on their teacher for musical performances, Broomhead (2005) took a constructivist approach in that the pupils were taught to be independent and apply their learning to their own performances: “Conceptual understandings must be actively constructed by students themselves, not by teachers for students” (p. 66). He presented lots of problem solving exercises in pieces to be learnt so all aspects of musicality can be not only learnt but understood. Broomhead concluded that valid learning can only occur when the learner not only understands but can apply what is learnt. Brown (2007) went into more depth about constructivism in explaining the “zone of proximal development” described by Vygotsky (Vygotsky, 1978, p.86) which is a region below which the pupil can already do independently, and above which the pupil cannot do even with assistance. To achieve learning within this area scaffolding is built up by the teacher to act as a guide while the new learning takes place.
Van Der Stuyf (2002) discusses Vygotsky’s theory of scaffolding which is the heart of constructivism saying that each learner has a “zone of proximal development” which is the area between what is already understood and the next stage which they can achieve with support. The supporting structure the teacher creates to achieve this next stage is referred to as scaffolding and is a temporary measure to be removed once the student can master the next task independently. The aim is always to produce an independent learner.

Vygotsky (1926) felt that learning and development was linked to the culture around the learner and the most vital part of this was language. Language develops from external speech to thinking and the understanding, and from this the scaffolding needed for effective learning can be developed.

Constructivism also has its critics. Elkind (2004) dealt with the failure of constructivism in areas of educational reform. He argued that failure occurs where teaching, the curriculum and the society, are not in readiness and aligned. It is felt that technological advances without educational reform in which the educational philosophy behind the technology is clearly understood is meaningless. Constructivism is a way of pulling it all together and making education meaningful.

**Collaborative learning**
Learning from the music-making group, whether in bands, choirs or orchestras, is an approach especially relevant to this study. Vygotsky’s philosophy, expounded in a paper by Liu and Matthews (2005), states that “the collective being is always larger than the total sum of individual persons” (p. 391) and explores perception which he feels is best expressed in the group consciousness. The teacher’s task is then more one of providing scaffolding for the learning to take place and then gradually removing the props leaving the student to manage alone. Liu and Matthews (2005) looked at Vygotsky and his idea of collective
consciousness and compared it with Bruner’s constructivism. Vygotsky felt learning depended greatly on the community in which it was undertaken. His philosophy was not really different from Bruner as he still felt knowledge had to be constructed by the learner but he felt one could not divorce learning from the society. There was a triangle of learning involving teacher-pupil-community. Every member brings his own contribution to the group, and the group processes, and grows each of its members’ knowledge. Having the language to express that knowledge leads to learning awareness and understanding.

**Technological Aids**
In the modern era there are a great number of technical aids produced to help young musicians to learn music. They include software such as “Am I Musical?” by Gordon (2003), “Audiation Assistant” based on Gordon’s work developed by Dalby (2004) and “Auralia” produced by Sibelius (1995). There is also shareware found on the net such as “Fast and Soft Music Software” Baciu (2004) and “Chromatia Tuner” (2003). All these software programs are designed to develop aural skills to be used in conjunction with normal musical activities and act as forms of bio feedback systems to help young musicians to internalize and understand musical processes.

**Summary**
This literature review has looked at the background of successful young musicians, effective teaching and practice strategies and current learning approaches. It can be seen from this that there are certain elements, such as early musical experience, which if missed at the appropriate time, make becoming a musician more difficult but not impossible. Other elements including parent involvement, home background, gender and practice techniques can be dealt with if there is willingness by all parties for the student to develop musically.

The problem this study aims to address is the approach the teacher can take to bridge the gaps in learning of a student with very limited musical experience. In order to achieve this, good educational practice and Bruner’s constructivism,
offer a way to meet these problems. The breaking down of knowledge into tiny parts and the pupil-centred approach based on understanding and experience are the chosen approach for these young instrumentalists. Drawing on educational thinking and theories beyond those usually adopted in music teaching also breaks away from what Wiggins (2007) referred to as folk practice and adds a new way of thinking about instrumental teaching generally. The reinforcement and demonstration of this learning fits well into good music making with ensembles and is a continuation of constructivism expounded by Vygotsky who feels that perception is best expressed in group consciousness.
Chapter 3 – Methodology

Introduction
The study sought a methodology which drew on the experiences and thinking of both the student participants and the teachers in the studio and school instrumental teaching environment. This chapter begins by outlining a theoretical frame and presenting a flow chart (Table 1) to show the shape of the study and a description of the participants. These are followed by a discussion of the methodology adopted, action research, and the underlying theory of constructivist teaching and learning. The chapter includes the data gathering instruments and outlines the approach to data analysis.

Theoretical frame
The study is concerned with a community music school consisting of various students all of whom have been influenced musically in many different ways. As in any school, this results in what Radford (2006) describes as “multiple interacting variables” (p. 177). Analytical research cannot deliver the specific kinds of information normally required in formal studies because of the complexity of the interactions. Consequently, conventional research methods and the literature suggests that action research is the most valid approach found to be effective in a school situation. This method of research was used to examine a constructivist approach to teaching young musicians who have come from a limited musical background.

Research within a school environment can be very difficult as Radford (2006) discusses. The complexity of educational institutions has meant research becomes a task of providing descriptions and links within the research. There are no simple connections because of the interactions of participants and relationships within the school. The researcher must shrink this intricacy down to simpler factors and work out how it correlates. One good method of research in this situation is action research that is described by Altrichter et al (2002) as
being “about people reflecting upon and improving their own practice” (p. 128), but says this is just a working definition and this definition should not be confined to a rigid definition as this would inhibit the constructive conceptual development of the research. Cunningham (2008) found action research to be an ideal method for education research because it is a way to research a teacher’s own practice. Here the researcher is actually part of the whole research process instead of standing apart. As in other methods of research, action research uses qualitative methods as in interviews and questionnaires; it is applied because it is designed to solve problems and is experimental because it tries out variables to find better outcomes.

Because of the basic difficulty in getting valid research, multiple approaches need to be taken. Patton (2001) suggests that triangulation should be used as it is a method that strengthens research by combining methods and data and examining it from different aspects. The purpose is not so much to get the same result on aspects of research but to test for the validity of the research.
Table 1: Making up for lost time

Making up for Lost Time

Teachers
Specific strategies for their instruments. Their knowledge drawn from their own teachers and experience.

Literature
The work of Suzuki, Orff, Dalcroze as well as general educationalists—Bruner, Vygotsky.

My Experience
30 years working with children who have come from a deprived musical background.

Strategies
Constructive techniques—scaffolding, biofeedback, self analysis, conceptualization, understanding. Solo and group performances.

Participants 9-16 age range
Selection:
1. Involvement in St George Players full program
2. No musical background
3. Parental agreement.

Teachers
Selection:
1. Teaching at St George Players for more than 2 years
2. Some experience of teaching
3. Have students in full program.

Trial
Initial Test: Prepare and perform a piece unaided (preparation 10 to 15 minutes) and videoed. The piece to be chosen by their teacher as appropriate to their playing ability. Performance assessed by another teacher. (Talman)

Implementation Teachers
Discuss guidelines to constructive teaching. Select appropriate activities for participants. Watch videos. Fine tune direction of activities with participants and me.

Implementation Teachers
Discuss strategies to be tried with their teachers. Fill in workbooks; writing their observations of the music process. Rehearse and perform a chamber piece of their choosing.

Implementation by Me
Formulate guidelines for teachers and participants. Blue workbooks. Video lessons. Discuss results with teachers and plot changes that are needed.

Assessment
Prepare and perform another piece unaided. Performance assessed as before.

Assessment
Lead and perform a chamber work demonstrating techniques learnt in the study.
**Action research**
Because of the need for participating teachers to be able to change their teaching approach as findings emerge, an action research approach was adopted. This involves “small-scale intervention in the functioning of the real world and a close examination of the effects of such intervention” (Cohen and Manion 1994, p.186) and the effect it has on the participants. It consists of a series of cycles of:
1. planning,
2. acting on the plan,
3. collecting data,
4. analysing this data and reflecting on it before revision
5. revising and changing the plan for the next cycle.
This cyclical form means it is very flexible as well as a way of obtaining deep understanding of the forces that shape learning. This form of research differs from other forms as there is more value put on the relevance of findings but less concern for an overall pattern of findings. That is depth of understanding, not breadth is what is required. Action research is in fact a way of closely monitoring and deeply reflecting on teaching techniques. This approach suited my small study very well as it accommodated frequent interaction between the participants, including meeting the involved people in the study to refine the approach taken. Cunningham (2008) felt it was particularly suited to practicing teachers as it was a way to systematically evaluate the success or otherwise of teaching methods within the classroom and to develop new effective strategies. This was in part because the researcher in action research becomes part of the study itself instead of observing the research from outside. The close examination of the participants took place over a 6 month period and was followed by a broader approach involving the whole school.

**Case study**
When a small number of students is being investigated over a reasonably long period of time within a music school, a case study approach offers many
advantages. Yin (1984) defines the case study research method as “an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used” (p. 23). This means the case study is an ideal method for my study as it uses intense examination of a very small sample. It is doubly useful as it can draw in the experience of the participants themselves as well as other people involved in the study. It does not look at general findings but rather single experiences and descriptions of what has been found.

**Constructivism**
A constructivist approach was chosen as constructivism deals with building knowledge on a learner’s own experiences. Quay (2003) felt that valid learning can only occur where there is a relationship between what is absorbed and actual experience. It is a pupil-centred method based on the understanding and application of learning. Effective learning can only come from giving the student new material that falls in their “zone of proximal development” (Vygotsky, 1978). As I was dealing with pupils with obvious deficiencies in their understanding of music, it was possible to find where the deficiencies occurred and develop “scaffolding” described by Bruner (1960) and Vygotsky (1978). This is a constructive approach and it offered a way of building on their current knowledge in a way that they could understand. Nothing can be truly learnt without understanding Kohut (1992). Action research is ideally suited for examining a constructivist educational research study because of the flexibility it allows.

To design the teaching strategies I encouraged the teachers to adopt a constructivist approach to teaching and the students to adopt a similar approach to their learning. We met to discuss the approach to be taken and formulated a series of guidelines as detailed in Table 2 (see Design and data collection).
Context of the study and the participants

All participants (teachers and students) were selected from the St. George Players Music School. The school has over 100 enrolled students, consisting of infant, primary, high school and tertiary aged students. The School can be divided into two student cohorts: the first are people who come for private lessons, usually through the week and do not take part in ensemble activities; the other consists of people who are part of the ensembles usually as well as taking private lessons. There is a great deal of interaction between the people of the second group, and very little interaction in the first group.

My research project is concerned with the student's barriers to musical development. For the project, it was necessary to select students who had demonstrated deficiencies in their musical background, deficiencies that are creating barriers to their musical development. For the purposes of this research, it was considered invalid to select students that come from a rich musical background who do not exhibit these deficiencies, or conversely, to select students where the teacher is already adequately addressing those deficiencies.

The participating students were chosen from the 100 students currently enrolled in the St. George Players’ music program immediately before the commencement of the project. Students were selected on a voluntary basis based upon responses to a questionnaire completed by all interested parents to provide ongoing information on the musical background of the student and a follow-up interview.

Student participants

The choice of students for this study became difficult as there is a very large migrant population in the Music School. It was necessary that the family spoke good English so I could be sure they understood the processes to be done. They also had to have a commitment to music and their children so I could be reasonably confident they would see the project through to the end. The final
choices were of two pairs of sisters, which was not ideal, but of all the students in the school, they were most committed to the idea of higher education. In one of the families, both parents are qualified pathologists, while the other sisters have a mother who is a teacher and a father who works academically with a Ph.D in pure mathematics. That father felt it would be great experience for his girls to see research from the inside. I felt that having a pair of sisters would also work very well in one way as it was then possible to try collaborative exercises with them.

As the students were all of school age, it was necessary to consider what music making or musical programs were provided by the schools as these activities could well impact on the musical development of the students during this study. Although several of the students have played in school ensembles, their strongest input in their musical experience has been from St. George Players.

The student participants consisted of both primary and high school aged children ranging in age from 8 to 14 year olds. All names were changed to ensure anonymity. No specific group of participants was targeted on the basis of disadvantage (other than musical disadvantage) or ethnicity. The sample size was a total of four students:

- two string players;
- two wind players.

The sample size was small due to the qualitative nature of the research and the need to reduce the complexity of teaching into specific areas that could be focused on (Radford, 2006). Radford concluded that the “educational researcher seeks to reduce complex wholes to particular factors and to identify correlations between them and desirable outcomes…[because there is a] recognition that educational systems contain multiple variables (and) these connect in non-linear and dynamic ways” (p. 117). Each student was required to participate in two 10 minute performance tests and to participate in a teaching program that extended over six months.
The only participants excluded from the project were students from a musically advantaged background (where, for example, one or more parent is a professional or a serious amateur musician). The rationale for excluding the musically advantaged is that the project was working specifically to develop strategies to help the musically disadvantaged.

**Parents**
Although the only part the parents had in the study was to complete the questionnaire, they were nevertheless an important group. They provided the details on the musical background of their children from whom the participants for the study were selected. As parents of the students they had considerable influence over the ways in which the students prioritised their musical studies at home and the encouragement and support given to the student to practice their instrument and respond to the exercises given to them by their teachers. As the study progressed, it became evident that the parents were very important in influencing the progress or otherwise of the students, ranging from accepting to rejecting the advice provided by me. The responses of the parents strongly validated the results of this study as are detailed in the findings.

**The teachers**
This work was a collaboration between the teachers and me and therefore they were not part of the study itself. Their task was to implement the techniques that were developed. I explained the aim of this study, and we then met to discuss how the constructive ideas could be implemented in a studio setting. I explained the ideas of this teaching approach and they came up with examples of how they had observed or been taught themselves by this method. The wind teacher reminisced about a teacher who taught her while she was at the Conservatorium High School. That teacher got her to imagine a story about a piece before she performed it, and talked about how the whole school had compulsory eurhythmic classes to help their musicianship. The string teacher had one very fine teacher
who used practically all the techniques discussed in the study in her lessons. She also told stories of a fine cello tutor while she was performing with the SBS Youth Orchestra, who used exaggerated physical movements to teach orchestral phrasing. When we first met problems with the beginner string participants, the string teacher found a Suzuki book called *Tonalization* which used a series of exercises to develop understanding in young string players. Both teachers’ suggestions and ideas were then included in the chart (Table 2).

The two teachers chosen to teach the participants in the study were employed on a part-time basis by the St. George Players. They were chosen because they had teaching experience, the woodwind teacher far more than the string teacher. Both had successfully entered many pupils for AMEB and/or Trinity College exams as well as eisteddfods. The woodwind teacher had performed oboe and baritone sax professionally for a number of years in Australia, but was now concentrating on and developing her love of music teaching. As well as studio teaching, she was a successful conductor of young ensembles including concert bands and orchestras. The string teacher had done some professional playing but had mainly performed in the SBS Youth Orchestra. Both teachers could be relied upon to fully implement the teaching strategies developed through the project for each of their two students.

A third teacher, who collaborated with me and was not part of the actual study, was asked to assess the musical performance of each of the students both at the start and end of the study. This teacher was an instrumental teacher and highly experienced trumpeter who had considerable experience performing both classical and jazz music. He agreed to view all the taped initial and final students test performances and discuss his observations and findings with me.
Design and Data collection
Various procedures were developed to collect data from multiple sources including video, blue and red book notes, questionnaires, and interviews with teachers and parents. The study began with a Parent Questionnaire (see Appendix A) designed to gather information on the musical background of the family, including formal music training of the parents, singing at home, musical games at home, listening to music and the style preferred, concert attendance and questions going into the musical experiences at school. The Parent Questionnaire was to be completed on behalf of possible student participants for the study.

Parents of students short-listed to participate in the study were interviewed. The aim of the interview was to obtain more details on the background of the students, based upon the answers provided to the questionnaire. This included more information on family background of music and included a general chat about how committed the family was to music and education in general, what other interests the children pursued and the general philosophy of family life. Participants were then selected on the basis of the questionnaire and the interview.

At the beginning and end of the project each participant was given a Student Preliminary Playing test (chosen by the teacher) consisting of an appropriate piece of music to prepare by themselves for 10 minutes (see Appendix B i). The music was selected by their teacher on the basis that it was previously unknown to the student, and commensurate with their current performing skills. The music was selected from their current AMEB list of available pieces so that a student preparing, for example, for a third grade AMEB flute examination was presented with an examination piece set for that grade. This meant that all students were given tasks of an equal challenge. To contrast with possible students for the study, I asked other young successful players to prepare an
unknown piece (selected by their teacher) and perform it, so that it could be taped on video.

At the end of the project each participant was given a final Playing Test again consisting of an unknown appropriate piece of music (see Appendix B ii). The purpose of the preliminary test was to give us a guide as to how the student approached the preparation and then, the performance of an unknown piece of music. The purpose of the final test was to assess the student’s developing musicianship by comparing the two tests. Both tests were assessed by the third teacher in order to hopefully give an unbiased evaluation of the performance.

Every third to fourth lesson with the student participants was videoed and the resultant videos were viewed by me and I then discussed my observations with her teacher. The video camera was put in an inconspicuous part of the room and left there so the student did not know if it was videoing. Video has been chosen as the method of data collection because I am well known to all the students. I am concerned that one or more of the students may react in a manner that could affect the validity of data collection if I am present at any of the lessons.

The teachers were given a sample Blue Workbook that was later given to each participant. It was explained that each of the exercises in the workbook was just a guide to the approach required (see Table 2). Each exercise involved the player becoming aware of a specific element of their playing whether beat, intonation, dynamics phrasing, style or other elements. Once the philosophy was explained, each teacher took a copy of the pupils’ work book and added to it. Their examples were based on their own experiences with their own teachers and other techniques they encountered that fitted the pattern of constructive techniques. Thus the woodwind teacher worked on speed, the string teacher worked on tone and bow hold. This book I call the Blue Workbook throughout this study (see Appendix C). The basic workbook outlined strategies which
aimed to guide both teacher and student. The heading, Awareness, for example, was followed by the request for students to write “What is happening not what is right or wrong”. To this were added examples the teachers developed, and wrote in the book, for their own pupils using the constructivist approach.

The following table (Table 2) shows not only the techniques developed by the teachers and myself, but the sources from which the ideas were developed.
<table>
<thead>
<tr>
<th>Elements</th>
<th>Exercise</th>
<th>Awareness</th>
<th>Origins of the Technique</th>
</tr>
</thead>
<tbody>
<tr>
<td>Musicality</td>
<td>Watch self while playing a piece by heart</td>
<td>What did you notice?</td>
<td>Inner Game of Music</td>
</tr>
<tr>
<td>Melody</td>
<td>Concentrate on the melody line making the dynamics match the highs and lows of that line</td>
<td>How did this affect your performance?</td>
<td>Dalcroze</td>
</tr>
<tr>
<td>Timbre</td>
<td>Pretend to perform in various venues – opera house, chamber music concert</td>
<td>What did you notice?</td>
<td>Inner Game of Music</td>
</tr>
<tr>
<td>Accents.</td>
<td>Accents. Imagine playing a piece with a lot of accents into a meter. Make the needle reach the needle reach the same point each time. Same technique can be used with dynamics, staccato etc</td>
<td>What did you notice?</td>
<td>Inner Game of Music</td>
</tr>
<tr>
<td>Dynamics</td>
<td>Dynamics. Focus on the difference between loudest and softest. Add in dynamic change that occurs with melodic contour.</td>
<td>What did you notice?</td>
<td>Dalcroze</td>
</tr>
<tr>
<td>Accelerando &amp; crescendo</td>
<td>Accelerando &amp; crescendo. Split into counts. Work out how to change evenly counting as it’s played. In accelerando don’t slow down for notes – miss if necessary.</td>
<td>What did you notice?</td>
<td>Dalcroze</td>
</tr>
<tr>
<td>Timbre</td>
<td>Timbre. Focus on full sound right through the piece. Close eyes, turn off lights. Play with no articulation to concentrate on sound.</td>
<td>What did you notice?</td>
<td>Inner Game of Music</td>
</tr>
<tr>
<td>Timbre</td>
<td>Timbre. Focus on accompaniment adjusting your sound to fit.</td>
<td>What did you notice?</td>
<td>Inner Game of Music</td>
</tr>
<tr>
<td>Phrase</td>
<td>Aware of last note of phrase – note only last note but end of last note.</td>
<td>What did you notice?</td>
<td>Inner Game of Music</td>
</tr>
<tr>
<td>Technique</td>
<td>Concentrate on one moving part of your body. What do you feel? Weight, resistance, pressure etc. When does this sensation change?</td>
<td>What did you notice?</td>
<td>Dalcroze</td>
</tr>
<tr>
<td>Technique</td>
<td>Awareness of tension. Gently move the tense part to the pulse while playing.</td>
<td>What did you notice?</td>
<td>Dalcroze</td>
</tr>
<tr>
<td>Dynamics</td>
<td>Awareness of energy. Forte pieces need even more at the end. Use step method for increasing energy. Visualize growing intensity.</td>
<td>What did you notice?</td>
<td>Dalcroze</td>
</tr>
<tr>
<td>Musicality</td>
<td>Expression. Visualize feelings expressed in music.</td>
<td>What did you notice?</td>
<td>Dalcroze</td>
</tr>
<tr>
<td>--------------------</td>
<td>---------------------------------------------------</td>
<td>----------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Phrasing and Dynamics</td>
<td>Sing piece using extreme phrasing and dynamics. Play the same way on your instrument.</td>
<td>What did you notice?</td>
<td>Dalcroze</td>
</tr>
<tr>
<td>Pulse and Rhythm</td>
<td>Aware beat. Book computer. How close can you get to exact beat?</td>
<td>What did you notice?</td>
<td>Auralia</td>
</tr>
<tr>
<td>Pulse and Rhythm</td>
<td>Aware beat. Play only first beat of each bar with the metronome. Play first and last. Play middle</td>
<td>What did you notice?</td>
<td>Inner Game of Music</td>
</tr>
<tr>
<td>Pulse and Rhythm</td>
<td>Aware beat. Play as fast as you can with metronome leaving out notes as necessary to keep with the beat.</td>
<td>What did you notice?</td>
<td>Inner Game of Music</td>
</tr>
<tr>
<td>Musicality</td>
<td>Play with accompanist. Aware of if you are playing ahead or behind the accompanist, different dynamics, articulation to accompanist.</td>
<td>What did you notice?</td>
<td>Inner Game of Music</td>
</tr>
<tr>
<td>Musicality</td>
<td>Awareness of background to piece. Research and understand history of piece.</td>
<td>How did this knowledge affect your performance?</td>
<td>Auralia</td>
</tr>
<tr>
<td>Intonation</td>
<td>Awareness intonation. Book computer. Highest mark on intonation test.</td>
<td>How did this awareness affect your later performances?</td>
<td>Auralia</td>
</tr>
<tr>
<td>Musicality</td>
<td>Aware concentration. Wait for 4 seconds before beginning the piece to cut mentally cut out extraneous sounds and feel the mood of the piece.</td>
<td>How did this affect your later performances?</td>
<td>Inner Game of Music</td>
</tr>
<tr>
<td>Timbre</td>
<td>Aware string tone. Pluck string listen to ringing sound after string is plucked. Try to get the same sound using bow.</td>
<td>What did you notice?</td>
<td>Suzuki Tonality exercise</td>
</tr>
<tr>
<td>Timbre</td>
<td>Aware resonance. Play A on G string. Experiment to find the point the open A string resonates the loudest when the lower A</td>
<td>What did you notice?</td>
<td>Suzuki Tonality exercise</td>
</tr>
<tr>
<td></td>
<td>Activity</td>
<td>What did you notice?</td>
<td>Method</td>
</tr>
<tr>
<td>-------</td>
<td>---------------------------------------------------------------------------</td>
<td>----------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td><strong>Timbre</strong></td>
<td>Awareness of tone colour. Bow an open string near the bridge, near the fingerboard and in the middle. Write down the differences you noticed in the tone, bow pressure and volume.</td>
<td></td>
<td>Suzuki Tonality exercise</td>
</tr>
<tr>
<td><strong>Technique</strong></td>
<td>Awareness of bow. Play an open string with a diagonal bow. Repeat with the bow parallel to the bridge. What did you notice?</td>
<td></td>
<td>Suzuki Tonality exercise</td>
</tr>
<tr>
<td><strong>Musicality</strong></td>
<td>Awareness of texture. Play your part while listening to accompaniment/melody part. Sing that part.</td>
<td></td>
<td>Inner Game of Music</td>
</tr>
<tr>
<td><strong>Musicality</strong></td>
<td>Imagine a story or picture that fits the piece you are playing. Play the piece to fit in with your imagery</td>
<td></td>
<td>Dalcroze</td>
</tr>
</tbody>
</table>
All of this was included in the Blue Workbook and room was left for students to respond and observe during their self-monitoring of these exercises. All observations were not whether the playing was right or wrong but what was observed in the application of each exercise. Each exercise was to be applied to a number of pieces and hopefully each participant could draw some conclusions about her observations.

As well as working with their pupils on the Blue Workbooks, the teachers were asked to keep the normal Red Practice books of the school (Red Practice books – see Appendix D). They were designed to really concentrate on how practice was to be done encouraging the pupils to take ownership of their practice. It was also a record of teaching done and a way of communicating with parents. Examples of practice strategies are given in Table 3 as well as exercises for the student to fill in which are in Appendix G. These strategies often were also intended to draw the parent into the music process as well as creating independent learners of the young musicians. At the end of each lesson the pupil told the teacher what needed to be done before the next lesson. The aim of this was to empower the student. With the teacher’s approval, these notes were written up in the Red Practice book. The pupil then read the written instructions out aloud to the teacher.

**Table 3: Examples of Practice Strategies**

<table>
<thead>
<tr>
<th>Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent listened to problem piece during the week (after reading the notes in the Red Practice Book) and wrote comments to the pupil on improvement between the two playings (see Appendix D).</td>
</tr>
<tr>
<td>Pupil made charts showing problem and how he or she dealt with them during the week. Pupil filled in a chart showing the number of repetitions completed correctly during a practice session and reported on how long it took to perform that section correctly by heart (see Appendix D).</td>
</tr>
<tr>
<td>Pupil played through a piece twice during home practice and ringed and wrote “oops” above any error that was repeated. They then filled in a practice chart showing the number of correct repetitions done and demonstrated the correct playing in the next lesson.</td>
</tr>
<tr>
<td>Pupils colour coded a piece being practiced showing dynamics, phrasing,</td>
</tr>
</tbody>
</table>

45
articulation or bowing, tempo etc. They then practiced this piece over and over concentrating on the aspect shown by one colour at a time.

All work in the practice books was to show a development of independent learning. The blue workbooks were to develop musical understanding.

The action research approach was applied by evaluating and reshaping the strategies discussed previously by the teachers and me at regular intervals of three to four weeks over a total of six months. Meetings and discussions of problems that occurred and possible solutions were done after each videoing as described in the data collection, below. The intervals between tapings were decided on to give the teacher and student a chance to settle on a new strategy before it was changed.

After each videoed lesson, changes in teaching strategies were discussed then implemented as required and notes of the discussions and any changes of strategy were to be recorded as part of the study. The teachers were asked to comment at all times on what was happening not what was right or wrong as the study was looking at perceptions of the player, not the teacher’s opinion.

At each lesson the teacher wrote comments on the lesson and recorded practice tasks in the student’s Red Practice Book. These were the usual notes about such topics as technique, rhythmic accuracy, as well as suggestions that gave their pupils choices on performance. The function of the Red Practice Book was twofold. Firstly it was a means of dialogue between the students, teachers and parents, and secondly it gave the pupil ownership of their learning through a series of techniques that the pupil was suggested to try between lessons. Teacher’s notes also provide me with notes of the lesson during the course of the study, and provided information of the progress of the students over a period of time.

The Blue Workbooks were based on constructive techniques designed as a series of exercises which could be applied to their current repertoire by the
student and that when played made the pupil aware of each specific technique as can be seen in Table 2. This understanding and their own application of concepts was recorded in this book.

**The tool of video in research**

Video was used to capture information about the intimate environment of the one-to-one teaching environment. The journal *The American Music Teacher*, tried to write its own paper based on video submissions from its readers and was warned by a contributor that trying to capture genuine teaching on tape was “doomed to failure” (p. 43). The journal was subsequently forced to reject over half of the videos submitted for assessment of motivational strategies because of “video consciousness” (p. 43), yet they found that an experienced engaging teacher could overcome the fear of the camera by totally engaging the pupil in the lesson at hand.

Berr and Shockley (2003) found teachers who used video in normal lessons, even to the point of using a video instead of normal lesson notes, had students who became much more aware of the process of practice and performance. That sort of skill could only come with teacher experience and at least one of my participating teachers was relatively young and inexperienced.

**Analysis**

Analysis began by comparing data with themes from the literature review including early background, gender, parental involvement, effective pedagogy and learning theories. Data from the multiple sources was video, verbal discussion and written. Below, key analytical criteria and issues are listed:

i) Parent Questionnaire – The questionnaires were collated into a network diagram (Attride-Sterling, 2001) which showed the basic themes that occurred which were then classified to show the underlying trends within the families. This included the general level of
music involvement at the present time, but also showed musical involvement in the parents background and how it affected the present day students;

ii) Parent Contact - parents were contacted to ensure that they were aware that involvement in this Study would require some extra work by their child and they (the parents) were prepared to support their child;

iii) Student Preliminary Playing Test – videoed then analysed by researcher and expert teacher based on a series of criteria including intonation, phrasing, rhythmic accuracy, preparation strategy, performance strategy; I also looked at any practice strategies attempted in the preparation of the performance.

iv) Videoed lessons - video analysed by teachers and researcher, sitting down debriefing, reflecting and changing. This was done regularly in a cafe with the video camera over coffee to get teachers relaxed. This was to get perhaps a more honest evaluation than if the discussion was done in a more formal setting. Major issues which emerged in the lesson sought then written down in the Yellow Research Journal. Issues that emerged were the basic lack of fundamental music knowledge, lack of general musical experiences which hampered their ability to discriminate.

v) Blue Workbook – teachers’ and students’ comments were analysed in relation to constructivist understandings, including melody, timbre, dynamics, phrasing, technique.

vi) Red Practice book – teachers’, parents’ and students’ comments analysed in relation to instrumental technique, practice strategies. Also any problems found by the students or parents.

vii) Teachers’ comments, researcher’s comments – written down in a Yellow Research Journal and analysed in relation to all criteria;

viii) Final Playing Test – same as iii)
Ethics and validity
In order to address the ethical and validity issues, all students (and their parents) were asked if they wish to voluntarily join the project. If they consented, they were given an Information Sheet and Consent Form approved by the UWS ethics committee (see Appendix E). The participants were both primary and high school aged children and ranging in age from 8 to 14 year olds and were chosen from the answers to a questionnaire which was sent to all members of St. George Players School of Music. No specific group of participants was targeted on the basis of disadvantage (other than musical disadvantage) or ethnicity. Students were able to withdraw from the study at any time.

The use of multiple data sources, debriefing with teachers, thick descriptions and acknowledgment of my own bias, allowed me to become a “curious student who comes to learn from and with research participants” (Glesne 1999 p. 41). Thick description is not only a description of the behaviour of the participants but also describes the context in which the behaviour occurred. As it is used in the study, it added strength to the triangulation, combining methods and data and examining it from different aspects (Patton, 2001). This process increased the validity to the research findings.

Summary
This chapter argues for a research design adopting action research within case studies. It describes the participants, who were eligible for the study and who were not, and how ethical issues were handled. It also outlines in detail the collection of data from multiple sources resulting in a triangulation and therefore validity of information. Findings from these multiples sources are discussed in the following chapter.
Chapter 4 – Findings

The chapter begins by discussing findings from the Questionnaire (see Appendix F) and the first Student Preliminary Playing Test (see Appendix B i). After this, findings from the action research approach undertaken on the four case studies, plus informal responses of others in the School, are discussed. Each case study begins by outlining the background of the participant, drawn from the parent questionnaire. It then describes the process of the participant, drawing on research video observation, teacher observation, discussion between teacher and researcher, and comments from the participant drawn from the “little blue workbook”. At the end of each study, a summary of the key issues emerging is given. Participants (including the teachers) have been given pseudonyms but their gender is identified. The teacher of each participant plays a major role in each case study. Table 4 lists the participants and their pseudonyms used in the study.

Table 4: List of participant pseudonyms

<table>
<thead>
<tr>
<th>Student</th>
<th>Instrument</th>
<th>Gender</th>
<th>Age</th>
<th>Pseudonym</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Flute</td>
<td>Female</td>
<td>14</td>
<td>Anne</td>
</tr>
<tr>
<td>2</td>
<td>Clarinet</td>
<td>Female</td>
<td>9</td>
<td>Bronwyn</td>
</tr>
<tr>
<td>3</td>
<td>Violin</td>
<td>Female</td>
<td>12</td>
<td>Clara</td>
</tr>
<tr>
<td>4</td>
<td>Cello</td>
<td>Female</td>
<td>10</td>
<td>Deborah</td>
</tr>
<tr>
<td>Teacher</td>
<td>Instrument</td>
<td>Qualifications</td>
<td>Pseudonym</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Woodwind</td>
<td>Bach. of Music</td>
<td>Edwina</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Strings</td>
<td>B.A. (Music major)</td>
<td>Flora</td>
<td></td>
</tr>
</tbody>
</table>
The Questionnaire and Student Preliminary Playing Test
The Questionnaire went out to 95 families involved in the St George Players. It was given to families who had pupils involved in a range of music activities including private lessons on an instrument, participation in concert bands, jazz band, orchestras and fiddle groups. It was not given to any in the very young classes (below the age of five) as they have not chosen an instrument, nor was it given to choir members as again, they do not generally play instruments and tend to come on a casual basis.

Of the 36 responses, all but 4 were heavily involved in the program, most having private lessons as well as belonging to appropriate performing ensembles. Eight represented families with more than one child in the program.

Although most replying to the questionnaire said they listened to music, only three specifically mentioned that they attended concerts. Most seemed to listen to music on CD or radio as a background to other activities. This tended to be popular music (10), with classical mentioned by 6 people and jazz by 1. There were only 12 parents who had any formal music training and for the large part, the instrument learnt was piano (15). This was generally considered as an unproductive experience with no parent still feeling able to play today. Parent B noted: “I learnt the piano for three years, but I didn’t like going and now I have even forgotten how to read music”. This inconsistency (12 had formal music training, 15 played piano) raises issues of what the parents consider formal music training to be. Some of the current pupils had siblings or relatives other than parents who played an instrument formally. For students, most early experiences were being sung nursery rhymes (17) or popular songs (9). Some children had no early musical experience until they went to day-care or preschool. Musical games were only experienced by 5 who went to Kodály or Suzuki classes, and 4 who attended St. George Players’ Early Music Workshops. Once
formal instrument learning had begun, musical experiences were centred around the school. Family concert going tended to be attending children’s concerts. Many joined the school band after taking up an instrument with St George Players, others were given CD players and CDs. Of the student participants by far the great majority chose their own instrument to learn. Many of the parents had expressed a wish for a particular instrument, commonly saxophone, but their children overrode their wishes. Chen and Howard (2004) found children were most likely to succeed on an instrument they chose themselves so the findings about student instrument choice were a good start for the project.

The initial taping and questionnaire was met with great enthusiasm by all the Saturday pupils. Almost all wanted to take part. A notable absence was the top flautist, a male, who apparently did not wish it known outside the school that he played flute.

In relation to the Preliminary Playing Test, the majority of students played the first test (see methodology above). This was videoed and then analysed by me and the third teacher using a series of criteria including intonation, phrasing, rhythmic accuracy, preparation strategy, performance strategy. I also looked at any practice strategies attempted by the students prior to performing the test piece.

Many of the very inexperienced pupils, (some had only had their instrument for a few months) just repeated the piece they were given over and over. Many did not even consider the rhythmic side to the music in front of them. They just played one pitch after another. Others made a very creditable attempt even including correct dynamics, phrasing an articulation.

Some senior students also wished to undertake the initial testing. They knew they would be unlikely to be chosen for the study, but wished to try anyway. The most notable was our first alto saxophone player, Jack, who even at that time
was looking for a career in jazz and was already in great demand. He was seventeen. Edwina chose the most difficult sax solo she could find (*Fantasy Piece no.8*, Bourgeois D.) – one that was classical rather than jazz based to really test him. His ten minute preparation was fascinating. Unlike all the younger ones, at no time did he actually play the piece right through. Much of his time was spent in just studying the music. He experimented with small lyric sections, trying out various phrasing but the only real “note crunching” he did was of a very technical fast section. He also fixed the stand height and his posture to improve his sound which none of the younger ones did. His final performance was beautiful with all the style he could muster. Jack comes from a background without music, as do others in the study. His parents, both medical professionals, tried to encourage him in all sorts of other options before giving up and letting him do what he is so eminently able to do - music. He has jumped all the barriers that have prevented some of the others from doing what they want to do.

Others were not as successful. Pete, on trombone at seventeen, took a similar approach to the younger ones, playing through his piece again and again. The main difference was that he corrected errors as they occurred which many of the others did not do. There was also some attempt at dynamics and style but no logical approach to improving his playing.

The responses to the questionnaire were collated. Possible candidates for the research were selected. This selection was based on their background, whether they were having obvious difficulties developing musically despite a positive attitude to music making, that they were not complete beginners and had some understanding of the music process, whether they learnt from one of the teachers working with me in the study and got on well with that teacher and they had already shown their ability to work to a conclusion by their concert attendances. They all had to be having private lessons and belong to one of the Saturday ensembles. The girls eventually chosen were part of everything that was on offer including the choir. Some boys were approached but whereas they
were willing to take part in the general questionnaire and initial taping, no boy wanted to be part of the more concentrated one on one research. Many of the boys at that time spent Saturdays at the school playing an instrument, but hid that fact from their school friends. Buttu (2008) discusses this problem in her paper on gender and certainly in this area, young men are respected for their sporting prowess alone. Ability in the arts is considered somehow unmanly.

The final decision was made after a general discussion with the parents. The two girls who play woodwinds have a father who himself is an academic and was very supportive. He felt it would be a great learning experience for the girls on many levels, academic as well as musical. The two string girls also came from university educated parents who wanted their girls to have as many different experiences as possible and felt it would be good for them.

Test case studies

Case study 1: Anne, flautist

Background

Anne’s parents had a small amount of background musical experience; both learnt piano briefly but her mother in particular did not like going to lessons and neither had any other formal musical studies. Her parents take an all-round education very seriously for their children and Anne’s brother played trombone for several years and her sister plays clarinet. Anne, who is 14, had no early childhood experiences beyond “Wiggles” and Pre school concerts and TV. At school she attended Opera House concerts but had no formal music lessons at school until 5th class when they were given recorder lessons. She chose flute at a St George Players’ meeting after trying various instruments and deciding that was the instrument whose tone colour she liked and one on which she could easily make a sound. After a time in the band program she began private
lessons doing the 3rd grade Australian Music Examinations Board (AMEB) exam in 2005. Although she loves music and always tries very hard at anything she does (she is also a keen sportswoman), her education lacked musical understanding developed over several years and, as with others in her position, that was holding her back.

**Anne’s journey**

To evaluate Anne’s understanding of the music process, she was first given a piece chosen by her teacher, Edwina and one which she had not seen before. It was a modern piece by Kieran Bailey called *Wiley Bossa*. She had ten minutes to learn it and then to perform it. Anne’s first taping showed a careful approach to sound but with some rhythmic errors and a lack of dynamics, and phrasing. Every note was given the same dynamic whatever the marking whether forte or piano. She showed no sense of swelling a phrase to its middle then tapering it away at the end. She slowed markedly down when she came to a section which had some technical problems like high notes or awkward fingering passages. Her rehearsal time was spent playing the piece over and over with little attempt at solving problems. She seemed unaware she was changing the tempo to fit her technical problems. This is exactly what McPherson and Renwick (2001) found in their study of self-regulation in children’s practice. There they discovered that children had very little idea how to practice beyond playing through each piece once so Anne’s first performance is really what one would expect.

The first lesson dealing with my work happened a week later and Nellie’s first task was a simple one showing how beat and rhythm work together (see Appendix C). The jazz piece was she was given for her initial test - *Wiley Bossa* was chosen because of the rhythmic difficulties she encountered in her initial playing. Anne’s first task was to play just the note that occurred on the first beat of the bar – keeping the beats correct. She then went on to add the middle beat note, gradually adding each beat until the whole passage was done. This was
the first of what I call Anne’s “AAAH” moments which surprised me because although she theoretically understood how beat and rhythm fitted together, and could explain it, she did not understand it *musically*. I have observed that young players will often carefully count through different difficult passages until they get to a long note or the note at the end of a phrase and suddenly all sense of beat is gone. In her blue workbook, Anne commented that breaking up the bars into different beats made it easier to get the rhythm correct and when she came back to play the whole piece even the harder parts now fitted in.

I discussed Anne’s first taping with her teacher, Edwina. We were both amazed that the first exercise presented any real problems and wondered how she could get that far without understanding such a fundamental part of music. Edwina commented that: “I didn’t realise how little musical understanding a child can have and still be able to play their instrument.” We both would have expected that any player past the initial stages, would be able to sight read a simple melody understanding how pulse, beat and pitch work together. Her sight-reading we surmised must then be part reading, part playing by ear and part sheer guesswork! We then decided that the best move forward would be to spend some time on pulse and rhythm exercises and then continue slowly through the Blue Book concentrating on basic musical elements and not worry about adding anything extra for the moment. The reaction of Anne to the first exercise showed we were on the right track. This already showed the advantages of action research as we could deviate as needed to create a learning situation purely for Anne.

Anne’s second lesson worked with a metronome changing the speed and leaving out some of the small value notes as it sped up. Here she tended to halve the value of the fast notes to fit them all in. Again there was a rubbery understanding of tempo and rhythm. This was helped by her teacher playing along to keep the pulse correct and so she realised it was not much different to the first exercise and the beat and rhythm must be kept together whatever the tempo.
In this discussion, Edwina commented that Anne was beginning to think in a more musical way. “Anne is beginning to develop an instinctive sense of pulse and I wouldn’t have expected that this would be something that could be taught.” Edwina felt that a lot of young people think learning an instrument is a matter of learning a lot of tricks to be able to perform. This exercise many young performers will make the initial mistake Anne did, halving or doubling the note values. Anne however, was soon able to correct herself. We decided to go on to other exercises away from rhythm to see what her perception was. It is obvious that this understanding is a basic problem that is affecting her music. This again is the action research approach being able to flexibly adapt as the need arises.

Anne’s third recorded lesson dealt with dynamics. In a paper on expressive performance, Woody (2003) had players drawing a chart of their perception of the expressive model. This was found to be an accurate model of their performance and their understanding of interpretation. Twenty five piano students heard various excerpts played “deadpan” and then with various interpretations. They each then had to play the excerpts themselves, imitating what they heard then followed this up with drawing a chart of their perception of the expressive model. Drawing on ideas from this study, Anne’s homework was to prepare dynamic charts of her exam pieces. She did a very full chart. This was interesting as Anne is very reticent but extremely intelligent with a love of maths and science. The chart was a way she could analyse music in a visual and scientific way. This suited her way of learning. Her teacher asked her to note tone changes and other changes that occur with extreme dynamics. She was also told to note how her dynamics had to change to work with the accompaniment. Unfortunately the tape died at this stage. She was sent off to play for her sister Bronwyn, for her to comment on how clearly her dynamics could be heard by an audience. This acted as peer evaluation and helped to give the girls permission to form their own opinions on music practice. Edwina noted that this was the approach to dynamics that was the most effective. “Anne and
Bronwyn have been very good collaborators in approaching this task. They trust each other to give accurate feedback and the expressive qualities of performance have improved enormously with both girls.”

In our later talk, Edwina confirmed that Anne showed a real understanding of the task. She had approached the study with intelligence and enthusiasm and is enjoying learning what to her is a new approach. This is shown in her thoughtful approach to her playing and observations in her book. Talking to Anne tends to be difficult at communicating as she is very reticent to offer her opinion. Edwina was confident to go on to more complex exercises.

Nine weeks later, a fourth lesson was recorded. The lesson focused on Anne playing with an accompanist. Both her teacher and I agreed she showed a much more critical approach to her playing. Anne had to observe what the accompaniment did during a piece. If the accompanist just plays long notes to Anne’s faster ones, the piano must follow Anne. If the accompanist has repeated notes under long notes held by Anne, then the piano becomes “the boss of the rall” (Anne’s words for a rallentando). Anne commented that “ralls have to have the same exaggeration that dynamics needed” when she was doing the previous exercise. When she played with the piano, her tone suffered because she said she was concentrating on the accompaniment. When the piano is ignored to some extent, her sound improved. The problem of breathing was dealt with by working out where she was going to cheat by cutting short the note before the breath.

In our discussion, Edwina noted that Anne tends to listen to the accompanist instead of leading the accompanist and applying the previous exercises to her own playing while ignoring the piano. This sort of task becomes doubly difficult if the performer is used to playing with a recorded backing track as all the rules about leading the accompanist cannot work there. When the pupil finally performs with a real accompanist, they do not know how to lead. Edwina
continued this exercise in playing duets with Anne and practicing being a leader or playing second. Anne commented about how you had to be aware of other instruments’ problems when you are a leader.

In the next lesson, three weeks after the previous, Anne tackled the issue of timbre in her flute playing (see Appendix C). She played part of a piece which has extremes of range and noticed how squeaky the top notes of the flute sound compared to the more mellow lower range. The teacher suggested she tried the exercise where she consciously makes it louder as it goes higher and softer as it is lower. Anne found a marked improvement but was still not happy with the sound. Edwina then asked her to remember how she has been told to move her jaw for the upper notes and talks about the physics of the upper partials. Anne said this is “heaps different” and every time she plays it, it improves. They talk about posture and tension with Anne being much more analytic about her playing. They then continue experimenting with the problems of producing a good tone in various dynamics. Edwina sets her a task of playing a piece by heart with her eyes shut and analysing the tone.

Edwina said Anne has become extremely critical of her own playing. She has taken charge and is a perfectionist. She sees the whole problem as an intriguing puzzle to be solved. I would not have imagined that there could have been such a change in attitude in a small space of time. I think it is in part that the students all belong to a group where experimentation is encouraged and music is enjoyed in an attitude of acceptance. Edwina commented that she had told Anne all the techniques but when Anne was to experiment and try things out herself, what she had been told suddenly made sense and she attacked those techniques with gusto and therefore the improvement is marked.

As the study continued Anne learnt to construct her understanding of these elements and apply them to her own music making. An example of this occurred towards the end of the study. Anne took part in a chamber music concert in
which she had to choose the music, lead her players and perform in a concert and really demonstrate her ownership of learning. This is where the result of the research really shone through. She chose Grieg’s *In the Hall of the Mountain King* as a piece which all of her members could play. No suggestions were given to her by teachers on how to rehearse, but she analysed their problems and went through the various techniques to find possible solutions. The problem of a slowly increasing tempo she took to her teacher and they sorted out a method she understood and could use. The final performance was very successful but Anne, with her newly acquired more discerning ears, found fault with it.

Anne’s final video showed a girl with much more understanding of the music process. The initial rehearsal she spent slowly going through her piece and stopping to work out tricky rhythms. She still did a lot of repetitions but gradually added extra elements as she went on. The final performance was not up to speed and did not show a great deal of style, but was basically an accurate performance that used correct dynamics and phrasing.

By the end of this part of the study, Edwina noted that Anne had gone from the weakest of her three 5th grade students to the strongest with the most analytical approach and least evidence of mindless practice.

**Summary of Anne’s journey**
The teaching and learning approach taken in the study adopts constructivism as a way for the student to understand, analyse and remedy problems for themselves. As Anne had little or no musical background this approach focused on the learner and her understanding not the material to be taught. The constructivist “intervention” adopts the view that knowledge has no value unless it comes from experience (constructed) by the learners themselves. All exercises were then designed for the young learner, Anne, to form her own understanding of music. The biggest surprise was how basic Anne’s lack of understanding was. Even in the most basic pulse/rhythm exercise Anne, who could imitate anything
her teacher played, did not understand the relationship between the two. The other exercises showed a constant lack of understanding of how music worked. This constructivist approach made learning a very much more active and exciting process for her and her teacher.

Doing these exercises was only part of the process. The process forced Anne to analyse her own learning and this made her much more active in her learning. She was forced to be a partner with her teacher, not just a receptacle for knowledge and this was a very difficult process for her. She was always happy to fill in the Blue Workbook but interacting with her teacher was very difficult. The early videos show a very frustrated teacher trying to get any opinion at all from her. Questions by the teacher could be met with a shrug or a one word answer. She would sit waiting to be told what to do and never offering any input at all, but by the end she was willing to form opinions, put them forward and work collaboratively with other pupils in performances. She was able to get away from just right or wrong and work with her sister in designing dynamic graphs for different spaces.

Anne has recently started oboe and she began by taking her instrument to our top oboe student and analysing his sound and how he produced it. She applied the thinking she had been taught and came to her first oboe lesson able to produce a good sound, to the great surprise of her teacher. Within weeks she could play second oboe in orchestra balancing and blending her playing to the first oboist. This improvement has continued at an increasing rate so she is now a fine young musician.

Anne has a fine scientific brain (she will be doing top level maths and science for the Higher School Certificate) so she enjoyed the approach that made her understand the processes involved and gave her the tools to make her own music. The constructive approach has liberated her to go on and make music as she wants.
Anne’s journey from a teacher’s perspective
Edwina felt, before this study, that some aspects of musical performance were instinctive and could not be taught. She was, therefore, extremely surprised at Anne’s improvement in the areas of pulse/rhythm and musical expression. Edwina felt that this improvement came from the very small steps that the “little blue book” broke these difficult concepts into. She also believed that the way in which all the tasks built upon and informed each other was a large factor in Anne’s improvement.

Case study 2: Bronwyn, clarinettist

Background
Bronwyn is Anne’s younger sister thus her background is the same as her sister except for the fact that she had her older sister as a model. She began clarinet in the St George Players junior band at 8 years of age. She was nine years of age at the period of the study. The clarinet was chosen because a small kinderklari was available and she had very small hands. She began private lessons in 2006 and sat for the 1st grade AMEB examination.

Bronwyn’s journey
Bronwyn’s first taping showed her very carefully learning the notes with a beautiful sound but little attention to rhythm thus when she played passages that jumped over the break, each note was played with extra length compared to easier passages which were played much faster. Her method of practicing was to repeat the whole piece over and over which again is what McPherson and Renwick (2001) found in their study of self-regulation in children’s practice.
Bronwyn’s first recorded lesson dealt with rhythm and pulse exercises. Bronwyn is normally a shy girl, but she became very involved in the task of putting the correct note on each beat and showed real interest and understanding. This was shown later by a much more rhythmic performance than she tended to play. As was observed in her preliminary video and noted by her teacher, Bronwyn tended to ignore the pulse when she crossed the break and did not realise this until she did that exercise.

In the initial discussion, her teacher, Edwina noted: “I didn’t realise that Bronwyn’s approach to learning was so analytical before we began this study.” As she had a basic grasp of rhythm, we decided to go on to other basic concepts - and the next taping proved our summation of her understanding was correct.

Three weeks later, Bronwyn’s second lesson was recorded. This showed rhythm and pulse problems much improved. They continued with dynamic awareness. Bronwyn had been given a task to draw the dynamic diagram of a piece, based on Woody’s (2003) paper on expressive performance. Bronwyn and Edwina discussed how to deal with high notes in a phrase. Because of the nature of the instrument and Bronwyn’s relative inexperience, they tend to sound louder than the lower notes around in the phrase. That means their sound tends to poke out of a line and destroy the overall dynamic effect wanted. To overcome that problem they decided to draw an average of the dynamics which means the overall effect may be louder than initially wanted, but it would appear much smoother. Edwina noted: “Upper register notes tend to be too loud with most young clarinettists and drawing a dynamic contour seemed to help Bronwyn become aware of this discrepancy.” The teacher explained about how exaggerated dynamics must be to be heard by an audience. Bronwyn had trouble getting much difference in dynamics but made an obvious effort. Edwina noted that: “Although Bronwyn has difficulty making her dynamic changes heard, she does achieve an overall improvement in tone because she is concentrating on the emission of breath.” In analysing the effect she noticed a pitch shift on
loud notes but the teacher had to tell her which way the movement was. In her note book she had written that she speeds up when she plays louder, slower when she is softer. The teacher sent her off to play to her sister and get Anne to say if she can hear a dynamic range. Bronwyn, in the time of the taping, has become very involved and is showing development of analytical skills.

Edwina, in her interview with me, said a lot of Bronwyn’s problems are technical. She did so little practice that playing techniques that should be automatic still have to be thought about. This is different from her sister, Anne, who did practice but never understood many of the underlying technical issues.

Another three weeks after the last recorded lesson, Bronwyn had a lesson in which she dealt with playing with an accompanist. She did not show as much interest in that topic, I think the reason was that ensemble playing had always been stressed by her teacher. She did notice that her speed changed with her dynamic changes, so it was harder to play with the accompanist when there were a lot of leaps in the piece but generally the accompanist made playing easier and more interesting. She also noticed that the piano doesn’t need to take a breath as she did so it was easy to get out of time with the accompanist at those points. At some of these points she decided to cut short a note to take a breath, in other places she took a breath in another place so the melody was not interrupted.

Edwina noted that Bronwyn played out more when playing with the accompanist and obviously enjoyed group music making. She has never led an ensemble so she was quite happy to take a passive part. Edwina wanted to do perception work that targeted her technique as that appeared to be her greatest weakness and she wondered what would happen if she was forced to concentrate on technique in a way that made her understand why playing was done in a certain way.
In the next recorded lesson, Bronwyn worked on speed and tension. She observed that as she sped up her shoulders get tense. Her teacher noted that her shoulders actually rose up during faster passages. They talked about how to deal with this problem, and noted sport strategies which required the participant to follow through to keep muscles relaxed. Her exercise told her to wiggle the tense muscles while playing which she did. This showed a marked improvement in the next playing. Edwina then wondered aloud if moving the shoulder muscles also relaxes the throat muscles thus helping with airflow. Bronwyn then tried playing a slow passage and noticed the tension build up in her neck. She decides there has to be tension somewhere to force the air out but Edwina points out that a better way would be to increase pressure in the diaphragm and so relieve the neck. On trying this, Bronwyn to her delight, produces a sound which was indistinguishable in strength from her teacher.

Talking to Edwina afterwards, she noted that she had told Bronwyn about dynamics many times before but because Bronwyn discovered it by herself, and understood what was happening, she was much more willing to go all out with the exercises. Thus she achieved a much higher and to her more satisfying result. Edwina commented that: “Kids seem to be embarrassed to attempt dynamic changes however the small steps outlined in the “little blue book” allowed Bronwyn to build up to expressive performance in a very structured way.” This continued with Bronwyn, as she found out why her clarinet should be played in a certain way, she tried to do it. Edwina said she had tried over quite a long time to explain all the rationale of playing to Bronwyn, but it was not until she was required to discover it by herself, that she willingly pursued correct technique.

Bronwyn also took part in a chamber concert where she performed an arrangement of “Early One Morning” for a woodwind quartet. This was musically effective but because of her timidity, it was not really clear how much impact she had on the group as a whole. Observing her during rehearsals, she would offer
suggestions but the boys in her group would continually talk over the top of her. I let her continue by herself and she just played the way she felt was correct. I felt that in the long run, the other members of her group matched their playing to hers so there was some impact, but I felt that the other members did not really understand what they were achieving. Despite this, she obviously felt she was successful and took great pride in her group’s performance.

Bronwyn’s final video showed some improvement on the original video. The initial rehearsal, like Anne’s, was spent slowly going through her piece and stopping to work out tricky rhythms. Once she had the rhythm and pitch together, she did not seem to see the need to go further. The final performance was basically accurate as far as the notes went but did not show the style she was trying to get her chamber music friends to play.

Bronwyn was quiet and easy going and showed a lack of understanding of even basic music fundamentals at the beginning of the study. This had markedly improved by the end.

**Summary of Bronwyn’s journey**

In some ways, Bronwyn had a more innate understanding of the music process than her sister thus the rhythm/ pulse exercise was not such a surprise but a challenge. The exercises she did made her much more aware of the clarinet’s capabilities and she showed a keen interest in producing a beautiful timbre which she did not do before. The constructivist approach gave her permission to follow what was important to her music making. When she was given a semi-professional clarinet, she spent a great deal of effort in producing a tone worthy of the instrument. In band she was given a little Eb clarinet to play, and the squeakiness of it meant that she found it difficult to play as it was not a timbre she enjoyed. Bronwyn had learnt to form her own opinions and realised that they were important.
Edwina had always found Bronwyn’s lack of practice difficult, but allowing Bronwyn ownership of her own learning, although difficult, had some surprising results. No extra practice was being done, but it became obvious that since the study whatever practice or any playing she did showed a much more analytical approach. This led to a continual steady improvement that took her past some of her contemporaries who were not part of this study. She is now one of three clarinets playing first in the band. The other two have done high levels of examinations (A.Mus.A. and 8th grade\(^1\)) in other instruments and are already fine musicians. Bronwyn is absorbing their musicianship with her new ears and is able to make a fine third to them. Recently Bronwyn has discovered that surviving on no practice will not get her to where she wants to go. Unfortunately, all the understanding in the world does not mean you can totally do without drilling, and that is what must be done with some technical work. Bronwyn has set her own regime in place to learn her technical work as she wants to do her 5th grade AMEB examination. No one is coercing her, but she has worked out what is needed for her to succeed and is putting it in place. Her musicianship since the study has steadily improved; the only lack was technique which she is now addressing. Even this, she would only address when she understood the how and why of technique so again, understanding has been the key.

**Bronwyn’s journey from a teacher’s perspective**

From Edwina’s perspective, Bronwyn had a strong grasp of performance. Edwina feels that the issues with Bronwyn’s playing stem from a lack of practise. Bronwyn’s practise improved dramatically during the course of the study which led Edwina to wonder if students generally do not practise because they do not know how to practice, rather than a lack of motivation. The structure of the “little

\(^1\) All exams were from the Australian Music Examination Board series of examinations
blue book” allowed Bronwyn to break her practise into small, manageable portions. It also allowed her to take control of her own learning and many times she came to her lessons with different sections of the “little blue book” applied to the pieces that she was working on for her examination.

Case study 3: Clara, violinist

Background
The parent’s questionnaire showed that Clara’s family had little musical experiences beyond her father learning piano for a while when young and an interest in listening to classical music, singing traditional nursery rhymes with their girls and watching television programs like the Wiggles. Her family is British with strong links to other family members still living in England. Clara was 12 at the time of the study, having joined the St George players at the beginning of 2006 and began formal lessons in the middle of that year. She had always liked and wanted to play violin.

Clara’s journey
The first test with Clara, which was recorded, saw her playing the piece through from beginning to end but with pauses where she picked the music from the stand to study it. She still did very little repetition of problem sections, rather playing again from the beginning. Her performance showed a nice tone and sense of pitch but the tempo was so slow there was no way she would have been able to count any note values so tempo and rhythm became irrelevant.

Clara’s first recorded lesson dealt with rhythm. Playing on the first beat of the bar presented no real problems but trying to play on the first and last beat created bowing problems. This exercise which worked extremely well on the winds, had
real problems with the strings, however Clara said it made her think and was worthwhile doing.

Discussion of this later with Flora, her teacher, indicated many problems with this exercise on stringed instruments. Because strings are bowed, there is a whole new element that takes the focus away from the point of the exercise which is the analysis of pulse and notes. When I suggested pizzicato, Flora felt it would not be of much use as that is too different from what is to be played. All down bows should work provided that the exercise only dealt with the strong part of the bar which is usually a down bow anyway. This she tried, but that was also confusing. Eventually she went back to pizzicato just for the understanding of pulse and rhythm, but it was not nearly as successful as with the two wind students. We later tried this exercise in orchestra but using only down bows on a slow piece. This made all sections very aware of how their music fitted in with the other parts and made me realise how only a few of the players were aware of their part in the whole ensemble.

The next recorded lesson, three weeks later, Clara continued with rhythm exercises after trying various methods on pieces during the previous two weeks. She experimented with both down-bows and down and up bows on the first beat, but eventually decided on pizzicato. This showed a much greater awareness of rhythm and the difference between it and pulse. Working with her eyes shut also gave her a greater awareness of timbre.

The discussion with Flora centred on the many elements that make up string playing. Clara was having trouble demonstrating understanding of what had been absorbed. She could now hear when Flora played correctly, but could not demonstrate it herself. We decided that a lot more reinforcement of the rhythm exercises was required and looked at other ways in which it could be presented.
The third recorded lesson was a continuation of the rhythm exercises of the previous recording. Both Flora and I noticed a gradual improvement. A rapid jump in understanding came when as a group, the whole beginner strings did these rhythm exercises by clapping before playing on their instruments. Flora noted that: “Clara showed the most improvement when she used bigger movements for longer note values when clapping. This helped the clapping motion mirror the movement and speed of the bow.” Clapping made no difference to the wind players and in the case of strings perhaps the clapping movement involves hands and arms as in bowing.

The string teacher took the constructivist approach and tried to develop it with string problems in mind. For this she went to the Suzuki method of developing tone. Suzuki tried to use singing methods to develop a beautiful sound in a way which was similar to the constructive approach. (Suzuki, 1969a). Therefore a month later, a lesson was recorded based on developing resonance and tone quality. The task was to play an exercise normally, then to play it pizzicato noticing the resonance of pizzicato notes. The exercise was then played again trying to match the resonance of the bowed notes to the pizz. notes. Flora noted that a stringed instrument will always resonate when played pizzicato but will only resonate when played arco if it is bowed correctly. Clara played the exercise, repeated it pizzicato then played it arco. She said she noticed no difference in the two arco playings but to my ear and Flora’s ear there was an enormous difference. Not only was the tone fuller, but the notes were more connected. Talking to Flora afterwards we could not see why Clara did not notice the difference except she was a real beginner and probably did not have the experience to hear it – but we still could not see why the second playing was so much better than the first.

The answer to the above problem came later in orchestra. The difference in playing was noticeable and it seemed, talking to Clara and Deborah that it took a while for their ears to tune in. Up to now the string students had not performed
as well as the winds. Researching Suzuki Method further, I was impressed how the main aim of Suzuki is basically the same as I was trying to achieve - that is, producing players who can teach themselves. Although he seems to have no method of self direction, his tonalisation book introduces a series of exercises which are aimed at producing awareness (Suzuki’s term for constructivism) in the player. We took more of these exercises and turned them around so they also became awareness exercises and then we started getting the “aaah I see” that was occurring with the winds from the beginning. Flora wondered: “Would Clara be able to hear the difference more readily if the recordings were played back to her? This may help her listen to her playing in an objective way”

The recording of string lessons now started to show a developing awareness of the players. The next lesson continued with the Suzuki approach with bow control. The students had to mentally divide the bow into two parts and play on just one half of the bow. They had to play four even short notes on a down bow then one long note on an up bow, ending where they started. This was to deal with awareness of bow control and articulation. Clara had always had a very poor bow hold and could not see why she should change it. With this exercise she discovered she could not hold the bow in any way other than the correct way and when it was done correctly she could hear how strong and loud her violin sounded. She was delighted and continued throughout the days playing constantly correcting herself to sound the same. It was the first time I actually heard her playing in orchestra. Clara said it was a bit scary to sound so loud but she liked the sound she produced.

The chamber concert where Clara and Deborah (a participant cellist) were to demonstrate their ownership of learning was held soon after the final tapings. They decided to form a string trio with Clara playing second violin as she did not feel confident enough to play first violin. The girls invited another member of their string group who had worked on the same sort of techniques. They chose two movements from a Bartok suite and really puzzled out the problems together to
produce a fine performance. Unfortunately the final concert was not recorded as the first violinist was ill. Flora said: “It has been a constant struggle with her but now she can hear the difference in her playing, she corrected herself and helped the others to do the same in their chamber item.”

Clara’s final video was an improvement on the first video. The initial rehearsal was just spent going over fingering and getting the intonation accurate. The final performance was not confident, but was fairly well in tune although rhythmically it was not as good. She took a very careful approach, concentrating on correct technique so overall there was quite a change between the first and the last recording.

**Summary of Clara’s journey**
Clara’s path was not as clear cut as the two wind players. There were special technical problems with strings that seemed to hamper her ability to develop musically. She was so tied up with the actual physical problems that she did not listen to what was happening. The Suzuki tonalisation exercises helped make her aware of the aim of playing a violin which is to make music and then she began to take charge of her own learning and became a more active and analytical learner. (Suzuki adapted the term tonalisation from the singer’s term of vocalization. He developed a series of exercises which were to make players aware of the natural ringing tone required for a good sound.) Clara was very much a beginner and was overawed by her instrument and the physicality of playing. Clara is now playing in a string ensemble at school and is delighted that although she is one of the more inexperienced members, her teacher is constantly commenting on the fact that she alone in the group can correct her own intonation and playing problems without it being pointed out to her.

**Clara’s journey from a teacher’s perspective**
Flora felt that although Clara’s rhythm problems improved during the course of the study, further improvement could be made with the addition of activities such as duet playing during the private lessons. Clara still had difficulty maintaining a steady pulse throughout a performance and this, Flora felt, would improve with regular duets and chamber music as this allowed Clara to play an independent part.

**Case study 4: Deborah, cellist**

**Background**
Deborah, who is 10 and Clara’s younger sister, joined the St George players at the beginning of 2006 and began formal lessons in the middle of that year. She was originally interested in harp but liked the look and sound of cello when it was suggested to her. She is a child who is discouraged if things don’t come easily to her.

**Deborah’s journey**
Deborah’s first test saw her playing the piece over and over with not much attempt at correction. Her performance showed a good sense of pulse for a beginner. Tempo was a little fast for what is basically sight reading but the pitch was very erratic, particularly on the A string. This could have been improved by better posture and a better left hand position.

Like the other girls, the first lesson dealt with rhythm. Deborah found it boring at first which was interesting when noting how rhythmic her first taping was. Deborah noted the difficulty of playing the first and last beat of the bar. While she was concentrating on the rhythm, her intonation became very wobbly. This did not improve until she played with her teacher and there she noted how out of tune her notes on the A string were. Flora noted the difficulty of that lesson in
relation to the special needs of string players and noted how when they concentrated hard on one thing, all other technical considerations were forgotten.

Three weeks later, the recording showed Deborah continuing with rhythm exercises. After trying various methods on pieces such as down bows on the first beat alone, or combinations of down and up bows, she decided on pizzicato. Despite this being a different technique, when she came to playing with a bow she seemed more aware of pulse and therefore it improved. They also did timbre exercises playing a scale normally then with eyes shut working out what makes the best sound. Flora was intimidated by the camera but talking and observing Deborah later, she did play with more awareness of timbre with a much improved posture.

The next taped lesson was a continuation of the rhythm exercises of the previous recording. Both Flora and I noticed a gradual improvement. Deborah tended to give up if she could not immediately solve a problem. At this point Flora did some of her research on constructivism and string technique and as with Clara, she turned to some of the Suzuki thinking. The next recording was on this thinking and worked on resonance and tone quality. The task was to play an exercise normally, then to play it pizzicato noticing the resonance of plucked notes. The exercise was then played again trying to match the resonance of the bowed notes to the pizzicato notes.

The next recording showed a lesson which continued with the Suzuki approach on bow control. The girls had to mentally divide the bow into two parts and play on just one half of the bow. They had to play four even short notes on a down bow then one long note on an up bow, ending where they started. This was to deal with awareness of bow control and articulation. Deborah had an effective bow hold so the effect of this exercise was not as marked. There still was an improvement which Deborah noted but Flora said her bow hold tended to slip back when she was not reminded of it. Flora noted: "Deborah seems to have
difficulty concentrating on more than one aspect of her technique at a time”. The improvement continued in orchestra where she found she could now match the tone of the first cellist.

Deborah did not want to run a chamber music performance by herself, so she performed a duet with a fellow cellist. They rehearsed fairly conscientiously, concentrating mainly on getting the parts together. The other cellist was more interested in other musical aspects than Deborah. They gave a creditable performance except as Deborah got more nervous, so her new found technique slipped. She is one of the few people in the school that have any issues with performance anxiety.

Deborah’s final taping was disappointing. As in the first taping, she just played the piece over and over again. Like the first taping, the rhythm was not bad, pitch was very poor and her playing position slipped throughout the performance. There was not much improvement shown when she was under pressure, but in groups, where the strings were competing for Chuppa Chupps (see Appendix G) there was a noticeable improvement. Her performances when she was not under any stress were always much better.

**Summary of Deborah’s journey**
Like the other players in the study, Deborah has continued to improve but what is most noticeable about her is her marked enthusiasm she now has for the cello. This seemed to increase with her understanding of music and performance. The only time Deborah slips badly back to her old ways of playing is when she is trying to read a new or difficult piece of music. Then gradually her bow hold and posture slip until she is reminded to “look at herself” when she immediately laughs and corrects herself. She still seems only to be able to concentrate on one thing at a time and has not got to the stage when good technique is
automatic. Instead of being quiet, she now laughs and jokes with the other cellos in her section of the orchestra.

The string students perhaps did not show the spectacular improvements of the wind students. These girls were very shy and I feel they felt intimidated by the attention given to them in the study. This was not helped by the fact they had been learning for a very short time and were still coming to grips with the problems of managing their instrument. They were much more comfortable when the tasks were later put into a group context where there was less attention purely on them and they could enjoy the dynamics of group learning.

Some of their problems were possibly also due to their teacher’s relative inexperience as Flora perceived it as handing control over to the pupils and thus leading to a possible decline of standards. In fact the opposite happened with all four students showing a marked increase in enthusiasm and a much more intelligent approach to their own performance.

**Deborah’s journey from a teacher’s perspective**
Flora felt that Deborah’s enjoyment of her instrument had improved markedly during the course of the study. Although Deborah’s technical improvements tended to regress when she was concentrating on something new or difficult, when these lapses are brought to her attention she is now able to self-correct. This ability is something that has grown over the duration of this research.

**Teaching Issues**
The teachers’ found the study to be challenging. The techniques that were used very much put learning in the control of the students, which they found difficult as they both felt they were losing some control of their lessons. The variety of tasks asked required a lot more preparation needed for their lessons. They were also confronted by obvious gaps in their pupils’ knowledge of which they were
unaware making them realise there were some inadequacies in their own teaching processes. Both enjoyed the new enthusiasm that pupils had when coming to their lessons, and how much easier it was to get to the next level of performance when their pupils’ totally understood the task at hand. The wind teacher commented on how she never imagined Anne would ever be able to tackle Debussy with the style needed for that composer without analysing it note by note. When she approached the task through the Blue Books techniques and the constructive approach, it became just a matter of understanding the style to perform it well. The string teacher felt relieved that the string girls were finally listening to themselves play.

**Chuppa Chupp Challenges**

Because of the great success of the two wind girls I decided to continue the action research approach with what I called “A Chuppa Chupp Challenge” which any member of the orchestra can do each week (Chuppa Chups are small lollipops - see Appendix G). Each is a single task based on the books the four girls did and incorporating work their teachers have set them. This has the effect of encouraging the teachers to at least think about the approach taken in their teaching, and musically empowers the students who want to do each challenge.

One challenge which had a profound impact on the violinist who was beginning work in positions, involved analysing each note in a scale and marking which way the intonation was incorrect. Clara’s comment was that she thought all she had to do was to put her fingers in what she considered to be the right place; she didn’t realise that where they went depended on the intonation of the note. Her dad saw me later with the same confusion and I sent him off with a copy of the challenge and details of how to download a chromatic tuner from the Internet (see Chromatia Tuner, 2003). Even he then understood that it was not good enough to just place the fingers on the finger board, but the player had to actually listen to the note produced and consider whether or not it was in tune.
Another task involved learning a piece by heart then listening and watching yourself while you play (see Appendix G). This required the player to be aware of the impact of poor technique on the sound. Both girls found this hard work but were embarrassed by their previous sound and very aware of the difference. This approach is having the enormous effect it had on all the string players, and meant that some players who were being labelled as slow learners, have caught up to the rest. Understanding and awareness seems to be the key of a great deal of young players’ problems and these are the basis of constructivism. Working with the School’s string teachers on this approach, we are slowly breaking down their perceptions of teaching and are replacing it with a sounder basis. This has been demonstrated in the exams where all – even children normally labelled as “slow” at school, have received A and A+ in AMEB examinations.

**Concert Band and Other Trials**
One of the reasons Chuppa Chupp challenges worked so well with the string group was because stringed instruments all need to think of the position of fingers in relation to intonation. As with brass bands, or single reed groups, this technical similarity worked for all instruments. The Blue Workbooks had a general musical constructive approach and the question was what way could this method be used on a concert band which has diverse instruments and more experienced players.

To try this approach on concert band I took some exercises based on Green and Gallwey’s (1979) *The Inner Game of Music* and used them as part of the normal warm up sessions. Each exercise was designed to make players aware of playing in an ensemble. One exercise simply consisted of concentrating on another instrument I specified. Thus the flutes were to concentrate on the trombones, the trumpets on the clarinets, the saxophones on the tubas and so on. The discussion then focused on their experience. All agreed it made them much more aware of the whole band and massively improved the ensemble and intonation when they were actively listening to an instrument not their own.
Another exercise required those playing the melody to stand up, and all other band members were to look at them while they accompanied them. As the melody went from part to part, sections stood up then sat down when their turn at the melody finished. In this discussion, all were aware of how the melody bounced around the band and how some instruments like trumpet, found it easy to be heard, while others like flutes in low registers, require the rest of the band to play quietly and to actively listen for their melody. From this discussion the members talked about how you could then get the melody to have a similar dynamic as it travelled around the band, and not bump up and down so it stayed smooth and true to the dynamic written by the composer. What was interesting with this was that as conductor, I am always saying the trumpets are too loud, to which they answer “the music is marked forte”. By experiencing it, band members were able to realize the different dynamic ranges of different instruments. This constructive approach, in a slightly different way, has resulted in a number of young people becoming very interested in the process of conducting and resulted in a band that is so aware of each other, they barely need a conductor.

Other trials
This approach, until then, was so overwhelmingly successful that the next question was could the younger players apply this technique to other players? There is a half hour session every Saturday in which the older band members take the beginners through the work they have done in their lesson. They had been told to limit talking and to teach by demonstrating the work done. This has always been very successful so for a trial, they were asked to take some of the exercises from the Blue Workbook and use them with their beginners. This I found just confused the beginners and frustrated the young teachers so this experiment was soon stopped. These beginners were so new that they did not even know what pulse, rhythm or pitch was and the other band was too inexperienced to deal with it. Persson (1996), in her study of performers as
teachers, found that players really needed teaching skills to be effective, so even at this very much lower level the same is true. They needed more guidance to be able to teach effectively but what they could do is to be effective models as discussed by Hewitt (2001).

Learning Issues
The pupils thoroughly enjoyed the study. They loved the variety of exercises they had to undertake and the control it gave them of their own learning. Understanding the processes in making music took away some of the mystique and made performing a much more enjoyable occupation. Bronwyn said that now if anything went wrong in a performance, she could analyse it and fix it herself. Lessons also were much more exciting as they now understood much more the purpose of exercises and techniques they were asked to do. The whole constructive approach they felt was empowering and because of this understanding, they practiced more and progress much more rapidly than before they began the study.

Summary
All participants showed a profound difference in their playing skills. The least difference was seen with Deborah who showed some playing improvement but had the greatest effect on her attitude to music and performance. The most improvement was in Anne who has easily made the switch to oboe and now shows an analytical intelligent approach to music making which she did not previously possess. She now sees herself as a partner in learning, taking responsibility for her performances. The self correction these pupils have learnt they have taken to other music making activities at school and the community. Anne plays lead in her school band and Deborah has enrolled herself in a school talent competition. Clara has developed strong musical playing and after winning a local busking competition, she uses busking as part of her practice. She has
developed a great love of Celtic fiddle music and has downloaded the O’Neill collection of Irish music from the internet which she plays. Bronwyn has shown a steady improvement. She obviously loves her instrument and now plays confidently and well, leading the concert band and loving any opportunity she has to perform as part of a symphonic orchestra.

Parents of the study group
The two sets of parents of the study were extremely supportive of their girls but with no understanding of how music works. Both thought music success depended on vast amounts of practice without any idea of the function of practice. Bronwyn’s mother was hoping the study would force Bronwyn to practice and if it didn’t, she would make Bronwyn quit. What happened was that Bronwyn did not start to practice vast amounts, but her understanding meant she did start to improve. Her mother began to see music was like any other school subject and Bronwyn as a bright child, would get away with minimal work but still be learning. In fact as can be seen, when Bronwyn needed to practice she did. Her mother now has much more of an idea of the process and is proud and happy with her youngest daughter. The eldest daughter, Anne, always was a determined hard worker. Her parents now are much more supportive of her musical efforts. Previously they felt music was something to be done to produce a rounded person without looking at what they meant by that statement. Working with both girls in the study meant they now understood the difference in attitude of the two girls and could stand back in awe of Anne’s efforts. This meant they supported her in wanting to do high level music for the HSC as much as the support they gave her for doing high level maths. It also meant they bought her a good oboe of her own, never a cheap undertaking. There are now serious discussions when there are clashes between music performances and sport as to which is the more important event. Previously music always lost. When there were several weeks when they could not take the girls to their music lessons,
they organised a lift with a neighbour instead of missing as they would previously do.

The string girls’ parents have a much more relaxed attitude to life than that of Anne and Bronwyn’s’ parents. They were only encouraging their girls to try music out. There was never any real attempt at organising regular practice although they used to worry about the little that was done. Like Anne and Bronwyn’s’ parents, they saw music as something a well rounded person should do, without questioning what they meant by that statement. Since the study, they have expressed surprise at the girls’ progress. They have questioned me about some of the tasks which have been set, and are very proud of their girls. Deborah, as the least focused of the entire study test group, decided she wanted to play a rock instrument. Her mother talked the problem over with Flora, her cello teacher who also plays bass guitar in a jazz band. This was unheard of before the study; they used to go from one thing to another with no consultation. Her mother and Flora decided bass guitar would give her what she wished to do at school and not affect her cello playing, it might even help. Her parents have take a much stricter position in relation to her choice of instrument and she is no longer allowed to move from one instrument to another without first really trying to master it. Of course when parents take that attitude, their children become much more focused themselves.

Effect on the school
This whole study, and the approach taken, aroused enormous interest throughout the whole school. They have always been a very enthusiastic group of young people, but their enthusiasm which was always for creating music, took on a new aspect. A large number of them now want to teach music. They see music teaching as a career which involved music as well as interacting with other people, and solving problems in the process of teaching musical skills. The study presented teaching as an intellectually stimulating challenge.
Chapter 5 – Conclusions and discussion

This chapter discusses the broad issues which emerged from the case studies. It begins by making general observations on some unexpected results from the study, and then discusses a number of issues that the study highlighted. The chapter then proceeds to discuss specific findings in relation to each of the three research questions, combining questions 1 and 2 in order to present coherent and logical conclusions. When devising the research questions, the issues were anticipated as separate but the research has shown that teaching and learning are often two sides of the one process. The teachers commented that they had probably learnt more than their pupils in how to teach effectively. The chapter concludes with some observations on the short-term or immediate outcomes of the teaching and learning strategies.

The first two research questions asked:

1. What teaching strategies can teachers adopt to help build skills in young musicians who do not come from a home background of music enrichment?
2. What learning strategies can young musicians adopt to overcome a lack of home background of music enrichment?

The combined questions 1 and 2 will be responded to with findings about the teaching and learning of issues including relationship of student and teacher, self-evaluation and creating an environment that encourages understanding. Constructivist strategies were used with students and there were positive outcomes. In fact it was only when the students were forced to construct their own learning that it became apparent how deep their lack of understanding was. Yet all could perform to a level on their chosen instrument. It must be asked how they achieved that. None of these people had an enriching early music experience and from what could be found in the literature, this showed as a potential handicap. The distinction between talented or untalented can no longer
be accepted as Howe, Davidson and Sloboda (1998) discussed. The study did not look at the physical problems of beginning an instrument later than what was considered the ideal time to begin, but purely the deficit from coming from a family where music does not play an important part of home life.

All these pupils had a desire to learn, but had some obvious lack in understanding that was sometimes hard to fathom. The extent of this knowledge gap came out very early with Anne not understanding the relationship between rhythm and pulse. This was such a piece of basic knowledge that I could not understand how she could come so far without understanding it. This lack was repeated in different ways with all participants. When music is such a basic part of life as it is for me and the participating teachers, it is hard to know with a student how many basic concepts must be dealt with before other musical problems are approached. If music is such a part of life, early concepts are just accepted without any memory of how it was learnt, like learning our first language. It then becomes difficult to analyse what pupils’ problems are when we, as teachers, consider such concepts as part of our fundamental being. Despite this, the difference between the beginning and end of the study of the students involved was striking. All four constructivist participants showed marked gains in their performing skills and demonstrated a greater depth of understanding of the music process. What delighted me was the enormous growth of enthusiasm, almost relish, of everything musical. With understanding came delight in all music.

**The development of analytical skills**
The project encouraged the students to be analytical about their playing. This empowered them to make their own decisions about the music they played, solving problems encountered and deciding how it was to be performed. Hewitt (2001) had methods in her paper like “stop, think and identify the problem” p13, which forced self analysis. She also noted that listening to a fine model helped
in overall improvement of performance much more than self-evaluation without another model. Reid (2003) found that pupils playing together developed much faster than alone. Gipson (2006) found students on private and group lessons became much more musically independent and performed at a higher level of musicianship achieving a higher quality of musical performance than in semesters where the group lessons were not given. In my study the spectacular results of the chamber concerts, confirmed the importance of analytical skills. It is only when students are creating music unaided and being challenged to pass on concepts to others that learning is truly understood.

**Teaching student self evaluation and correction**

Hewitt (2002) found, in a paper looking at students’ ability to self evaluate a performance, that there was no correlation between expert and student evaluations at any time in the study. However, throughout my study the participants showed an increased ability to evaluate a performance. For Hallam (2001), strategies for effective practice develop over time, and her study’s participants showed a marked improvement in their preparation simply by understanding the elements involved in performance. After my study Bronwyn still improved because every time she played her clarinet, she was constantly analysing her playing and trying to improve. She has been promoted to first clarinet in band and plays second clarinet in orchestra. She still says she does no practice, but despite this is managing all her technical work for fourth grade so maybe not much practice would be a truer statement.

Self-correction which the participants learnt, was taken through to other activities e.g. orchestra. It meant that pupils were not passively waiting for the teacher to correct a problem; they were actively engaged in finding solutions themselves. With this came an increased ability to accept correction from their teachers not as a personal criticism but as a way of moving forward into new areas of learning. Kuzmich (2007) commented that when learning is a shared
experience between pupil and teacher, it can become an exhilarating experience.

The relationship of student and teacher
For most young musicians the one to one relationship of a studio lesson is the first close relationship they have with an adult who is not related to them. This relationship is also one of great inequality as Cheng and Durrant (2007) have reminded us. It was extremely important that the students experienced their lessons affirmatively. To feel otherwise could damage their ability to learn and create a negative experience that could affect them all their adult life. It was then very important that the pupils felt their lessons were a positive experience as it impinged on their quality of learning and affected their whole life. The importance of such as person is discussed by Woody (2004) who says most exceptional musicians started with a warm friendly early teacher. It behooves us as teachers to make this a successful positive relationship and this means always trying to solve problems that are met and never to dismiss or belittle. To do otherwise is to possibly affect their ability to make relationships throughout their lives. It could be argued that the intense interest in the student, where the teacher is patently out to solve their problems would produce an improvement in the students’ attitude and playing. This also aligns with a study by Berr and Shockley (2003), who observed that good teaching was “always knowing that a student has ability and potential for success in learning and enjoying music, never giving up on a child (or parent) and avoiding the notion that someone lacks talent as an excuse for them not succeeding.” (p45). This is surely the crux of my study.

The reflections of studio teachers
When talking to the teachers at the School I found that, of all the teachers in their lives, there was always one who stood out and all of these great teachers seemed to teach by the principles I have outlined. Most used techniques such as playing in a darkened room to concentrate on the tone of the music, or moving around the room so the player was forced to concentrate just on the task at hand.
to succeed. Kuzmich (2007) found that great teachers are enthusiastic and in their attempts to reach goals, they are not constrained by allegiance to any method. In a similar way, the method devised in my study challenged pupils into creative problem solving that potentially can last for life. My study has challenged pupils to scale to greater heights.

The use of sound educational models
In this study I have dealt with good educational practice but studio teaching tends to be working in a vacuum away from the great educationalists (such as Bruner, Vygotsky, Orff, Kodály, Dalcroze) and often following past teachers’ practice without question. This creates problems as found by Perssoná (1996) in that teachers could fail to provide any real teaching strategies for their pupils and in frustration at any seeming lack of progress blame it on their inherent lack of musicality. Good teaching even in the privacy of a studio must be based on the great education models that already exist. Wiggins (2007), for example, proposes best practice in music education is constructivist – breaking down music into elements which then become tools to create expressive music. There is always the danger of not trying to effectively teach at all if there is no way of assessing the teaching that goes on in what is effectively a closed room with two people inside.

Respect for the music teacher
Ideally, the constructivist approach empowers the students to the point where they see themselves as active partners in the learning process, but there is a very real risk that the students and their parents can come to see themselves as the talent and do not recognise the guidance, and teaching which has been going on to get them to where they are. The problem arises when the student, in learning to judge themselves, may not see the bigger picture. Cheng and Durrant (2007) felt that teacher-directed methods may be more effective to achieve certain aims and objectives. This would seem most relevant for the
advanced student aiming towards the life of a professional musician. Once a student understands how music works and has developed the ears to hear, they should go off to a master teacher to achieve the top.

**The qualifications and experience of the teacher**
The constructivist form of learning achieves success when teachers are extremely capable musicians with a real mastery of their instrument. Within the study, the constructivist approach worked if the pupil had a model of the desired sound which they wished to produce. This really worked well if the teacher demonstrated what was desired and if the student had a lot of experience of listening to great performances. Haston (2007) talked about modelling as a teaching strategy to demonstrate new concepts. The students following the model of their teacher successfully showed their understanding of the concept being taught. The student then applied it to the printed music. Haston used the constructivist techniques which I have found so successful. The trouble is then that great performers with no teaching skills can actually be destructive as Persson (1996) and Gaunt (2003) found. My study has had a liberating effect on the teachers involved. It has given them the opportunity to discuss together the progress of their students in response to chosen strategies.

**Differences between string and wind teachers**
Throughout the nineteenth century there was a development of numerous bands. These included military, civic or town bands and bands belonging to industry such as the Railway Band and the Colliery Bands. These bands formed an organization called The Band Association of New South Wales in 1896 as a federated group to represent Community and School Brass and Wind Bands in NSW. At the same time there were also many orchestras running, the New South Wales Railway band had one as did many communities and the military.
During the last part of the nineteenth century, however, there developed in the USA a series of professional touring bands such as the one led by John Philip Sousa or another led by Patrick Gilmore. These bands had brilliant soloists and played not only traditional march music, but transcriptions of the great classics, showy original music composed for band and popular numbers. They wore showy uniforms and put on a show that greatly impressed the public. Coupled with this was the ease and flexibility of wind instruments. They could easily play outdoors as well as indoors, and could play at a volume strings could not hope to do. The saxophone had just been developed to create a bridge in sound between the other woodwinds and the brass and this created as similar effect to the string orchestra as there were now single reed instruments playing throughout all registers. The Sousaphone had been developed and other wind instruments had been improved so they were easier to play. Wind music then seemed vital and exciting.

This meant that in the USA, school programs were set up for wind bands and the orchestras languished. In that time methods were developed for teaching band as a classroom subject and vast amounts of money was given to schools to develop this side of education. Because of this, there is a plethora of wind band methods and appropriate music composed for various levels of performance. There are courses offered in US colleges purely on wind instrumental pedagogy thus this side of teaching has been well developed. As pupils graduated, they wanted community bands to play in, not orchestras so the number of string players and community orchestras continued to drop.

Australia did not have quite the link with schools and the band programs, but the same pattern happened here. The same methods that were used in the USA were used, but the band tended to be an extracurricular activity. In the USA, the Music Educators National Conference set up a committee to deal with instrumental learning, and the first school competition was held in 1923. Sydney did not get a school band festival until the Band Association of NSW organised one in 1962.
The orchestra movement which in the nineteenth century was so strong, languished. The Orchestral Association of Australia was not formed until 1993 although the Australian Youth Orchestra began in 1959. This lack of interest has been one of fashion. This has meant that despite the value developing string pedagogy it has not happened until quite recently. Kinyon (1982) in fact states that “stringed instruments lend themselves well to mixed class instruction, far more naturally than do winds” (p. 132). This is because all stringed instruments share some of their open strings, certain bowing techniques and even the fingering techniques are similar. This compares with the enormous difference in technique between a brass and a woodwind which share the same instrumental method. It then seems that developing a similar approach to strings as has been developed for winds, is an obvious way forward.

In light of the above, it is not surprising that in this study I found the wind teacher much more open to new ideas and willing to try new techniques than the string teacher. This is reflected generally throughout the studio – I have ten instrumental teachers working in the school. All of my wind teachers began in the Australian band system and are therefore more open to new educational approaches with young people. More recently, string teaching was approached in a style that incorporated studio and group teaching and it was found to be just as successful as the band method by Cheng and Durrant (2007). When I instituted “The Chuppa Chup Challenges” the string teachers addressed challenges as designed in the research. This has created a marked improvement throughout the string players of my school and the teachers are now embracing the system of constructivism. One teacher expressed it by saying of a student that “he does not know how intonation works. Once he understands he will be right.” And he was. Previously they would talk about hand position without getting their pupil to understand why techniques were done in a particular way.
What is the short-term or immediate outcome of these teaching and learning strategies?

As the study was short-term, the research questions ask about short-term or immediate outcomes however, potentially many of the outcomes will be long-term. All participants had at least one short term “eureka” moment during this study. This sudden rush of understanding had the effect of fundamentally changing their awareness of some aspect of music and had an immediate effect on their playing that grew in an exponential manner. The teachers, particularly the string teacher also had similar moments. In their case it was realising the lack of understanding of their pupils and the effect that teaching in a constructivist way had on them. Thus realising their pupils did not understand the significance of finger position on the fingerboard had a profound effect on their teaching and this turned string teaching into a model much closer to the way the winds are taught. The school tries to be very inclusive and non-confronting so that the pupils are not afraid to learn and try new approaches but a better balance is probably needed to also encourage a respect for the knowledge and ability of the teachers.

The most fundamental finding of this study was how basic the lack of musical knowledge was for most students and parents. All of the four test participants showed a lack of understanding of how rhythm and pulse work – something that all of the School’s current early childhood class understand. Because of this, there was only slight understanding of the difference between pulse speed and small value notes (subdivisions of the best), again something the early childhood class works with and understands but none of these girls had attended an early childhood music class. The string girls did not understand the effect of where the fingers go to pitch. The wind girls did not understand the effect breath had on timbre. These are girls who love music but do not understand even the first principles. This meant that instead of doing straight action research where we were trying to find the problems to fix and refining the approach to remedy the
problems, the research turned into a gradual emphasis on all the basic concepts through a constructive approach, one by one and watching their understanding grow. This was an enormous surprise to me as a teacher of over 30 years.

After finding this lack I looked at the school in general and found the same deficiencies everywhere. In a very young string class, players have trouble realising they have to bow the string they have got their finger on to change pitch. The only exception is a young girl from a very musical background who understood immediately and delighted in all the different sounds she could make with just one finger. She probably gave a clue to the problem when she referred to the cello’s fingerboard as “a touch screen”. Are these children so inculcated in computers that they automatically feel every sound has got to be made electronically? Perhaps it is up to us as their teachers to use their electronic knowledge as a link to learning acoustic instruments.

Limitations of the study
The main participants in the study were all girls. This is not to say there are not boys of a similar standard in the school, but it was hard to get boys to agree to participate. The parents of the boys were enthusiastic but their sons were not. One boy I particularly would have liked in the study played the flute and he felt that although he loved playing with the groups on a Saturday where he felt appreciated, he did not want to do anything where people from outside the school might judge him. The girls had no problems with this at all. This is very much what is described by Buttu (2008) in her paper on gender and she specifically mentions the flute as the most unacceptable instrument for a boy to play. One of the girls in the study plays cello, perhaps considered as a male instrument, but within the confines of the school where acceptance of all young musicians is insisted on and all are working towards a common goal, there is no problem. Also, as Buttu notes, it is far more acceptable for a girl to play a male
instrument than the other way around. Gender and music is an area requiring further research.

Another gender related issue became apparent from the study in relation to what constitutes a deprived musical background. From the research of Zachopoulou, Evridiki, Derri, Vassiliki, Chatzopoulou, Dimitris, Ellinoudis, Theodoros (2003) which looked at how rhythmic understanding was developed, it could be argued that early dance classes are a form of early music exposure not unlike exposure to Orff and Dalcroze methods. My early music classes consist overwhelmingly of boys, with only two girls out of a class of eleven. In the School’s present early music class, the most capable member is a little boy who has danced since he was two. The boys’ sisters all dance and have done almost from babyhood. This probably explains why when other children start music lessons the girls are often way ahead of their brothers as they usually only do my class for about a year before they start lessons. The effect of dance in relation to musical background is an interesting topic for further study.

**Video has a data collection approach in the private music lesson**

In lots of ways the videos were less successful than the workbooks. The participating pupils would not watch the videos as they found them “embarrassing”. This probably should have been expected. Perhaps if video is to be a really useful tool, participants must be much more familiar with its use and use it themselves over months or years before the research. However, what was filled in their Blue Workbooks showed an increasing interest in musical process and in particular, the final chamber music performance showed a remarkable leap from which even the weakest participant never looked back.

**Concluding remarks**

In the short term, the students who participated in the constructivist strategies developed the skills to self-direct their learning. They learned the ways of
effective practice, and how to evaluate their own success. In the process, they found a great joy in playing.

There is only so far young musicians can go without intensive help from their parents. Dai and Schader (2002) talked about how in the final stages of a developing musician, the parents must be willing to totally commit to their child’s development. Parents themselves encourage or discourage according to their own background and expectations and unfortunately, most of my parent body have come from a limited musical background. The problem is then how to educate the parents in what is needed for a developing musician and to show them it can be a fine career path.

Our community struggles with nurturing these young performers – it is far more likely to encourage young sporting people. However, in the St. George area, the Music School continues to put on events for community participation. One of these events involves the most advanced players and teachers forming an orchestra to accompany classic silent films using the original music composed for them. We call it “The Moving Picture Show” and it has been heavily supported by The National Library and The National Film and Sound Archives in Canberra. It has an enthusiastic and growing audience who come from all over Sydney to see the shows. The prestige that these events have brought the school means that the philosophy of the school reaches a widening audience. It is this philosophy that led me to this study and its findings.
References


Attride-Stirling, J. (2001). Thematic networks: an analytic tool for qualitative research. *Qualitative Research 1; 385*


Ullman M. (2007). *Music And Language Are Processed By The Same Brain Systems*. Neuroimage Georgetown University Medical Center


Appendices

Appendix A: Parent Questionnaire

Building the musical skills of young musicians from a non-musical background.

Name of student: __________________________________________

1. At the time your child was born:
   1.1. Did you attend concerts or regularly listen to music? ___________________________

   1.2 Had you undertaken any formal or informal musical training? For example, could you sing or play any musical instruments?

   1.3 If yes, what musical instruments (including singing) did you play?

   1.4 Describe or name any of the music that you liked to play.
1.5 Have you undertaken any musicianship or theory studies? If “yes” – please describe briefly.

1.6 Were there any other people closely associated with your baby who had any musical training or skills?

2. In the first six months of your child’s development, what songs, musical games, or musical experiences did you or other persons share with your child?

3. Between 7 months and two years of age, what songs, musical games, or musical experiences did you or other persons share with your child?
4. Between 2 and 6 years of age, what songs, musical games, or experiences did you or other persons share with your child?

5. Between 6 and 12 years of age, what songs, musical games, or experiences did you or other persons share with your child?

6. Between 12 years of age and the present day, what songs, musical games, or experiences did you or other persons share with your child?

7. When did your child begin to learn his/her instrument?

8. Who chose your child’s instrument?

9. How was the choice of instrument made?
10. Could you please briefly describe your child’s musical development up to the present day.

---

**Appendix B i: Student Preliminary Playing Test**

<table>
<thead>
<tr>
<th>Piece</th>
<th>Performer</th>
<th>Instrument</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Wily Bossa</td>
<td>Bailey K.</td>
<td>flute</td>
</tr>
<tr>
<td>Stranger on the Shore</td>
<td>Bilk A.</td>
<td>clarinet</td>
</tr>
<tr>
<td>Fantasy Piece no8</td>
<td>Bourgeois D.</td>
<td>alto sax</td>
</tr>
<tr>
<td>Happy Farmer</td>
<td>Schumann R.</td>
<td>cello</td>
</tr>
<tr>
<td>Musette</td>
<td>anon</td>
<td>violin</td>
</tr>
<tr>
<td>The Old Abbey</td>
<td>Dunhill T.</td>
<td>piano</td>
</tr>
<tr>
<td>Lullaby</td>
<td>Schumann R.</td>
<td>F. horn</td>
</tr>
</tbody>
</table>

Any students who wished to try out and were not part of the study, were given an appropriate piece of music from an AMEB book.

**Appendix B ii: Student Final Playing Test**

<table>
<thead>
<tr>
<th>Piece</th>
<th>Performer</th>
<th>Instrument</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cradle Song</td>
<td>Jacob G.</td>
<td>flute</td>
</tr>
<tr>
<td>Musette</td>
<td>Bach J.S.</td>
<td>clarinet</td>
</tr>
<tr>
<td>Merry go Round</td>
<td>Bennett G.</td>
<td>violin</td>
</tr>
<tr>
<td>Dance to your Daddy</td>
<td>anon</td>
<td>cello</td>
</tr>
<tr>
<td>To a Wild Rose</td>
<td>Macdowell E.</td>
<td>piano</td>
</tr>
<tr>
<td>Chorus</td>
<td>Gluck C.</td>
<td>F. horn</td>
</tr>
</tbody>
</table>

105
Appendix C: Blue Workbook
Blank page

Beat. Play only 1st beat of each bar with the metronome. Play first and last. Play middle.

<table>
<thead>
<tr>
<th>Date</th>
<th>Piece tried</th>
<th>What did you notice?</th>
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<tbody>
<tr>
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</table>

Example of Anne’s pages
Appendix D: Red Practice Book

NOTES FOR PARENTS/GUARDIANS

This booklet contains 10 practice sheets - one for each week of the term. Each sheet is used to record your child’s practice times. Certificates are awarded at the end of each term to students who have completed a minimum of four practices sessions per week for 7 weeks of the term.

We ask you to supervise your child’s practice times and to record them on the correct page with your signature. This record will not only assist the teacher, but will also show your child that you are interested in their practice sessions, and are encouraging them to practice.
Students that are having solo lessons need to practice for at least 30 minutes per session to adequately prepare for their next lesson. As it is not always possible to practice every day, it is recommended that the student undertakes a minimum of four practice sessions per week. This suggested practice schedule may be varied by the teacher who should write his or her requirements in this practice book.

Exercises

Ask a parent to listen to a piece twice during the week. Get them to write comments especially noting any improvements in the second time it was played.

1

2
# Practice Grid

**Times correctly repeated**

<p>| | | | |</p>
<table>
<thead>
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</tbody>
</table>

**Instructions**
Appendix E: Information Sheet and Consent Form

Locked Bag 1797
Penrith South DC NSW 1797 Australia

College Of Arts, Education and Social Sciences

School of Contemporary Arts, Music

Building the musical skills of young musicians from a non-musical background.

Mrs Joanna Callista
77 Brown St.,
South Blackfield 2999

Dear Mrs Callista,

As well as being the Musical Director of the St. George Players School of Music, I am also undertaking research at the University of Western Sydney as part of Masters of Arts (Honours) research degree in the School of Contemporary Arts. The topic of my research is “Building the musical skills of young musicians from a non-musical background”.

I am currently looking for a number of St. George Players students who would be interested in consenting to take part in this study, and I am writing to see if you and your
child may be interested in participating in this study. I have enclosed a “Background Information” document that explains the purpose and structure of the study and outlines your child’s involvement (if he or she does participate).

If you and your child are interested in participating in this study, please read the “Background Information” document and the “Consent” form. You will need to sign the Consent form and return it to me with the completed “Questionnaire” form by Friday 23 June. **Please return these forms directly to me, or post to me at St. George Players, 2c Acacia Street, Oatley, 2223.** The purpose of the Questionnaire form is to give me some information about the musical background of your child over a number of years. (Please attach extra information if there is not sufficient room for your answers on the Questionnaire.)

If you have any questions about this study and your child’s involvement, please do not hesitate to telephone me on 9585 2408 or Dr. Diana Blom (Senior Lecturer, Music Area, University of Western Sydney 02 47 360 164 d.blom@uws.edu.au) at any time for further information.

**NOTE:** This project has been approved by the University of Western Sydney Human Research Ethics Committee. The Approval Number is HREC 05/218. If you have any complaints or reservations about the ethical conduct of this research, you may contact the Ethics Committee through the Research Ethics Officers (tel: 02 4736 0883 or 4736 0884). Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.

Yours sincerely

Jan Thorp
Musical Director
St. George Players
2c Acacia Street, Oatley 2223
Written Consent (Student) – to be completed by parent/guardian if student is under 18 years of age.

Building the musical skills of young musicians from a non-musical background.

I have read the attached Background Information Sheet and I allow my son/daughter/ward/or myself to take part in a research project that aims to help develop and strengthen the musical skills of young musicians who come from a non-musical background. I understand that he/she will need to continue individual lessons with his/her current teacher for the two terms duration of the project. I further understand that:

• He/she will be required to undertake two musical tests which will involve the preparation and performance of a musical piece both at the start and end of the project and these tests will be video taped.
• Each lesson will be video taped, and these may be viewed by the teacher and Jan Thorp and the content of that video will be the subject of discussions, relevant to this project, between the teacher and Jan Thorp. The purpose of taping the lessons and the tests is to allow Jan Thorp and the relevant teacher to view the lesson so that they can implement strategies that may help the student with their musical development.
• The project will require access to the St George Players Practice book.

Students can withdraw from the project at any time without affecting their music lessons.

Name of student ______________________________________________

Date of birth _____________________________

Instrument ______________________________________________________

Signature: _______________________________________________________

(Parent or guardian if student is under 18 years of age)

If you have further questions, please contact Jan Thorp (Musical Director, St. George Players, School of Music on 9585 2408) or Dr. Diana Blom (Senior Lecturer, Music Area, University of Western Sydney 02 47 360 164 d.blom@uws.edu.au) at any time for further information.
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Appendix F: Results of parent Questionnaire

<table>
<thead>
<tr>
<th>Listen to music</th>
<th>Attend Concert</th>
<th>Parental formal training</th>
<th>Parental instrument played</th>
</tr>
</thead>
</table>
| Yes 19         | Specifically mentioned 3 | Mother 7  
No 9          | Father 5  
Occasionally 5 | Those with formal training mentioned singing, only 3 others said they sang |
| No response 3 | Piano 15  
Violin 4  
Recorder  
Guitar  
Other - oboe, flute, cello 1 parent.  
Trumpet |

<table>
<thead>
<tr>
<th>Parental type of music played</th>
<th>Parental theory classes</th>
<th>Contacts with baby who had formal music</th>
</tr>
</thead>
</table>
| Popular 10  
Classical 6  
4 families liked all music one specifically mentioned jazz | 5 all as part of piano exams. One did jazz clinics on trumpet | Four had older siblings, three had grandparents, one had a cousin who sang opera. |

<table>
<thead>
<tr>
<th>Songs and musical games as a baby</th>
<th>Songs and musical games as a toddler</th>
<th>Early school years</th>
</tr>
</thead>
</table>
| Nursery rhymes 17  
Popular children’s music 9  
Many mentioned the exposure was at day care | As the previous table except for three who did Kodály classes, two who learnt Suzuki violin, three went to Wiggles concerts and four attended St George Players early music workshops | Most started their instrument in St George Players between 5 and 12 years then all musical experiences were centered around that. One took up Physical Culture at that time, two took up ballet. Many were given CD players and CDs. Three mentioned learning recorder at school. Most wind players talked about joining the school band. |

<table>
<thead>
<tr>
<th>What was the age of beginning their</th>
<th>Who chose the instrument?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>instrument?</td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>-----------</td>
</tr>
<tr>
<td>6yrs. 7</td>
<td>Child 28</td>
</tr>
<tr>
<td>7yrs. 8</td>
<td>Parent 4</td>
</tr>
<tr>
<td>8yrs. 6</td>
<td>Teacher 4</td>
</tr>
<tr>
<td>9yrs. 4</td>
<td></td>
</tr>
<tr>
<td>10yrs. 4</td>
<td></td>
</tr>
<tr>
<td>11yrs. 1</td>
<td></td>
</tr>
<tr>
<td>12yrs. 1</td>
<td></td>
</tr>
<tr>
<td>13yrs.</td>
<td></td>
</tr>
<tr>
<td>14yrs. 1</td>
<td></td>
</tr>
<tr>
<td>no response 7</td>
<td></td>
</tr>
</tbody>
</table>

Appendix G: Chuppa Chupp Challenges

Chuppa Chupps
Learn 4 bars of a difficult piece by heart. Listen to yourself while you play it watching the music. Play again watching your bow arm and bow. Correct then play again. What did you notice? Repeat the same way with a further 4 bars.

Corrections you need to make

Observations
Scales for Strings

Instructions
1. Play an easy scale of the type you are learning.
2. Play one octave of the new scale slowly noting and marking on the chart which notes were out of tune.
3. Repeat that scale twice with correct tuning.

Day 1

| repeat | repeat |

Day 2

| repeat | repeat |

Day 3

| repeat | repeat |

Auralia: Practice two exercises until you can get them correct 5 times in a row. Get Mum to check your marks on the computer and sign them as correct.

Ex. name

Ex. name