



***A research project investigating how the use of ICT can be used to enthuse student learning in music.***

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**Note:** Parts of the research refer to video footage and resources that can be viewed online at [www.efellows.org.nz/mark](http://www.efellows.org.nz/mark)

## **1. ABSTRACT**

Music technologies are now commonplace in students' lives. Ipods, mp3 players, cell phone ringtones and Playstations are influencing the way students listen, interact with and enjoy music. This research examines ways in which such technology can be used to enthuse primary school students in their learning of music. It addresses the influence of pop music and popular culture on this generation, and captures the importance of school life experiences matching real-life. Furthermore, it highlights children's desire to engage in compositional activities which empower them to create their own beats and songs. The results show that children are particularly enthusiastic when music technologies are used in composition. Teachers, students, peers, parents and literature have helped establish my findings.

## 2. INTRODUCTION

### Background



My research was conducted at Rutherford Primary School, a mid decile school on West Auckland's Te Atatu Peninsula. I have been teaching for 7 years, the last three at Rutherford where I hold the position of Senior teacher. I teach Year 5 and 6 children.

Mp3 players, ipods, computers, Playstations and TV are all music related technologies or devices that children use and enjoy. Their pleasure may be in simply listening, but for some pleasure is gained in creating their own music. As yet these technologies are used only outside school hours. Why is this? I see a huge potential here to open the way for children to become more enthusiastic about music by using such technologies at school.

I have observed a mismatch between the music and music technologies that are taught in school and the music and technologies children are exposed to outside school. Today's children are surrounded by music, largely because of new technologies. It is no surprise they are choosing to spend their own time listening, playing, burning, downloading and composing. When children return to school after being exposed to 'high-tech' devices and popular music at home, and are faced with singing to an old folk song or playing a clave (if they are lucky), it is understandable that they are likely to be bored and unresponsive about learning.

In today's primary classrooms, teachers are faced with what seems an ever-increasing number of subjects to teach. The three R's take precedence in most classes, but minor subjects can receive limited, and in some cases there is no dedicated time allowed. Music is an area easily overlooked. The music programme should be more comprehensive than one that involves just singing during assembly time. I believe that for reasons such as inadequate resourcing, lack of professional development for teachers, and teacher-technophobia, many children have become less enthusiastic about learning music.

In my classroom over the last few years I have tried teaching music using ICT. I have not spent as much time as I would like but I have seen signs that using ICT to teach music can enthuse children. The first lesson I taught, using ICT,

explored the parts of an orchestra. I found an interactive website and used the school data projector to show children the different instruments and the sounds they make. The children appeared to be more focused, more engaged, and seemed to enjoy this different pedagogical approach. I, in turn, was energized by the children's increased enthusiasm. Ever since I have wanted to explore how other relevant websites and music technologies could be incorporated into learning in order to enthuse students and reduce the mismatch between music at school and music outside school.

Through talking with and observing teachers, I am aware that many lack confidence in teaching music, especially if they cannot play a musical instrument and/or sing. I, too, have felt this way at times. This has inspired me to develop links and provide helpful resources for teachers nationally and internationally through a website. Hopefully the site will provide ideas for teachers to create a stimulating music programme and provide good interactive websites that support teaching and learning. My research may also be useful for those writing and updating music curricula. This will provide useful information for including music technologies into the Primary and Intermediate School sectors to foster student enthusiasm, motivation and learning.

A common term that appears in my research is 'music technology'. This fairly new term refers to, in my research, as all digital music related technologies and ICT (Information and Communication Technology). It encompasses a range of technologies, not just music specific ones, including computers, mp3 players, digital projectors and Playstations.

In seeking to find out ***how ICT can be used to enthuse children in learning music*** (my main research question) I did not set out to prove that all teachers should use only Music Technology in teaching the subject. I believe strongly in a balance. We need to remember the past but also look to the future, incorporating both new and old technologies. Hopefully we find a middle ground where diversity is celebrated.

After establishing my main research question and identifying my core phenomenon as "enthusiasm", the following list of sub questions were formulated to help answer this question.

## Core Phenomenon: Enthusiasm

### Research Sub Questions

1. What is enthusiasm?
2. How do children display enthusiasm?
3. Do children display enthusiasm when using ICT in learning music? If so how?
4. What can I (the teacher) do to foster children's enthusiasm for music, when using ICT?
5. What music hardware, software, and on-line resources are most useful in supporting the teaching and learning of music?
6. What can we learn from this study that enables us to develop effective classroom resources?

### 3. METHODOLOGY

The most effective research approach that I could identify for this project was the action research model. This allowed me both to observe and to change my own teaching practice. Cohen and Manion (1994, cited in Cohen et al, 2000) define action research as a "small-scale intervention in the functioning of the real world and a close examination of the effects of such intervention". Kemmis and McTaggart (1992, cited in Cohen et al, 2000) help to clarify action research further by saying that "it is motivated by a quest to improve and understand the world by changing it and learning how to improve it from the effects of the changes made". Action research involves using the 'self reflective spiral', which requires the researcher to plan, act (implement), observe, reflect and then repeat the cycle based on the reflection.

Using action research allowed me to use an ethnographic technique of 'participant observer' to experience students' behaviour first-hand and their thoughts in eliciting change. Furthermore, it gave me the freedom to evaluate and modify my programme at will to keep in line with the goals of my research.

The research required students who would typically represent a normal classroom. It was decided to select eight children from three different Year 5 and 6 classes. The selection of the eight individuals was based on a questionnaire that children could choose to take home, fill out with their parents and return to me. The questionnaire asked the children a variety of questions relating to computers, initiative, music, their interests and television hours (*see Appendix 1*). Out of the 67 students who took a questionnaire 36 were returned. In choosing the eight for the sample group I made sure there was a spread of abilities. For example, I chose one child who had been learning piano for 2 years, and another who had never learnt an instrument. Seven children were selected using this method, in consultation with the school Principal and Deputy Principal. The eighth child was asked personally by me to be part of the group. This child chose not to take a questionnaire home but agreed to being part of my research. The data from these questionnaires has also been used to provide some quantitative data on issues relating to Music, ICT and enthusiasm.

I collected data over a period of ten weeks, on Tuesday and Thursday afternoons. I used a range of data sources (*see Appendix 21*) in an attempt to provide validity and triangulation. Thirteen lessons were conducted and videoed. The duration of most lessons was seventy-five minutes. I used the video footage predominantly to analyse, reflect and plan. A digital journal was commenced to record these findings and my thoughts. Students completed evaluations (*see Appendices 2-12*) after most lessons or at the end of the programme, providing data I could later analyze. The children's teachers (*see*

*Appendix 13*) and peers (*see Appendix 14*) were interviewed and parents given evaluations to complete at the end of the programme (*see Appendix 15*). In addition, audio interviews were conducted with each child in the sample group, some of their peers and their classroom teacher (*see Audio Interview Questions in Appendix 16*).

To gain a better understanding of enthusiasm and the implementation of Music Technology into a 'normal' classroom I conducted two staff meetings. Information was gathered through written evaluations and observation. The first meeting was to gain information from the teachers on their understanding of enthusiasm and how it was displayed in their students. The second meeting immersed the teachers with music technologies that the students from my group had been using. They were required at the end of this practical session to evaluate the different software programmes, internet and Playstation games, Garageband and other technologies they used during the session. I asked them to identify the benefits of using this technology and highlight reasons as to what might hinder their integration into their classroom.

Samples of children's work in the form of musical compositions ([www.efellows.org.nz/mark](http://www.efellows.org.nz/mark)) were collected throughout the programme. In addition, videos and photos were also obtained to capture the children's responses and to observe their learning environment.

## **Equipment**

As my school did not have many resources conducive to composing or learning about digital music I could undertake this research only through loaned computers, Playstations and games. The following is a list of equipment used:

1 Classroom dedicated as a music room

2 Keyboards

1 M-audio USB audio interface – *This allows you to connect a microphone or guitar to your computer for recording purposes.*

1 TV

1 Digital projector

Internet sites and games (*for list see [www.efellows.org.nz/mark](http://www.efellows.org.nz/mark)*)

2 Plate microphones (*used to pick up children conversations around the room*)



1 Amplifier (8 inputs)

5 Macintosh computers with Garageband - *Mac-based free software which can be used to compose, record and edit music.*

2 Playstation Two (PS2) consoles

2 Singstar Party (PS2) games – *Karaoke style Playstation software that plays popular music from the past and present that you can sing along to. It has varying levels of difficulty and tells you whether you are in tune. You can battle another player and even hook up a camera to view your dancing abilities.*

2 DJ Desks & Fx (PS2) games - *Playstation software that allows use of turntables, faders and mixers to play and compose music. It uses mainly dance loops and samples and offers special effect options to tailor-make a sound.*

1 Music 3000 PS2 game – *This Playstation software uses very realistic audio loops and samples to compose music in a variety of genres. It has the added advantage of creating video using modern visual loops and effects to accompany a musical composition – music videos.*

1 MTV Music Generator PS2 game – *Another compositional piece of Playstation software. This one though, lets the player choose loops and samples from modern popular music. You can listen to an artist and re-mix their song to your own specifications.*

1 PC (with free internet music composition software installed - *for list of downloads see [www.efellows.org.nz/mark](http://www.efellows.org.nz/mark)*)

## **Indicators**

In the effort to identify enthusiasm I constructed a list of indicators (*see Appendix 18*). The indicators were gathered from various sources, readings and through children's behaviour I observed. Initially the list was split into two categories to assist in identifying how data would be gathered; quantitative behaviours and qualitative behaviours. The former looked at body language, verbal, inquisitive and collaborative behaviours. These behaviours were placed on checklists and used by me during video playback to record the number of times the behaviours were exhibited. The latter was concerned with observing passion and self motivation, factors that required a more collaborative style of data collection. To assess these qualitative behaviours I interviewed or discussed with the students questions (*see Appendix 16*) relating to enthusiasm. Later the list of indicators was used more generically and without checklists. Here I would view the video footage and write observations commenting on both qualitative and quantitative behaviours.

## **Ethics**

My research has been viewed and approved by CORE Education (*see Appendix 22*). I have planned and thoughtfully accounted for important ethical issues. Initially I gained consent from the Board of Trustees and the Principal. Subsequently parents gave their permission for me to involve their children and their work in my research. In my report an alias was given to each child to provide confidentiality for that child and their family. The lessons were conducted according to Rutherford School policies and procedures. Students and parents were all encouraged to discuss with me anything at all about my research, including the method of delivery.

## **4. LITERATURE REVIEW**

### ***How can the use of Information and Communication Technology enthuse learning in music?***

My research looks at how classroom teachers, particularly in the Primary sector, can use ICT, like a catalyst, to help enthuse students in learning music. I have found through observing my own school and others that minimal amounts of music were being taught. On the face of it such evidence appears to indicate a lack of enthusiasm for the subject by teachers and students. In addition, the music that was taught, did not match the type of music and music technology outside the classroom. I have decided, therefore, to investigate how music technology can enthuse students.

#### **4.1 What is Enthusiasm?**

“Possession by a god”, was originally the meaning of enthusiasm. Over time it was extended to “rapturous inspiration by a god,” then to “ill-regulated religious fervour, religious extremism” and finally to its contemporary usage (The American Heritage® Dictionary of the English Language, 2000, p.1). “Intense enjoyment, interest, or approval”, is how the Compact Oxford Dictionary defines enthusiasm. Other dictionaries and thesaurus’ alike reinforce the expression of excitement and a keenness towards an activity or subject. The word may have lost some of its fire over the years but it still carries an intensity and can still be linked to a deep, heart-felt desire that requires action. This is the way in which I am using this word in the context of this research.

##### **4.1.1 Motivation and Enthusiasm**

There are strong links and parallels between enthusiasm and motivation. Some may argue that there is little difference between the two. Most educational research concentrates more on the concept and theories of motivation than enthusiasm. Motivation is generally and loosely used to describe all the questions about why we think and behave the way we do (McLean, 2003). “It is the sum of all that moves a person to action” (McLean, 2003, p.7). Elliot, Kratochwill, Cook & Travers help to elaborate by defining motivation as “an internal state that arouses one to action, pushes one in a particular direction, and keeps one engaged in certain activities (cited in McClean, 2003).

In grasping the commonalities between motivation and enthusiasm it is helpful to consider the function of motivation. McLean (2003) identifies two functions within

motivation. The first is a directional function where one can choose among options and keep the action as intended. The second is referred to as the intensity function that can be understood as the level of enthusiasm displayed.

To understand enthusiasm and its intensity further it is important to understand what motivates or moves individuals to feel enthusiastic. Through investigating motivational theory we can gain a greater self-awareness and understanding of why people behave the way they do.

#### 4.1.2 Theories on Motivation

##### **Intrinsic and extrinsic motivation**

Intrinsic and extrinsic motivations are widely used terms that help us to understand the reason behind our motives. Intrinsic motivation refers to “when we do something for its own sake, interest and enjoyment” (Deci, cited in McLean, 2003, p.9). We gain satisfaction from the process rather than the product at the end. Factors that are external to a person, like rewards or praise, contribute to extrinsic motivation. Behaviourists tend to emphasize this type of motivation in the belief that students are motivated by the desire to receive something for their efforts (Wiseman & Hunt, 2001).

When we compare the definition of enthusiasm mentioned earlier with Deci’s understanding of intrinsic motivation we find very close similarities. The concept of interest and enjoyment is an overlapping feature. We could perhaps conclude that they are one and the same. If you are enthusiastic towards something you are intrinsically motivated.

##### **Maslow’s Hierarchy of Needs**

Humanistic views on motivation do not accept the belief that human behaviour is simply a response to the environment or to animal instincts. Rather, the humanistic view looks at the whole person; his or her physical, emotional, interpersonal and intellectual qualities as they influence a person’s choices (Wiseman & Hunt, 2001). Abraham Maslow the father of the Humanistic movement (1970, cited in Wiseman & Hunt, 2001) offers a helpful insight into student motivation through the concept of human needs. Maslow’s Hierarchy of Needs outlines seven human needs that he separates into two groups. The first group, at the lower end of the hierarchy, is ‘deficiency needs’. These consist of a person’s need for survival, safety, belonging and self esteem. He claims that these needs must be met in order for a student to move up the hierarchy. At the higher end of the hierarchy are the needs Maslow terms ‘growth needs’. These include intellectual achievement, aesthetic appreciation and at the very top, and to which one can never fully reach, self-actualization. Students that come to school hungry, tired, feeling unsafe or unloved will not learn and develop to their

fullest potential. Their deficiency needs have to be satisfied in order for growth and cognitive achievement to be truly realised. Enthusiasm for learning can therefore only occur once these primary needs are satisfied.

Glasser (1998) has his own perspective on human needs. He presents five basic needs for students: belonging, power, freedom, fun and survival. Glasser does not provide a scale or hierarchy like Maslow but indicates that if these needs are not met in some capacity that misbehaviour and disengagement will be the outcome. Glasser identifies 'fun' as a basic student need indicating that best learning will not take place if activities and school in general are not fun. Fun therefore should be a prerequisite for motivating and enthusing student learning.

### **Self-efficacy**

In further understanding motivation and its intensity, the concept of self-efficacy is an important one. Schunk (cited in Wiseman & Hunt, 1994, p.40) describes self-efficacy as "one's belief about the capability of succeeding at specific tasks". The students who have high self-efficacy believe in their abilities and perceive themselves capable of completing tasks. Students with low self-efficacy see themselves as having limited abilities and as not likely to be successful in completing learning activities. The former group of students will work hard and be focused on the task at hand as they are confident of success. The latter group doubts their abilities, has less confidence and will be less focused and not as engaged. Students are all different and will be at different levels of self-efficacy. According to Bandura (cited in Wiseman & Hunt, 1986) past performance, modeling, verbal persuasion and their psychological state are the main factors that influence students' self-belief in their ability to perform. From this it is evident that enthusing a diverse group of children to learn is not a simple exercise. Self-efficacy requires that the teacher concerned to enthuse children take account of students' self-beliefs and recognize that these may influence how much effort, time and status they will give to their learning task. It also suggests that achievement in one area may raise self-efficacy in such a way that other school subjects are also positively impacted.

### **Flow**

*Examiner: Billy – what does it feel like when you're dancing?*

Billy: Don't know....sort of stiff and that at first but it sort of feels good...once I get going. I forget everything. I sort of disappear...sort of disappear...I can feel a change in my whole body, like this fire in my body...just there I'm flying.....like a bird. Like electricity...yeh....like electricity.  
(from the film Billy Elliot)

Losing track of time, completely focused, in ecstasy, totally absorbed, an inner clarity and intrinsically motivated are some of Mihaly Csikszentmihalyi's indicators of what it feels like to be in "flow" (cited in Farmer, 1999, p.1). It is a state of mind where you are oblivious to things around you and time as it passes. In Billy Elliot's case he doesn't just forget time but everything except dancing. He is totally and utterly absorbed with what he is doing. A person in 'flow' is undoubtedly enthusiastic, fully engaged in what they are doing and highly motivated by internal factors. Every teacher's dream would be to have students who operate in this state of flow. So how can educators develop flow, intrinsic motivation and enthusiasm in their classrooms?

### 4.1.3 Engagement Theory

*Children who are engaged show sustained behavioral involvement in learning activities accompanied by a positive emotional tone. They select tasks at the border of their competencies, initiate action when given the opportunity, and exert intense effort and concentration in the implementation of learning tasks; they show generally positive emotions during ongoing action, including enthusiasm, optimism, curiosity, and interest. (Skinner & Belmont, cited in Chapman, 2003, p.1)*

Skinner asserts that engagement is cognitive but also affective. He mentions that engaged students show a 'generally positive emotional state'. Other researchers and theorist indicate this too. "Engagement is grounded in the cognitive and affective systems of learning and readers" (Mosenthal, cited in Mitchell et al, p.2)

Kearsley & Shneiderman (cited in Van Tine & Knobloch, n.d.) helps to shed more light on engagement theory through their three principals. Their first principle of engagement theory focuses its attention on learning through 'creative and purposeful activities'. Here student learning needs to be experiential and applicable to other settings. Dewey (1916) found that when students can see how learning applies to their own experiences their desire to learn will be enhanced. This type of experiential learning helps increase students' ability to transfer knowledge from an educational setting to a real world experience.

The second principle is creating an 'authentic learning context' where there is an out-of-the classroom focus. "Students can comprehend more information when it has real-life meaning and is applicable to their own life experiences" (Kearsley & Shneiderman, cited in Van Tine & Knobloch, n.d., p.1). Research has found that when learning is taken outside the classroom and a relevant context provided

more learning occurs (Cronin-Jones; Kearsley & Shneiderman, cited in Van Tine & Knobloch, n.d.).

The third principle fuses ‘social interaction and student collaboration’ where students develop their social skills while working together. “Student’s motivation increases with peer collaboration, along with the maturation of their communication skills” (Conn; Kearsley & Shneiderman, 1998, cited in Van Tine & Knobloch, n.d., p.1). Cooperative learning promotes higher achievement, cognitive development and active involvement (Johnson & Johnson; Kearsley & Shneiderman, cited in Van Tine & Knobloch, n.d.).

There is also a social aspect to engagement as Conn highlights. Engaging students in learning is not just about stimulating thinking and cognition but also includes affective and social domains.

Humans have ‘native tendencies’ to explore, to manipulate tools and materials, to construct, and to give expression to joyous emotion. Dewey (1916) says that when activities which cater for these instincts are part of the regular school programme the whole pupil is engaged and the artificial gap between life within and outside school is reduced.

## **4.2 Fostering enthusiasm in the classroom**

There are numerous ways educators can foster enthusiasm in their classes and schools. Discovery learning, co-operative learning, play, stimulating and fun environments, achievable tasks, student autonomy and control, and appropriate feedback will be discussed in this section.

### **4.2.1 Discovery Learning**

Discovery Learning places its emphasis on exploring, doing research, asking questions and seeking answers. This type of approach assists the learner in taking responsibility for his or her own learning, focusing on intrinsic over extrinsic motivation. The degree of structure to the lesson is up to the teacher but in some cases there can be no structure at all (Bruner, cited in Gilliani, 2003). The teacher becomes more of a facilitator of learning rather than a deliverer of information. Children become empowered and active in discovering things on their own.

## 4.2.2 Co-operative Learning

Working in groups to achieve learning goals is commonplace in New Zealand schools. But what exactly are the benefits of co-operative learning in relation to student motivation and enthusiasm?

One of the major benefits of co-operative learning is the way it enhances students' self-esteem. Children that are not confident or find something particularly hard can rely on others to help them complete a task. This provides motivation and support for the individual. As a result students raise their performance level. This in turn leads to higher self esteem (Kagan, cited in Gilliani, 2003).

Johnson & Johnson (cited in Gilliani, 2003) claim that co-operative learning enhances student satisfaction with the learning experience. Students become actively involved in designing and completing class procedures and course content. In addition, they add that test anxiety is significantly reduced and positive student-teacher attitudes are developed when co-operative learning is employed.

Other research stresses how co-operative learning establishes inclusion, develops persistence, fosters higher levels of performance, develops students' social skills and higher-level thinking. Perhaps, the most obvious sign, especially for children, is that learning can become interesting and fun, even when they are completing repetitive activities (Male, cited in Gilliani 2003). All these advantages of co-operative learning help enhance student enthusiasm by assisting in making learning enjoyable, safe and fulfilling.

## 4.2.3 Play

In nurturing enthusiasm in students, play is one of the primary weapons in combating boredom and achieving intrinsic motivation (McInerney, 2000). In play children have choice and autonomy over what they do, when they do it and what they use. They are empowered. In fact if adults, teachers or parents start to structure play by telling the children what to do or what to use it may no longer be intrinsically motivating and no longer be perceived as play (McInerney, 2000). In constructing an authentic play environment the teacher needs to become a co-player. Rather than being a teacher who roams, looking over children's shoulders he or she would be more on the children's level. Here the teacher can still be called upon for help or assistance but is not seen as controlling the learning environment.



“There is much that is pleasurable about play and we would be wise not to forget this” (Vygotsky, cited in Cook & Finlayson, 1999, p.44).

Children and adults alike love to play. Many adults work in order to save money to lavish in a lifestyle of play. Children naturally learn through play and, as Vygotsky identifies, it is often associated with fun and enjoyment.

*In play the child always behaves beyond his average age, above his daily behaviour; in play it is as though he is a head taller than himself. As in the focus of a magnifying glass, play contains all developmental tendencies in a condensed form and it is a major source of development (Vygotsky, cited in Cook & Finlayson, 1999, p.31).*

Vygotsky brings to our attention, through this quote the influence play has on a student’s self esteem and self-efficacy. The confidence and self-belief generated through play should not be overlooked. Maslow, as discussed earlier, supports the idea that real learning and motivation will only take place once students’ basic needs, like positive self esteem, are met. In addition, Glasser’s theory is that students need to feel they belong, have fun, have power and freedom are all realistic needs that can be achieved through meaningful play.

“Time to play, talk, explore and think about activities is a vital aspect of children’s learning and should be encouraged and approved of by all adults” (Cook & Finlayson, 1999, p.34).

#### 4.2.4 Fun & Stimulation

Should learning be fun for our students? This might seem like a simple question with a simple answer but how often as educators do we reflect on our programmes and ask ourselves.... “Is this fun?” It is commonly accepted that if something is fun then one is engaged, motivated and displays enthusiasm towards an activity. Conversely, if something is not fun it is ‘boring’, un-engaging, un-motivating and does not generate enthusiasm.

Do we ask children for their feedback on lessons? Do we ask for their advice on what they find fun and enjoyable?

If content is intriguing, matched to student interests and/or illustrated with exciting examples it is much more likely that motivation will be high (Pressley et al., 2003). McLean (2003) suggests a few methods that teacher can use in creating a stimulating and fun learning environment:

### **Curiosity**

The use of surprise where something is out of the ordinary can help create motivation, bringing variety and diversity to the class. Beginning the lesson with something novel arouses student's attention and keeps the children on their toes, especially if every lesson is started slightly differently each time.

### **Pace**

It is needless to say that a teacher must be well planned, but how often does this planning extend to the consideration of pace. If the pace of a lesson is well thought through and moves at a good speed this gives students a sense of progress that helps build their self-competency and self efficacy beliefs. If a lesson moves too slowly children can become uninterested and bored or too quickly despondent and negative.

### **Fantasy**

Activities that allow children to use their imagination can be used very effectively and can add significantly to what might be considered a boring task. Make believe, role-plays, simulations and games, if used appropriately, can facilitate stimulation and fun in the class.

## **4.2.5 Challenging yet achievable tasks**

Motivation will be optimized when tasks are challenging yet achievable, specific, relevant and with clear short-term goals. If students deem a task too hard and un-achievable, they will quickly give up and become despondent. If a task is too easy then students are not challenged and may disengage through boredom. It is vital that the teacher finds a balance.

As suggested earlier our goal as educators should be to get children working in a state of flow'. For this to happen Czikszentmihalyi (cited in McLean, 2003) suggests that both skill and challenge levels must be high. If these two combinations are not met then children will display anxiety, apathy or boredom.

In finding tasks that strike a balance between being challenging yet achievable it is important to again consider self-efficacy. A child who has low efficacy will struggle and give up quickly if a task is too hard. Some of the obvious indicators that the task is too hard would include; being easily distracted comments that degrade their abilities, sighs and frequently looking at other student's work. Vygotsky offers an excellent framework to understand where children work best. The Zone of Proximal Development is the space between what the child can do on their own and what they can do with support from a teacher or more capable peer (cited in McLean, 2003). This 'space' is just ahead of their skill level and

takes children out of their 'comfort zone'. In more recent years we have come to understand this as the child's 'instructional level', especially in relation to reading.

Activities must also be relevant. Children need to 'see the point' - the reason why they are learning something. "Learning is best placed in meaningful contexts that show its inherent utility and capitalizes on students' interests" (McLean, 2003, p.83). McInerney (2000) reinforces this need for relevance by claiming that learning must be situated in 'real-life' contexts and build on children's prior knowledge. It is vital that children place value on what they are learning if they are to be motivated and enthusiastic.

Success motivates – a simple concept. A student's self-efficacy increases when s/he succeeds at something. He/she develops self-belief and confidence. However, the key to achieving lots of success is not through making tasks easier. As we have discussed, the task must be challenging yet achievable in the eyes of the student. The key is setting tasks or learning goals that are short term. It is quite simple really. Short-term goals equal more successes thus building more self-efficacy. A long-term goal equates to less successes and therefore less potential to develop self-efficacy.

#### 4.2.6 Autonomy and control

Being controlled by the teacher is not motivating, in fact Eccle & Midgley (cited in Pressley, 2000) claim that as children mature they desire greater autonomy. It has been found that the teachers who allow for this maturation of autonomy are teachers with high self-efficacy. These teachers are confident in their teaching abilities and allow their students to make decisions over things like setting schedules, work methods, quality checks, when to stop and start, taking breaks and prioritizing. When a teacher shares some of the power with students s/he will not lose power but rather acquire more as the students give the teacher more respect (McLean, 2003). With this greater level of choice and autonomy students can experience leadership opportunities, shared responsibilities, communal decision making, active participation and a sense of ownership over the learning process (Deci & Ryan, cited in McLean, 2003). It is interesting to note that often motivation progressively declines as students desire greater freedom with advanced age. Instead of providing greater autonomy many schools seem to increase the emphasis on discipline with advanced age and reduce student choices (Eccles et al., cited in Pressley, 2000).

#### 4.2.7 Feedback

It would be very easy here to delve into the depths of extrinsic motivation and behaviourism, discussing external rewards that can be introduced by teachers to

help stimulate enthusiasm for learning. However, as identified earlier enthusiasm is more closely linked with intrinsic motivation and relates to what drives us from within and makes us do what we do. Extrinsic rewards like lollies, free time, and lotteries are more 'quick fix' options. This section will look at how teachers can give authentic feedback and praise to build intrinsic motivation and enthusiasm for learning in children.

Words are powerful. Feedback that students receive has a direct influence on their attitude towards achievement. Negative feedback like put-downs can have devastating effects on learning. Adversely positive feedback, like "You have worked very hard", tend to encourage a mastery attitude and positive self-belief.

When providing feedback to children the information communicated needs to be accurate, credible and relevant. Giving feedback that is vague or inaccurate does not help children to progress nor improve their self-efficacy (McLean, 2003). Effective feedback needs to be immediate, frequent and specific (Vitto, 2003). Comments like, "Good", or "Well done" are less effective forms of praise. Children need to know what they are being praised for. Providing relevant feedback on information to judge progress, alter mistakes and redirect effort is vital for progress towards a goal (McLean, 2003).

A crucial element to feedback as alluded to in the last paragraph is time and immediacy. Generally the longer a student has to wait for feedback after the completion of a task the less effective the feedback is. This immediacy is especially important when learning a new skill in order for the teacher to ensure the student is practicing the skill correctly and not making errors (Vitto, 2003).

When giving feedback to children, it is important to build on their strengths and what they are doing right. McLean, (2003) identifies that feedback needs to be informative, sincere, accurate and honest. If these elements are present students will feel affirmed and empowered.

If small goals are set for children that are explicit and challenging yet achievable motivation will flourish. It makes specific feedback easier for the teacher, especially if the goals were outlined at the beginning of the lesson, and provides short spurts of success for the students.

## 4.3 Music Technology and Enthusiasm

### 4.3.1 Music Technology

Music Technology is a relatively new term that I have used to describe not only specific technology related to music but also the use of Information and Communication Technologies in music education. Murray (1997, cited in Pitts & Kwami, p.61) defines Music Technology as any “situation in which electronic technology is used to manipulate or communicate musical information”. This term has been established as the result of an increase in music-based technologies, especially in the area of software. Music Technology fuses both art and science (Mitchell, 2004). Like any ICT, Music Technology is simple a tool and is only useful in accomplishing a larger goal (Mills & Murray, 2000).

*Pupils, almost without exception, were enthusiastic about using ICT in music lessons. Some asked their parents to purchase keyboards for use at home, and enjoyed practicing the material they learned in their music lessons. Some schools had materials that pupils could borrow for use at home, and pupils spent much of their own time consolidating work introduced in music lessons (Mills & Murray, 2000, p.142).*

This quote comes from a study where 52 schools in England were visited to investigate the use of ICT in music. It is clear from this extensive research that the majority of student’s were excited and interested in using music technologies at school. Furthermore, indicators like wanting their own keyboard and using their own time to pursue music highlights the intrinsic impact ICT can have on student motivation.

### 4.1.2 TIMP (Technology in Music Programme)

In 1990 a year-long research project was conducted by Clarkson & Pegley (1991) in conjunction with the Canadian Ministry of Education. The project aimed at investigating the use of music technologies in the Middle School sector. Thirty-three children were selected randomly to take part in this lengthy initiative. Although this research was conducted 15 years ago and music technology has progressed rapidly since this time, the concept, principles, attitudes and theory behind its success are still very relevant.

The TIMP data revealed that students were “overwhelmingly enthusiastic toward and highly motivated” by the programme. They found that this increased enthusiasm and enjoyment for music transferred to greater interest in school-

work in general. Increased self esteem, self-confidence and attention spans; improved and heightened social interactions and communicativeness were observed directly by parents. The authors concluded from their assessment that “computer-assisted instruction and electronic music instruction have the potential to greatly enhance the teaching of music as a functioning system of communication at the intermediate level”.

In comparing the students initial two months in the TIMP programme with their previous year’s music programme vast differences appeared. The number of students responding that music class was very enjoyable increased from 6% to 85% and correspondingly the number who did not find music enjoyable fell from 42% to 0%.

The TIMP research suggests that the success of the programme was due to:

- Creating a non-competitive and non-judgmental environment;
- Accommodating a range of learning styles;
- Utilising a range creative teaching styles;
- Developing a collaborative musical community focused on achieving learning and social objectives.

TIMP tested children’s musical ability, learning styles, personality and listening skills before lessons were undertaken. The research found that the quality of listening had a profound influence on students’ processing and responding to music sounds. They found a direct correlation between a student’s listening ability and their success in music. Children who had hearing and listening problems were less likely to achieve in, and enjoy the programme. A child who may seem apathetic or disengaged during music may simply have a hearing problem. To arouse this type of children the stimulus needs to be extremely strong. One child from the study who had moderate to severe deficits in listening ability had a preference for heavy metal rock. This genre obviously provided high auditory stimulation.

The programme accommodated learning styles and personality preferences through initial testing using the Murphy-Meisgeier Type Indicator for children; a Myers Briggs style temperament assessment. Children were encouraged to work collaboratively, but introverts who wished to work alone were permitted to do so. Extroverts were given time to interact socially and work in pairs while introverts were given time for internal processing prior to participating in a group discussion. Many of the children who were evaluated at the end of the TIMP mentioned that they learnt how to work in a group and really enjoyed participating in “The Never Ending Story” activity. In this activity, they worked collaboratively to make a soundtrack for the movie.

### 4.3.3 Pedagogy

Attempting to create a teaching and learning environment that cultivates student enthusiasm for learning music solely through having ICT around won't work. Careful consideration needs to be given to how the knowledge is delivered, what is taught and what equipment is used. Much of the 'how' has been discussed already in relation to using discovery approaches, co-operative learning, aspects of play, stimulating and fun activities, challenging yet achievable tasks, student autonomy and appropriate feedback. This next section will look at what the Curriculum says about teaching music technology, what research suggests should be taught and what resources are needed in engaging and motivating pupils.

#### **The Curriculum**

In the current New Zealand Arts Curriculum (Ministry of Education, 2000) there is no requirement to teach any music using technology until Level 4. At this level, in the strand 'Developing ideas in music', the curriculum states: "Students will use musical elements, instruments and technologies to improvise and compose simple musical pieces" (p.59). Prior to this the Level 3 requirement is that "students will invent and represent musical ideas to express mood using shape and contrast" (p.58). The indication here is that at primary school the use of technology in music is not required unless children are being extended to Level 4.

The Curriculum states, "In years 1-8 all children must study, and have opportunities to meet achievement objectives, in all four disciplines" (Ministry of Education, 2000, p.90). In music these achievement objectives are broken into four strands covering: developing practical knowledge in music, developing ideas in music, communicating and interpreting in music, and understanding music in context. This latter strand is the closest the curriculum comes, between Level 1-4, in addressing and providing teachers with examples of how ICT might be incorporated into music. As a 'Learning example', at Level 2, it suggests that "children listen and identify the purposes of several different kinds of live and recorded music (e.g.,...computer games...). This is purely a listening-based activity. There is no mention of how children might compose or experiment with music technology. This lack of assistance in the Curriculum requires one to look again at the research.

#### **TIMP**

TIMP (Clarkson & Pegley, 1991) organised its technology-based instruction around six centres each focusing on a particular musical operation: listening and music appreciation, ensemble performance, sequencing, composing, musical production and integrated arts performance. Each learning centre used some

form of music technology ranging from an audio cassette player to sequencers and PA systems. The results from surveying the students found that the most popular learning centre was the one where they could record and produce songs. In this environment students performed their musical pieces, recorded their song on to a 4-track recorder and then produced a tape at the end. Two centres tied for second most popular centre: where the students learned to use a sequencer and to use the computer and midi for composition. Interestingly, the three favourite learning stations were all in some way related to composing music.

### **English Study**

The English study mentioned earlier by Mills and Murray (2000) also reinforces what the TIMP research found nine years prior. This UK study outlines the major strengths of the music technology programmes:

- The variety of sounds that could be used including unusual sounding voices on the keyboards, and music that is usually too difficult for pupils to play.
- Repeatability: Pupils were able to repeat their developing work while trying new ideas against it and then edit their own work until it was accurate.
- Multi-tracking: Pupils enjoyed layering sounds, using more sounds they could play on a normal keyboard.
- The ease with which changes (tempo, pitch, timbre) can be made, tried, discarded and retained: 'You don't need a rubber'.
- Good backing tracks that sound stylishly authentic.
- The teacher is available to listen and help the students rather than performing as an accompanist.

Students' dislikes of using music technology were:

- Losing a file or track.
- Waiting for keyboard or computer malfunctions to be fixed.
- Using keyboards for performance as opposed to their own instruments.

The strengths of using music technology tended to highlight composition, where students were using keyboards, multi-tracking devices and computers to create their own unique music and sounds.

This research, like most other available research in this area, is limited to levels equivalent to New Zealand's Intermediate and High schools. It focused its attention on 11-14 year olds or Key Stage 3 of England's national curriculum. Much of what was found may be applicable to the Upper Primary levels, but would enthusiasm be the same at lower levels?



## **NEMP**

The New Zealand National Educational Monitoring Programme (cited in Buckton, 1998) released a report in 1996 involving 500 children who were randomly selected at each of the Year 4 and Year 8 levels. The survey that was conducted aimed at investigating children's attitudes to and perceptions about music. Furthermore, it explored their participation in music in and out of school. The results of this report help us to understand the pedagogical approach that would generate enthusiasm for music.

One of the pertinent questions the children were asked was "How much do you like doing these things in music at school - singing, playing instruments, listening to music; dancing/moving to music?" The results at Year Four showed that students favoured playing instruments over the other options. Maybe a reason for this is related to responses to another question from the survey that asked the children how often they do these activities in school music. The results were quite disheartening. They found that 75% of the children surveyed only 'sometimes' or 'never' played musical instruments at school.

Subsequent NEMP testing in 2000 and 2004 found no changes and reported, "There continues to be a large gap between the enjoyment of playing instruments and the extent to which this activity is included in school programmes. Opportunities to make up (compose) music seem to be infrequent" (p.2).

It would seem from these reports that children are simply not getting exposure at school to playing instruments. With a crowded curriculum, lack of good equipment and overworked teachers, listening and singing activities become the easier option – and a less noisy one too.

These three different studies all reinforce this concept of composition and playing instruments (digitally or acoustically) being at the heart of what students want to learn and be taught. If we are going to motivate and enthuse students in learning music a strong orientation towards teaching music composition is required. The use of technology like keyboards and computers offers students a wide range of instruments to listen to, manipulate and compose with

### **3.4.4 Pop Culture**

Students today live in a world of high-tech media bombardment where anonymity is a phobia. Music is a natural part of our lives and culture and is ever-changing, adapting and fusing. Music influences all of us. It can affect our mood or the group of people we associate with. Children's level of enthusiasm towards

learning music can be influenced by what type of music is played and what music technology is embraced by the teacher.

Greer et al, (cited in Persellin, 2002) say that children are open to listening to a broad range of music up to Year 4 and 5, but that after that time their interest in popular music increases and their interest in music that is not popular or is classical decreases. Clarkson & Pegley reinforce this finding in their 1991 research and identify rock, pop and rap as being preferred musical genres of intermediate level children. Furthermore, other research suggests that Year 6&7 pupils prefer music that has a fast tempo (LeBlanc et al., cited in Persellin, 2002). This information is crucial in understanding what enthuses our students. If teachers of music continue to choose for their upper primary and intermediate students songs that are not seen as popular, children are more likely to disengage during lessons. On the other hand, if teachers choose songs that the students hear on the radio or on TV they are much more likely to engage during lessons and be enthusiastic.

“Electronic keyboards and computers have given children a range of sounds that are often very similar to the ones heard in popular music, making it possible to relate more closely school music and the outside world” (Cain, 2004, p.216). Such technologies allow students to create music layer by layer, to edit work and to play it back at any tempo. The shift in music pedagogy means that students can compose music they cannot physically play (Odam & Paterson, cited in Cain, 2004). Children can create compositions that represent closely the music from the world around them, including what is popular at the time.

Teachers who choose not to include popular culture like pop music and music technology in their classrooms introduce culture dislocation, where what is seen, heard and experienced outside the classroom does not match students’ experience in class or school (Hennessy, 1998). The use of technologies like computers allow children “to take their ideas into another medium and perhaps find greater satisfaction in discovering sounds that closely match what is in their head” (Hennessy, 1998, p.95). Students today are aware of sound quality and can distinguish between the professional quality they hear on their mp3 players or Discmans and low quality recordings. In fact, Mills and Murray (2000) found that computer-backing tracks that were recorded with a professional sound quality encouraged singing that was enthusiastic and expressive in a range of moods.

It should really be no surprise that pop music and music technology motivates. After all, as has already been discussed, effective learning needs to be relevant, real-life, meaningful and to build on prior knowledge. Mitchell (2004, p.2)), while warning against relying heavily on pop music in teaching to the detriment of other musical genres, states, “popular music is a valuable starting point for musical

education”. This should encourage teachers of primary age children to stimulate interest and a love for music in their students through using pop music in their classrooms, keeping in mind that as a child graduates through the higher levels of schooling they should encounter more diversity and musical genres.

#### 4.3.5 Teacher enthusiasm and confidence

As stated above “enthusiasm is contagious”. It is likely that if a teacher is excited and enthusiastic towards a subject or activity his or her pupils will catch this energy. In McInerney’s (2000, p.11) book entitled “Helping kids achieve their best”, he states that teachers “should model an interest in learning and a motivation to learn by being enthusiastic, interested in tasks being presented, and curious”. It becomes a personal challenge for teachers to be excited about their lessons and expect that the pupils will enjoy learning and success.

Teachers who in the past may have felt uncomfortable or worried about being asked or expected to sing or manage percussion instruments may feel totally at home using computers and music technology (Hennessy, 1998). It is important to keep in mind that teachers too live in a digital age and some are very competent users of technology. Allowing teachers to use computers and ICT in music could greatly strengthen some teachers’ confidence and in turn their ability to be creative and enthusiastic about what they teach.

*Information Technology extends and amplifies the possibilities of making direct musical impact; it gives decent bass lines, sets of chords, a vast spectrum of tonal colour, the possibility of shaping ideas directly. It may be that technological progress releases teachers from a fair amount of drudgery – and let us hope students too – leaving us free to use time for other purposes, creating lively events in which people can share in musical discourse convivially. Music is a social art (Swanwick, cited in Hennessy, 1998, p.100).*

## 4.4 Conclusion

Music technology or ICT alone cannot enthuse or motivate learning. It needs to be used like a tool is by an experienced carpenter. ‘Intense enjoyment or interest’ (enthusiasm) can be achieved through providing teaching and learning environments that allow for different levels of student discovery, co-operation, play, autonomy and fun. Through being provided with challenging yet achievable tasks that are relevant, students will find success, increasing their self-esteem. Furthermore, feedback that is specific, accurate, relevant and frequent can also

build student self-belief and self-efficacy. Studies from both Canada and England have shown the positive effects that using music technology in schools can have on student enthusiasm and motivation. They indicate clearly that students prefer the compositional aspect of music where computers and keyboards are used.

If we are going to enthuse this generation and the next in music we are going need to assimilate popular culture and current music technologies in some way, in order to avoid 'culture dislocation' and disengaged pupils. If this is done, learning will be authentic and the context meaningful. Here, intrinsic motivation and enthusiasm for music will 'flow'.

## 5. FINDINGS

### 5.1 Enthusiasm

#### Teachers' views on enthusiasm

To gain a broader understanding of enthusiasm I asked the teachers at my school to write their own definition of enthusiasm. Their definitions were similar to many of the dictionary meanings which give “keenness”, “eagerness”, “attentiveness”, “interest”, “excitement”, “engagement” and “motivation” as synonyms for enthusiasm.

#### Children's understanding of enthusiasm

Interestingly, when the children were asked about their understanding of enthusiasm only three of the eight agreed with these definitions.

These three children defined enthusiasm as:

*“Being interested in something. Wanting to participate in something.”*

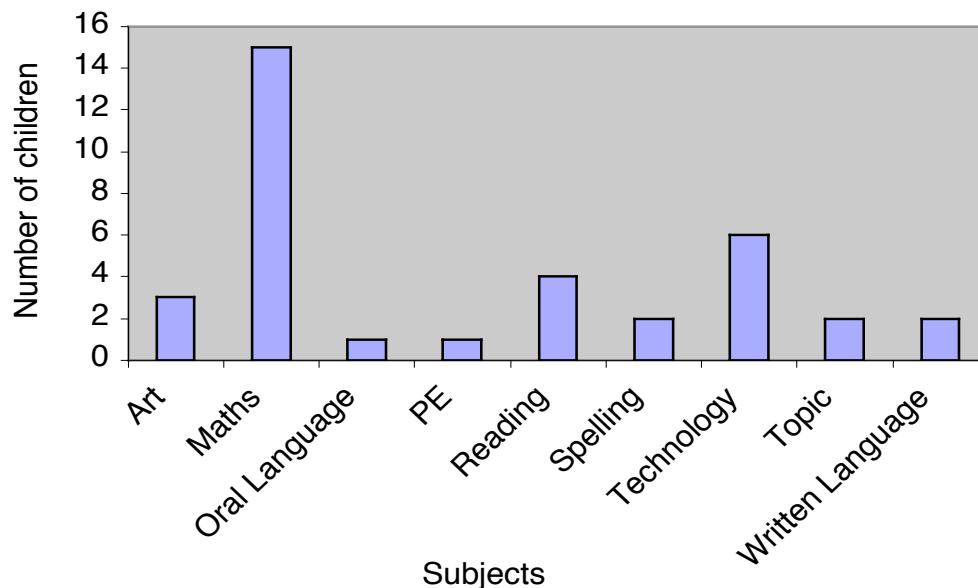
*“Like humour, motivating, fun.”*

*“Really enjoying doing something. You really like it.”*

#### Establishing specific areas of children's enthusiasm

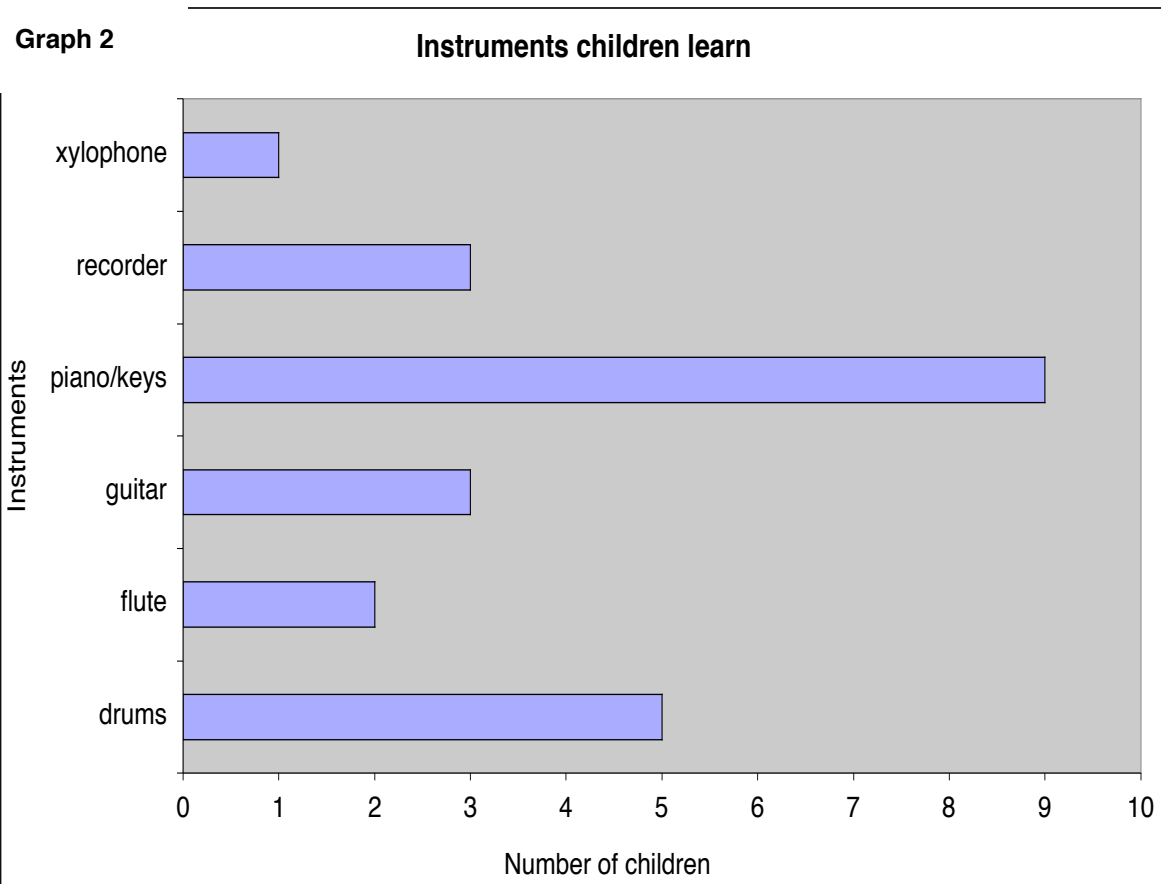
After surveying 36 students during the selection process the following findings emerged in relation to their favourite subject, the musical instrument they would prefer to learn, and the time they spent on computers.

Graph 1 Favourite subject



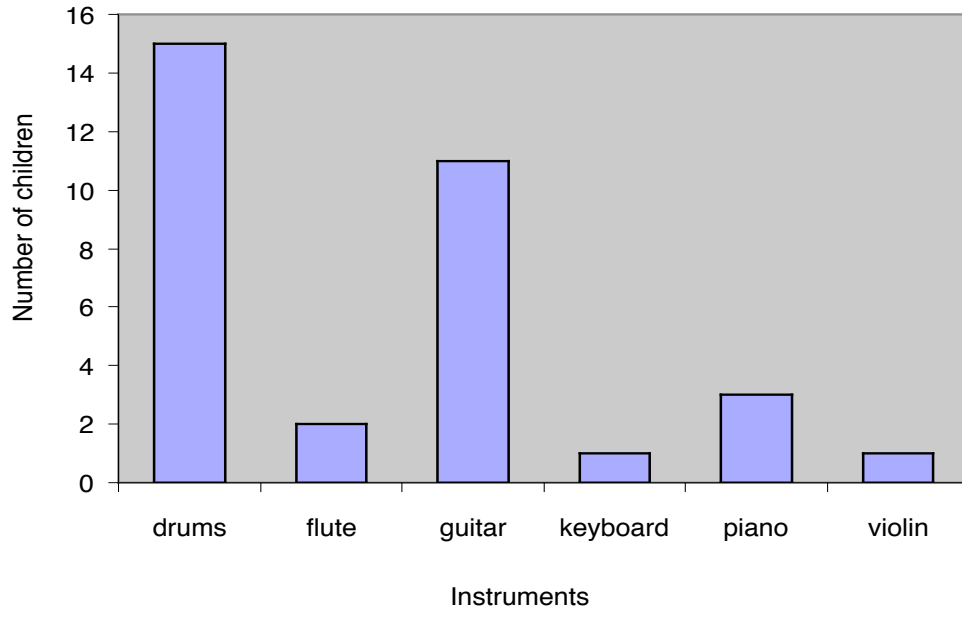
No child chose music as his/her favourite subject. This graph (Graph 1) really helps to highlight the current state of music at my school and potentially many other New Zealand schools. The subjects that children enjoy and are interested in are maths with almost half of the votes, followed by technology (including computers and ICT), reading and art. Technology scored high as a result of children placing ICT and computers as a school subject on their surveys. Clearly children like using technology for learning.

Some of the findings are in keeping with National Education Monitoring Programme (NEMP) research. In their 1996 survey, art and maths were ranked in the top four favourite subjects. However, also in this top four were PE and music. Music was ranked at fourth. I know that in my school there is a heavy focus on maths through the numeracy project and school-wide assessment and there are many teachers who have strengths in the visual arts. It would seem that there may be a correlation between the emphasis a school or teacher gives to a subject area and students' favourite subjects. Children will surely feel less confident and have less **self-efficacy** (see *Literature Review 4.1.2*) in a subject if it isn't being taught regularly and if they aren't achieving success. This would account for music's poor rating as a favourite subject.



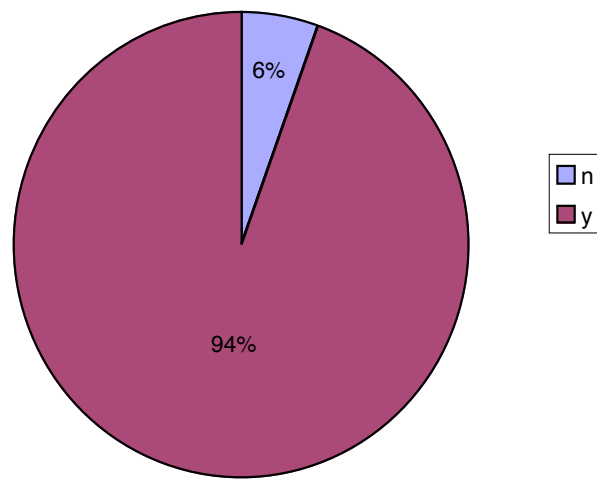
Graph 3

Preferred instrument to learn



Graph 4

Children who would like to learn a musical instrument



It is evident from Graph 4 that children do wish to learn a musical instrument. In fact, surprisingly, 64% of those surveyed had already been exposed to some form of music lessons or tuition. Learning keyboard or piano was by far the instrument that most children were learning (Graph 2). However, when they were asked what instrument they would prefer to learn most chose drums, closely followed by guitar (Graph 3). It would seem that what parents want children to learn and what children want to learn are quite different.

The influence of ‘**popular culture**’ (see *Literature review 4.3.2*) on these children is probably a key reason for their strong preference for guitars and drums. These instruments are more commonly featured on TV and in the media and have a ‘cool’ factor attached to them that instruments like the violin or even piano do not.

28% of the children surveyed were at the time of the survey still receiving music lessons. This figure matches closely NEMP’s research in 1996 which found that the percentage of Year 4s who learnt music outside of school to be 25% and at Year 8, 30%. My sample group was Years 5 & 6 so 28% falls nicely between these.

**Children were enthusiastic about:**

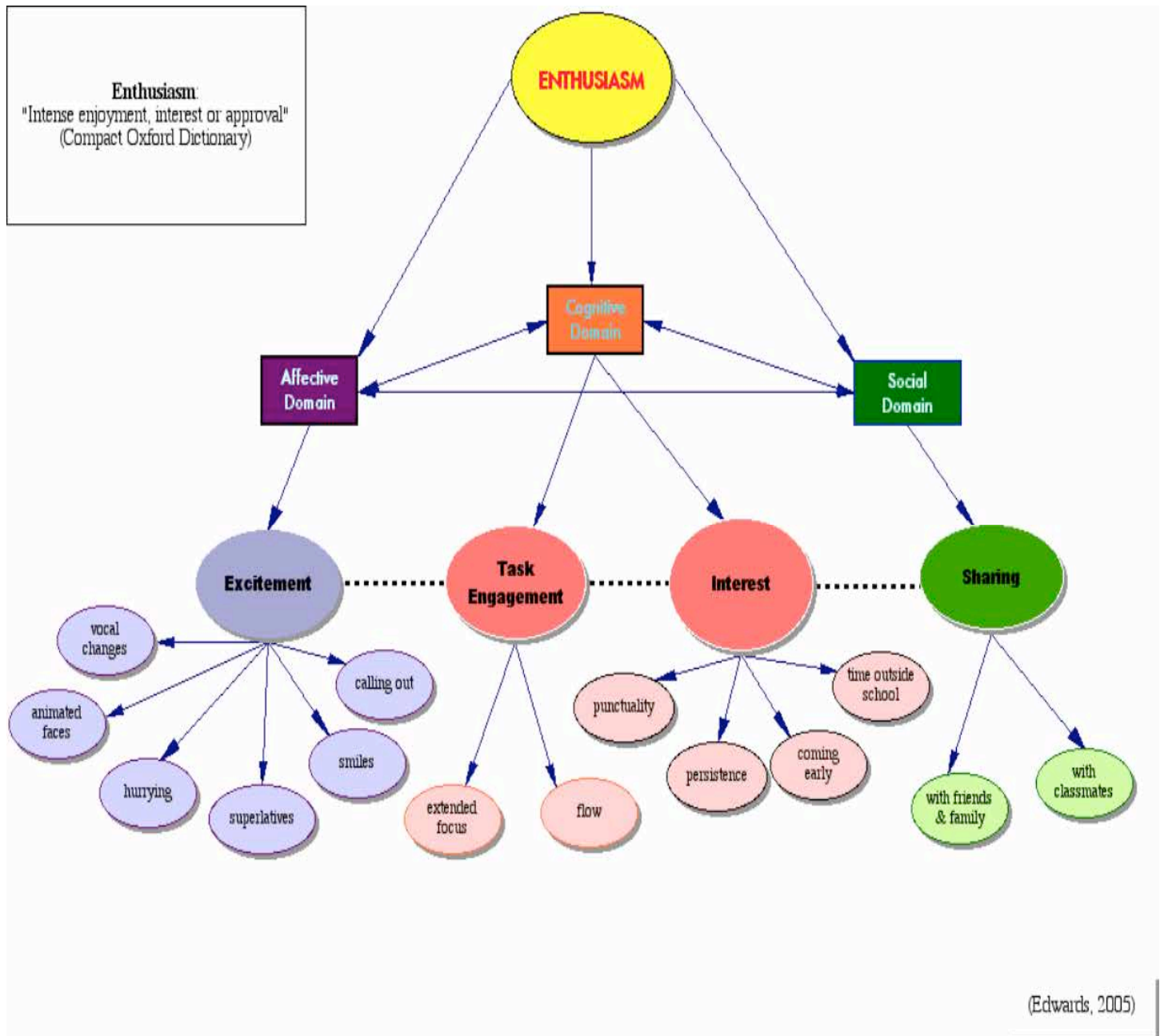
Maths, Technology,  
Art and Reading

Learning drums and  
guitar



## 5.2 Flow Chart

Figure 1



(Edwards, 2005)

Figure 1 provides a framework in which to better understand enthusiasm and its indicators. Primarily it identifies my four key indicators of enthusiasm; excitement, task engagement, interest and sharing. The black dotted line between these indicators represents links and commonalities between them all. The rectangular boxes towards the top of the diagram contain the Affective, Cognitive and Social domains, these are inter-related (as indicated by the double edged arrows) during periods of enthusiasm. When all three domains are active enthusiasm is at its pinnacle. The arrows leaving each of the domains specifically link to one or two key indicators. Below the key indicators lie associated behaviours. These are specific and were based on behaviours that I observed during my research.

## 5.3 Indicators of enthusiasm

### Excitement

One of the best things about children is their honesty and transparency. Children showed their excitement for and enjoyment of learning music through their genuine smiles and animated faces, use of superlatives, vocal changes, hurrying to workstations and calling out.

#### Smiles and animated faces

Smiling was commonplace during the 13 lessons and was particularly evident when students were learning something new or discovering something on their own. Students, peers and teachers also observed this happiness. In interviewing the research group's peers it was evident to all of them that their friends were excited about being involved in the Music Technology programme. While some students would jump around saying, *"I'm going to learn how to make my own music"*, others were observed to smile. Their teachers commented that they observed excitement and interest through their *"animated faces"* and *"big smiles"*.

#### Superlatives

The children used colloquial language and superlatives to express their enjoyment and excitement. Some common phrases and words I heard which were mostly accompanied by a smile and/or laugh were.

- *"Groovy."*
- *"Yeeeah."*
- *"This is so cool."*
- *"It's a cool beat."*
- *"Mine sounds mean as.....(looks around for others) you should hear it."*
- *"That's a mean one too."*
- *"Oooh!" "The man!" "Oooh the man!" "Gangsta!"*
- *"That's pretty bad."*

#### Vocal changes

When children were really excited by something they would raise the tone, pitch, and/or volume of their voice. Comments that I heard were:

- *"I did it." (repeated in a baby voice over and over)*
- *"Oooow! Secret Agent." (voice louder than normal)*
- *"Oooow! My favourite." (voice louder than normal)*
- *"Hip Hop." (loud)*

Picture 1

### Hurrying

I found that when children were really excited about the prospect of doing a task they would be eager to get going and would hurry to get started. In Picture 1 the body language of the group shows that the children are keen to start the activities. Most of their bodies and heads are facing away from me. A couple of them are looking to see where they might move to.



In Video 1 (see [www.efellows.org.nz/mark](http://www.efellows.org.nz/mark)) I had just shown the children something on one of the computers. Once I was finished the children quickly skipped, ran and hopped back to their previous activities. This demonstrated their excitement and eagerness to continue as soon as possible.

### Calling out

I know from my own teaching experience that when students call out I tend to assume they are either being rude or misbehaving. It wasn't until I videoed and watched a child calling out and my own response that I realised calling out could indicate excitement.

Video 2



In Video 2 (see [www.efellows.org.nz/mark](http://www.efellows.org.nz/mark)) I am showing the group how to use two new pieces of software. I am totally focused on teaching this task and moving on to other things. Eddie, though, is really keen to tell us what a snare drum is and his experience with one. He speaks over me a couple of times and continues to talk despite the lack of interest shown by students and teacher. His persistence to share shows a heart-felt desire to inform others about something that excites him. I ignored Eddie's comments due to my own task-oriented predisposition not to respond to calling out. In hindsight, his enthusiasm should have been encouraged and embraced by me. I should have accommodated Eddie's 'real-life' experience of a snare drum and drumming, making this a more meaningful and relevant lesson for us all.

Further evidence of excitement was clearly communicated by the children through an interview question which asked them to explain a time when they communicated to their friends or family an exciting or enjoyable school event or activity. Without any prompting all but one child referred to their excitement about the Music Technology programme. Interestingly, half of the group initiated the conversation with their friends or family about the programme.

#### **Excitement for learning Music Technology was shown through:**

- Smiley, animated faces
- Vocal changes
- Laughing
- Jumping around
- Using superlatives during lessons
- Telling others about their learning
- Eagerness to start activities
- Hurrying to workstations
- Calling out
- Initiating conversations with friends about the Music Technology programme

#### **Children's attitude towards the programme:**

*"Very enthusiastic. Can't wait to get to school on programme days." (Parent)*

*"I wish I could do it." (Peer)*

*"I hope he does it again." (Peer)*

*"She has mentioned that it's the best programme she has done." (Parent)*

## Task Engagement

One of the main discoveries I made was that the length of time children focused or engaged on a task was greatly extended when music technologies were placed before them.

### Observation 1: Akon & Aaron

On one occasion Akon and Aaron were asked to use Garageband to compose a piece of music to accompany a short video clip. These two boys were focused intently for the 17 minutes the camera was on them. Only once did I observe them look away, very briefly, from their computer screens.

Later in this lesson the Principal entered the room. These two children weren't fazed at all by her entry or the subsequent discussion she had with me. Akon, the child on the left in Picture 4, didn't even look at her. However, the other child glanced briefly at her entering the room, but was not distracted, choosing rather to continue focusing on his composition.

### Extended focus

Despite the fact that the lessons I took were in the afternoon, which is generally acknowledged by teachers as not being the optimum learning time, the children were extremely focused when they used music technology. I would like to be able to say that during instruction times when the children were away from the music technologies they were also engaged. Instead, I found that when I gave instructions, facilitated discussion time or required pen & paper activities, the children exhibited many more disengaged behaviours than if they were using music technologies.

Picture 2



Picture 3



Picture 4



**Table 1**            **How long did you stay focused on your task?**  
*(Children identified their own criteria)*

All the time	Most of the time	3/4	A while	1/2
22	3	1	1	2

**Table 2 Do you think you were easily distracted today from the activity? If so what distracted you?**

No	Yes
<b>25</b>	<b>5</b> <i>Talking (2 responses)</i>
	<i>People</i>
	<i>Helping</i>
	<i>The computer</i>

After most lessons the children were asked to comment on various aspects of the programme. Table 1 and 2 show two of the questions asked along with their responses. From the 30 evaluation forms completed over the duration of the lessons, by far the largest majority of children were focused all of the time and not distracted easily during lessons.

The children and I both found that **headphones** helped them to focus more and be less distracted. The children said the following about using headphones and focusing:

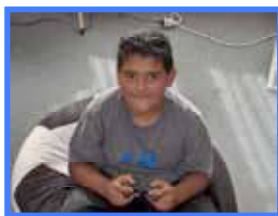
*“No [to being distracted] cause I was wearing headphones.”*  
(Mandy)

*“Playing Playstation made me focused.”*  
(Eddie)

*“MTV Music Generator [PS2 game] kept me focused the whole time because it’s hard.”*  
(Mandy)

**Observation 2: Ozzy**

There was a stark contrast between Ozzy’s behaviour and engagement levels when he was using music technology and when I observed him in his own class. On June 28 I entered Ozzy’s class without warning to observe him. The class was having a discussion on the previous day’s trip to the Recycling Centre. Ozzy’s disengaged behaviours over a 15 minute period included:



- Sitting at the back away from the teacher
- Playing with his hands and blowing into them
- Being easily distracted by those around him



- Moving hands across the mat
- Looking around the room often
- Playing with something behind his back
- Making very little eye contact with the teacher or the speakers
- Playing with his eye lids when asked to close his eyes

These are not unusual behaviours for a disengaged child. However, I did not witness any of these whilst Ozzy was using music technology. Ozzy did display other unfocused behaviour, like wandering around the room. One could argue that this is an indicator of curiosity and another sign of enthusiasm, but he behaved this way infrequently. In fact, in his own class, on average I calculated that he was distracted in some way every 30-45 seconds. In contrast, during a music technology lesson I noted that Ozzy was distracted only every 4 minutes.

The only times I observed any major disengagement or task avoidance was when children were filling in evaluation forms on the lesson or if a task was too hard (this happened once) or if they were doing an activity which required paper and pens.

I believe the children's high level of concentration was not only driven by students' being intrigued by new technologies but also by cultural similarity. By this I mean they **engaged** (*refer to Literature Review 4.1.3*) and more focused because they saw closer links between what they were learning and how it applied outside of school. The music culture in the school (or more precisely the music technology programme) was similar to students' experiences of music at home and outside the classroom. Research indicates that when students' learning can be applied to their own experiences, the artificial gap between life in school and out of school is reduced, and desire to learn enhanced (Dewey, 1916).

### Flow

One of the most repeated questions I asked the children in their lesson evaluations was: *Did time go quickly, normally or slowly?*

The reason for this question is linked to research by Csikszentmihalyi (cited in Farmer, 1999) who claims that when students are really engaged and focused on a task they lose track of time. A major indicator of this would be if they thought that time during the lesson had past quickly (*see Literature Review 4.1.2 for more information on 'Flow'*).

Table 3

## How did time pass?

	Quickly	Normally	Slowly
Ozzy	2	3	3
Alicia	2	1	3
Akon	4		
Missy		1	4
Eddie	5	1	2
Aaron	3	5	
Iggy	1	4	2
Mandy	3	1	
<b>Total</b>	<b>20</b>	<b>16</b>	<b>14</b>

Although not every child filled out the same number of evaluations and not all did the same activities, Table 3 does provide us with an insight into nature of “Flow”. Table 3 shows that all but one child experienced at least one moment of being in ‘Flow’. Akon, Eddie and Mandy predominantly worked in this state where time went by quickly for them. Interestingly, these three I considered to be the brightest of the sample group. These children said that time went “*quickly because I had fun*”, whilst Mandy commented that time went quickly and that she remained focused because the task was hard. Alicia stated that time went slowly because the activity took so long. Other reasons for time going by slowly included getting stuck, the noise in the room being too loud, and being on an activity for too long.

Activities in which ‘flow’ was experienced the most were Garageband and MTV Music Generator. The lessons which were teacher-directed or play-orientated found more children in a state of ‘flow’ over the workstation based activities.

- Children’s focus was greatly extended with music technology.
- Headphones helped to amplify engagement.
- Children said that they were not distracted easily during lessons.
- All but one child experienced ‘flow’.
- Teacher-directed and play-orientated lessons generated more “flow” than workstations.



## **Interest**

Interest for the programme was evident from the group members' punctuality, coming early, persistence and time spent on the programme outside school hours.

### Punctuality

Over the course of the term I never once had to remind the group members to come to the Tuesday and Thursday afternoon programme. The teachers also noticed both the students' punctuality and the lack of need to remind students to go to the programme.

### Coming early & lunchtime visits

Not only were the children punctual but they chose to come early to spend more time on compositions, listening to music, playing music games and helping me set up. When we first began the programme, early attendance was greater. The "novelty factor" probably accounted for this. However, interest was sustained and over the teaching period of seven weeks I noticed that practically every day at least one child came early.

Over a two week period I allowed the students into the room at lunchtimes and intervals, not just on lesson days but on any day. I asked them to sign themselves in and out on a sheet of paper which I provided (*see Appendix 20*). During this time there were 32 visits to the room. The children didn't always fill out the timesheet accurately, or even at all sometimes. This made it hard to work out how long they were in the room, but it did give an indication of their interest. The majority of their visits were on the days that I was setting up. On other days the children had only three computers set up for their use. If there had been a room permanently established with all the equipment and a teacher providing assistance I believe there would have been more students making many more visits.

**Table 4**

**Visits to the music room by gender**

Girls	Boys
10	22

Although the total number of boys was only one more than the girls' total the boys made many more visits. This reinforced my own observation. I found the boys much more eager than the girls to visit the music room, and in particular, more willing to help set up the technical equipment and ICT.

### Persistence

The children's persistence in completing tasks also confirmed their high level of interest for music technology. If children are not interested in an activity they lose focus and may easily become distracted. In acquiring data on how

persistent the children were I asked them at the end of lesson three and five:  
How hard did you try to finish the activity?

**Table 5            How hard did you try to finish the activity?**

Very Hard	Hard	Moderately
9	1	3

The results above indicate the high level of persistence children exercised in trying to finish a music technology task. By far the majority of children in the group tried very hard to finish their task.

Since the children occasionally encountered technical and social problems during the programme a good level of persistence was required to complete tasks. They would usually choose an appropriate method of problem-solving either by figuring it out themselves or with a friend, or by asking the teacher. On one occasion two girls did give up on a task. In discussing this with them I found that the activity was too difficult. The activity was new and no one else had done it before. They couldn't ask their friends for help and they weren't assertive enough to ask for my assistance. Interestingly though, the groups that followed them had no trouble and really enjoyed the activity which involved using keyboard sounds to create a soundtrack to the Star Wars 3 trailer.

Time spent outside school hours

To measure whether the students were indeed interested in music technology, I also gathered information from their parents. I asked the parents the following question:

*What activities this term, if any, have you observed after school hours where your child has chosen to experiment, compose or play with music? (Not including normal music lessons or practice.)*

**Table 6            Parents' comments on music outside of school**

<i>Visits different websites</i>
<i>Makes comments about different instruments he hears in music</i>
<i>Has tried some music games on the computer</i>
<i>Sings Karaoke</i>
<i>Records his songs to tape</i>
<i>Makes voice recordings Mac with Sister+ friends, echo, etc.</i>
<i>Makes PS2 compositions, created one song</i>
<i>Recently created another Garageband track</i>

Clearly from these comments parents did see changes in their children's attitudes and behaviour towards music.

The children were also given the opportunity to express new activities they were trying at home. They were asked: *What PS2 games or internet sites, if any, did you try at home?*

Five out of the eight children tried some games at home after being given a page of websites ([www.efellows.org.nz/mark](http://www.efellows.org.nz/mark)) and PS2 games to borrow. All children in the group had access to either a computer or a Playstation. There are many variables that may have accounted for the other three children's seeming lack of interest but I did not explore this further.

One child, Eddie, spent a lot of his own time making compositions on both Playstation and Garageband. He downloaded onto his family computer all but one of the five free music software programmes, and even ended up teaching his mother how to use Garageband. Furthermore, over the holiday period his father bought him MTV Music Generator 2 to use to create songs on his Playstation. Other children commented to me that over the holidays they bought cds, decided they wanted to learn bass and one had even purchased a keyboard.

The children were not pressured into doing any music outside of school hours. However, the majority chose to. All of the children commented that they wanted to continue learning music after the programme. They were interested in either learning an instrument, recording their own music, making a game that uses music, putting music to video, forming a band, or playing PS2 music games they didn't get enough time with during the programme.

A new-found interest for music was discovered by all the children in the group. In their final evaluation they were asked:

*"Do you think you are now more interested in music than you were before this programme? Why do you think this?"*

**All** the children responded emphatically with "Yes". Their reasons included:

- Wanting to listen to more music at home
- They could now make their own music
- They were intrigued about using computers to compose music
- They hadn't learnt much music up until now
- They could now compose music alone

*“Lately if [I’ve] been very tempted to put on my stereo [sic] a [sic] 1:00am for the music”.* (Aaron)

*“She has spent time playing music games on the internet that she would not have done before”* (Parent)

### Interest for music technology was shown through:

- Punctuality
- A steady flow of children coming early
- A persistent attitude toward task completion
- Time spent on music outside of school
- Purchasing of cds, games and musical instruments
- Future desires to continue learning and making music

## Sharing

### Sharing with classmates

Children would often share with others in the class what they had achieved or discovered. It is not surprising that children like to share, after all, they are social creatures. The reasons children share can vary. The types of sharing that Video 3 illustrates include sharing that was initiated by an individual, sharing to inform another about achievements and sharing to gain approval.

### Video 3



It is quite evident from the four children in Video 3 (see [www.efellows.org.nz/mark](http://www.efellows.org.nz/mark)) that children are sharing their work with others in the class. At no time during the programme did I encourage children to look at other pupil’s compositions or work. Most of the time when the children shared, they

expressed enjoyment and satisfaction. It was commonplace during the programme to see children sharing their work with others. On two occasions I left the room but the video camera was still running. On replaying the video I observed that the children shared more during my absence. The conversations were focused on their activity and there were no signs that the children were misbehaving or disengaged. The children didn't seem to need a teacher to keep them on track or to motivate them. They showed **intrinsic motivation** (see *Literature Review 4.1.1*) and a desire to share. They could have chosen to do many things during the teacher's absence but they chose to share their work or continue their activity.

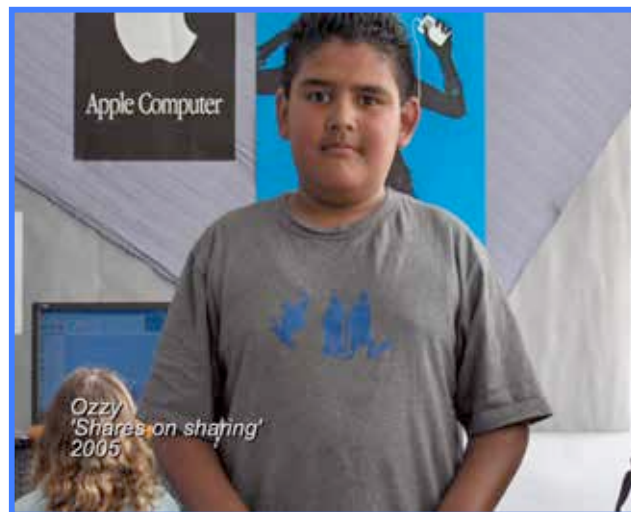
*"Do you like this?"*  
*"You like my beat?"*  
*"Look at mine!"*

Comments like these were common. After most lessons Alicia would ask me to listen to what she had produced. Children would share to seek approval, thus helping to raise their self-belief and **self-efficacy** (see *Literature Review 4.1.2*). The expectant face of the sharer waiting for a positive response is clearly seen in Video 3, especially with Missy and Ozzy. I noted that approval from peers functioned as a reward that built motivation and self-esteem.

#### Sharing with friends & family

Sharing findings and activities was not restricted to class-time only. Most of the children regularly communicated with their friends and family about what they were doing in the programme.

#### **Video 4**



During the interviews I found that all but one child had shared information about the music technology programme with either a friend or family member that week. Of these 7 children 4 had initiated the conversations.

In talking with and interviewing the sample group's peers, I discovered that all the comments heard from the group members had been positive. Conversations usually related to the programme being "cool" because they could make their own beats and music, play games, use computers, Playstations and Garageband.

*"Eddie always wanted to tell us what he had done at music and also what others had done." (Parent)*

*"Eddie has taught me how to use Garageband and I am having a ball with it." (Parent)*

*"Eddie .....was keen to show what he had learnt to us." (Parent)*

*[He] " talks with his friends and sister about forming a band. Hes [sic] composing the music (sister singing)." (Parent)*

*"I wanted to turn it [his composition] up louder so everyone could here it." (Aaron)*

## 5.4 Pedagogy – “What children really want.”

### Activities

The children were asked to rank the following activities completed during the programme from most enjoyable through to least enjoyable. Most of the children spent time on each of these activities. However, there were some who missed a couple of activities due to absence or personal preference. Their ranking for those activities was higher.

**Table 7** Ranking of the most enjoyable activities

	Total	Rank
Singstar	21	1
MTV Music generator	33	2
Internet music games	35	3
PC programmes	39	4
Making soundtracks	41	5
BBC music website	41	5
Music 3000	41	5
Orchestra sites	47	8
DJ Desks & Fx	52	9

*(Note: Totals calculated from adding children’s rankings together)*

### Playstation

Using Playstations as part of the music programme proved to be a real hit with the children. The group, their peers and their teachers were initially surprised and intrigued as to how music could be taught using these machines. The group and I were often asked by children around the school, “Do you use Playstations in class?”. The response to the answer ‘Yes’ was typically followed by, “Oh cool” or “Lucky”.

Table 7 shows very clearly that children love **Singstar**. The group ranked this Playstation karaoke game as that the most enjoyable activity. This information reinforced not only the importance of singing in schools but also the impact media and popular culture has on children’s preferences. *(see Pop Culture 4.3.4 in Literature Review)*. In addition, it is likely that the physical requirement of holding a microphone, hearing oneself through an amplifier and having a visual stimulus like video, added to the children’s high ranking of Singstar.

Ranked second is another Playstation game called **MTV Music Generator**, the appeal here was that you can re-mix another artist’s song. Ozzy comments that he really enjoyed using this game because, “*it didn’t [sic] just have old music but*

*hip-hop to [sic]*". Interestingly, the two highest ranked activities both contain popular music. The other two Playstation games that ranked lower, Music 3000 and DJ Desks & FX, did not contain any popular loops, samples or songs. It is important at this stage to understand that these Playstation games, with the exception of Singstar, take some time to master. The children were required to follow the interactive tutorials before they could make music. It wasn't a matter of just 'playing a game'.

In **Music 3000** there are 18 different tutorials. The students in my programme only had time to complete the first one or two. Despite the lack of time and mastery the children still composed music that they were proud of. The novelty of making music on a Playstation and working it out for himself made Eddie feel proud, while Alicia felt she succeeded because she made a music video that looked like the Britney Spears video – 'Hit me baby one more time'. Children also commented that they liked the variety and choices of loops and samples that they could chose from.

Although **DJ Desks & FX** was ranked in lowest, children still valued their time on this activity. Iggy commented that he spent a lot of time creating a song, putting a vocal to it and felt proud as a result. Ozzy felt proud of what he accomplished after working out how to speed up and slow down music. While a few children did comment positively about this game and enjoyed being able to mix, I believe the majority had not been exposed to DJs, sound desks, turntables, mixing and music effects given their age. The music was predominantly dance loops and beats that the children didn't recognize. The children would not normally choose to listen to dance/trance music as it is not currently popular in New Zealand. They indicated in their initial survey that the music they like is rock, hip hop and pop. As a result they were less motivated and **engaged** (see *Literature Review 4.1.3*) by this game because they could not relate to the musical genre. This program would probably be more suitable for an older audience who listen to dance music or a lengthier class study on DJs.

### **Internet games**

The third most enjoyed activity comprised internet music games (see [www.efellows.org.nz/mark](http://www.efellows.org.nz/mark)). There were no trends relating to the type of games children preferred. However, they indicated in their evaluations their general preference for using the internet for learning. Alicia made reference to learning being more fun because someone isn't talking at her all the time while Iggy just liked learning new games.

The **BBC Making Tracks** website ranked 5<sup>th</sup>. A highlight of this game was the huge variety and number of music games on one site. Children enjoyed trying new games but found some of the games a bit complicated.



The **Orchestra sites**, although interactive and informative, were not fun or enjoyable enough to rank highly. The children preferred playing music games, composing and singing to learning about an orchestra or instruments.

### **PC Programmes**

Using a PC to make and experiment with music ranked 4<sup>th</sup>. Children raved about the **CD Scratch 1200** game saying, “It was really fun”, it was “kind of like being a DJ”, and gave ratings of 9/10 and 100/100. The children’s discovery of how to change the tempo and pitch of a song while it was playing brought much laughter and hilarity. Other programmes weren’t rated as highly but they still found **SuperDooper Music Looper** fun and easy to use and **Hammerhead** fun and full of ‘loud beats’.

### **Making soundtracks**

The group attempted making two small soundtracks using Garageband to compose the music. They needed to reflect the mood and feel of the video through their compositions. The first task was to make a 1 minute video clip of them at camp coming down a mudslide. The other required them to create music for a Star Wars Episode 3 trailer without audio. The children enjoyed making “scary music”, using a keyboard, experimenting, putting it into a movie and synchronising music to when Darth Vader entered the scene. Despite their obvious enjoyment they didn’t rank making soundtracks as one of their top three activities.

### **Learning the elements**

One of the activities that was not included in the ranking exercise was related to learning the elements of music. These website specifically dealt with learning about the elements of music through interaction and experimenting. Very little time was given to browse these sites as more time was given to composition. This resulted in only three children completing evaluations for this activity. These three agreed that children could learn a lot from these websites, such as dynamics and playing the piano. One child pointed out, though, that they would need to re-visit the site a few times in order to remember the concepts

From my own observations I saw a huge learning potential in these sites. They would have been better used as a teaching focus than used by the children as a reinforcement activity. For a teacher to pick an element like pitch and use the website and a data projector to illustrate and discuss this with the whole class, then allow the children to experiment individually would have been more beneficial than giving the children total freedom to roam the site. The initial teaching focus would allow the children to observe, share prior knowledge, give direction and meaning. I didn’t have time or the research focus to go into this in depth.

## **Garageband**

Garageband was the main piece of compositional software that was used in my research. As only one child had ever used this programme before there was an element of novelty and curiosity which helped to enthuse learning, for most of these children.

It was sometimes hard to extract from the children what they liked specifically about using Garageband. When Akon was asked, “Did you enjoy what you did (using GB to make a composition of his choosing)? If so what was enjoyable?” he replied...

*“Yes i dont [sic] know I just like creating songs on garage band [sic]”.*

While Mandy said...

*“I enjoyed it because I made something [sic] really cool!”.*

Many other verbal and written comments from the children were made to the effect that the best or most fun they had in a lessons was creating their own beats and music in Garageband.

I could postulate that the children’s enthusiasm towards using Garageband was due to good software design, a variety of loops and instruments, and sound quality. If I did this I would be complicating something that is actually very simple; Children just enjoy making their own music using Garageband.

## **Children’s ideas**

Throughout the programme the children were encouraged to feed back to me, orally or in written form, things that could be improved or things they would like to do during the programme. Here were some of their ideas:

- “Go to a band and see it live”.
- “I’d like to produce a big cd with all the songs the group makes”. (Aaron)
- “I’d like to make my [own] beat and record it into a cd”
- “Make an album”
- “Make a poster for the team”
- “Go on the news and talk about this”. (Mandy)
- Have ice-breaker activities at the start of each lesson.
- The teacher to play more popular music on the guitar, e.g., “Lose yourself”, by Emenem.
- To have workstations that only last for 20-30 minutes maximum.
- For noise levels to remain low so that they can concentrate.

This feedback really helps to gain an insight into what children like and what would motivate them. Effective learning takes place in meaningful contexts. What better place to learn about and listen to music than from a live band or

orchestra? Aaron and others' comments highlight the importance of producing something - an album or cd. One of the main reasons for this would be that they can share their work with their friends and family they are proud of. Consequently through seeking approval they are able to build their self-worth. Furthermore, producing an album or cd would imitate what their music idols do and what popular culture deems to be success. Naturally children want to fit in and copy their role models. Mandy reinforces a desire to share and seek fame with her idea to tell the media about the programme.

In one of my final observations I was pleasantly surprised to find that during a free choosing period no children were using any music technology equipment. The children were choosing to play acoustic instruments like drums and percussion. It reminded me that children like and need a balance in a music programme. The results from Table 5 also indicate children's desire for variety. The top three activities that children enjoyed the most were singing, composing, and playing games - a diverse selection reflecting balance. Sadly though it would seem over the last decade such a balance in the area of composition and playing instruments has not been achieved in many schools. The **NEMP** (see *Literature Review 4.3.3*) report in 2004 stated that "there continues to be a large gap between the enjoyment of playing instruments and the extent to which this activity is included in school programmes.." Studies carried out in 1996, 2000 and 2004 found that on average 75% of the Year 4 children in their survey sometimes or never played on musical instruments at school. Furthermore, these children actually desired to play instruments in preference to listening to music, singing and dancing/moving to music. Music technology offers a unique and engaging digital way of composing and playing instruments that can help to address this gap.

- The groups' favourite activities were Singstar, MTV Music generator and internet music games.
- The activities that the group preferred the least were orchestra sites and DJ Desks & FX.
- Children preferred to compose and sing to music that is popular and modern.
- Children liked experimenting and playing **new** internet games.
- Children loved being able to adjust the tempo and pitch of a cd using CD Scratch 1200.
- Children liked using Garageband to make their own beats and music.
- Children wanted to see a band, make an album and share their music to small and large audiences.
- Children liked variety and consequently chose singing, composing and playing games as their favourite activities.
- NEMP reports suggest that playing instruments in schools is very infrequent and that children actually desire this activity more than other musical tasks.

## Learning Strategies

Three different learning/teaching strategies were employed throughout the 7 weeks of the programme. The children were asked to rank their preferred strategy.

**Table 8**                      **Ranking of preferred learning style**

	Total	Rank
Workstations	15	1
Teacher Directed	16	2
Pure Play	17	3

Table 8 shows very little difference between the learning styles. The children only slightly preferred workstations over activities that were teacher directed or play orientated.

### Choices

It was a bit of a surprise at first for me to discover that Play ranked last. After all, research highlights **play** (see *Literature Review 4.2.3*) as being the most natural way to learn (Vygotsky, cited in Cook & Finlayson, 1999). This finding indicates that although children like having autonomy and choice they need some level of direction and purpose. The workstation activities gave students a focus and a level of freedom to work without direct teacher support. The fact that the totals were so close and no learning style stood out reflects the individuality of each child. It reinforces the fact that teachers need to use a wide variety of teaching strategies to cater for each child's preferred style of learning.

In Lesson 6 (see [www.efellows.org.nz/mark](http://www.efellows.org.nz/mark)) the focus of the lesson was devoted to free choice and play. Small portions of time were given throughout the first few lessons but not to the degree of this lesson. All the equipment and technology was available for students to use as they wished.

I observed a variety of displays of enthusiasm during this lesson. The children indicated their excitement and interest through a real eagerness to start activities and by hurrying around the classroom. I believe the fact that they had choice accounted for this behaviour. The children I imagine that would have been thinking about what activity to start on and would have wanted to get to their activity before someone else did.

When the group was asked, "Did you like choosing what you could do for the whole lesson and why", all responded positively giving the following reasons:

*"I just like having some choose [sic]". (Akon)*

*“Because if youre [sic] good at something and not at others you’d probly [sic] want to do one thing”. (Aaron)*

*“Because I like to do lots of games”. (Missy)*

While these three children expressed that they liked variety and having the power to choose I think Eddie sums up well the results from Table 4, shedding a realistic light on the level of choice children want by saying,

*“Sometimes I like to choose what to [do] and sometimes I don’t”.*

### **Collaboration**

Children generally preferred to work with others. Six out of the eight said that they definitely preferred to work with others. Their reasons included to get help, be of help or to gain ideas from others. Akon was open to working with others but said whether he wanted to work alone or in pairs would depend on what he was working on. Eddie said he would prefer to work on his own *“because no one really agrees with me in a team”*. Interestingly it was observed that these two introverted boys they more often than not preferred to work alone but when they did collaborate it was with each other. Both boys appeared to be loners but formed a positive friendship during the programme. This was also observed by teachers and parents outside of the music programme.

### **PS2 Tutorials**

Using Playstations to teach children might sound really unconventional but I saw signs that this form of interaction with technology can really work for some children. Instead of me or another child showing a student how to operate and compose music using a PS2 game students were required to use their own skills of problem solving and following directions. The best example I saw was when Iggy and Aaron worked together to learn how to use DJ Desks & FX.

## Video 5



These two boys (in Video 5, see [www.efellows.org.nz/mark](http://www.efellows.org.nz/mark)) spent around 20 minutes engaged with this task. They naturally scaffolded each other's learning. While one used the handset the other read out the instructions. They used each other to great effect to solve problems and progress through the tutorial. Their collaborative behaviour demonstrated patient turn taking, empathic listening and mutual respect. These skills had already been engrained and developed through playing Playstation with others at home. The boys showed their excitement and sense of achievement towards the end of the video through their desire to share their composition with others including me [the teacher]. After I gave them my attention Aaron said to Iggy,

*"We'll make a better one ay?"*. Iggy responds with an excited, *"Yeah"*.

For these two boys, working collaboratively to use familiar technology to make music proved very successful. The quote above reinforces their success and desire to progress. This PS2 tutorial provided not only a new, viable and engaging pedagogical approach but also a way to develop social skills and problem solving strategies.

- Children liked having some choices but not total freedom all the time.
- Most children preferred to work collaboratively.
- PS2 tutorials engaged students and allowed for social skills to be developed.

### Discovery

I found that enthusiasm flourished when children discovered things for themselves. Often during teacher-directed learning I would ask the children to figure something out and discover a solution or answer on their own. Students' excitement, self belief and desire to share their finding was very evident. The

equipment and technology in the class also provided a natural discovery-based environment. Video 2, earlier showed Ozzy's enthusiastic reaction to working out on his own how to alter the pitch and tempo of a cd. He was naturally excited and wanted to share his discovery (see *Literature Review 4.2.1*) with Akon.

- Enthusiasm flourishes when children discover things for themselves.

## Feedback

I found during the programme that the technologies that were being used in the class were providing the children with instant feedback (see *Literature Review 4.2.7*). Unlike many paper and pencil activities, that give no indication to a child how he or she is doing, the interactive music technologies constantly communicated process directly or indirectly. Some internet games like BBC's "Follow em" and "Sound memory flash game" tell the student directly how they have done through comments like, "Oh close, try again" or "Correct", letting the child know straight away if he/she is on the right track. Garageband and the Playstation games provided feedback indirectly. These software programs allowed the students to create, develop and edit music with relative ease. They also allowed the students to play back their work whenever they wanted to evaluate their progress.

Whether feedback was direct or indirect it encouraged children to engage for longer periods. They were constantly being spurred on by positive comments from the software or by recognising the quality of their work. A huge bonus of this instant feedback was that because children were succeeding and therefore their self-esteem and **self-efficacy** (see *Literature Review 4.1.2*) increased. Here are a few examples of what the children would say to indicate this self-belief:

*"I'm just the man" (Iggy)*  
*"I reckon mines good" (Alicia)*  
*"Mister I made another good one" (Ozzy)*  
*"Da man" (Iggy)*

Whilst some children praised themselves some were a little less sure of what they had accomplished. They may have been less confident, choosing to ask others for their opinion and reassurance. For example:

*"It's really cool ay" (Mandy)*  
*"Do you like this Mister" (Ozzy)*

With the reality of teaching a full class, one teacher cannot possibly get around to every child to provide instant feedback for all. Most teachers would be lucky to

get around every child once in a period. Music technology provides an avenue for students to receive instant feedback and allows teachers time to concentrate their efforts with individuals. Teachers do not need to feel that they are failing other children because they are not getting around to them every lesson.

- Music Technologies provide instant feedback to students.
- Self-esteem can be increased through constant feedback and successes.

## “Cool”

The word “cool” is often used in everyday conversation and has become a very generic and colloquial term. Even when used as slang, which was often the case in class, it has four different meanings. It can mean excellent, casual, full or acceptable (Dictionary.com). This word was whispered, yelled or spoken very slowly throughout the duration of the programme. I was intrigued to know exactly what “cool” meant to children and to find out what was cool about the programme, so I asked them the following questions. (See Video 6, [www.efellows.org.nz/mark](http://www.efellows.org.nz/mark))

### Video 6



In summary the children in the group defined “cool” as awesome, funky, stylish relating to things you really like or enjoy doing, good and having others like you. In identifying what children think is cool the follow up question of, “What is cool about this programme?” really

- “Cool” to kids means awesome, funky, stylish, likable, good, enjoyable and popular.
- Using different technologies to create beats and music was what the kids said was “cool” about the programme.



gives an indication of what was really enjoyed and liked by the children. It would seem from the interview that trying new things and using different technologies to create beats and music is what was “cool” about the programme.

## Learning

Although enthusing and motivating children’s learning was my main goal, it was fascinating to evaluate the real learning that took place over the seven weeks the programme ran.

The children were asked in their final evaluation, “What is one thing that you have learnt about music or learnt to do in the last term that has stayed in your head?” Their responses were:

*“Burning music onto a cd”. (Missy)*

*“I leart [sic] how to make music in garage band and online”. (Alicia)*

*“How to burn”. (Ozzy)*

*“New words new sites new information”. (Iggy)*

*“Garageband because it’s fun”. (Mandy)*

*“Lots of new words”. (Eddie)*

*“How to use garage band”. (Akon)*

*“The basic things like system preferences”. (Aaron)*

The emerging themes from these quotes that remained in the children’s long term memory was learning to burn cds, use Garageband and learning new words. By the end of the programme children were confidently using Garageband. Eddie and Akon were even adjusting specific track volumes, editing and adding effects without having any prior demonstration. It is not surprising given that many of the lessons revolved around using Garageband to see it as something they remembered. I was a little surprised to see burning cds appear twice in students’ evaluations. There was in fact very little time given to this. It was not repeated after the initial lesson. This would indicate, due to the lack of repetition, that these students were so engaged and interested that during this one off lesson their learning went straight to long term memory.

Through these quotes the children also highlight the new words and vocabulary they have learnt. In **Lesson 1** (see [www.efellows.org.nz/mark](http://www.efellows.org.nz/mark)) I read out a number of music terms, both conventional and technological to get an understanding of what the children knew about music. I then asked the children to raise their hands if they knew what each word meant, to waver their hand repeatedly to show that they kind-of knew or to keep their hand down to show they did not know. I would also, at random intervals, ask the children with their hands up to explain what a term meant. I repeated this activity at the end of the programme. The activity was not particularly robust but was rather designed to provide a general indication for me to assess learning and acquisition of new vocabulary by the children.

The group's prior musical knowledge was low. Akon surprised us all by knowing what bpm's were while Aaron's persistence at guessing words showed some initial enthusiasm and knowledge. In general though the group was not really sure about most of the words I gave them. The children knew more of the conventional music words than the technology-based words. However, the children did indicate that they had heard some of these technical words before, but didn't really know what they meant. By the end of the programme when the activity was repeated there was a vast improvement in the children's awareness and understanding of technological vocabulary. The children enthusiastically and continually placed their hands up in the air to indicate their understanding of these new words. Three quarters of the technological words were now known as opposed to one quarter at the start. Their conventional vocabulary also grew but only slightly. The main reason for this was that many of the words were related to the elements of music, where the concepts are harder to grasp. There was not enough time to go into the depth required to understand these musical terms.

The parents of these children also gave evidence of learning. They made the following remarks when asked, *What has your child learnt or gained through this experience?*

**Table 9**

<i>"Remixing on the MTV-3".</i>
<i>"Different ways of creating tunes".</i>
<i>"How to make music".</i>
<i>"How to use the computer to learn in different ways".</i>
<i>"Processes of how music is put together".</i>
<i>"Heaps about different music Sites/Garageband/synthesizers/keyboards".</i>
<i>"It has widened her knowledge about music".</i>
<i>"Significant technical skills with the mac / Garageband".</i>
<i>"A broader appreciation of loops/sounds/instruments".</i>
<i>"Understanding of freeware downloads/internet use".</i>
<i>"An appreciation for composition".</i>

Clearly there are educational gains from combining music and technology. Parents reiterate that their children have gained new skills but also highlight their increased appreciation of music.

*“Learning something new each time was great”. (Aaron)*

*“I would like to learn the drums”. (Mandy)*

*“It’s [the programme] cool”. (Comment heard by teacher)*

- Burning cds, using Garageband and learning new words stayed in the children’s long term memories.
- The group’s music technology vocabulary tripled.
- Parents said that their children had gained new skills and increased their child’s appreciation for music.

*“I liked Garageband the most, working with digital stuff”. (Mandy)*

## 5.5 Teachers' reviews

During a staff meeting teachers from my school were exposed to some of the activities and music technology that had been used with my sample group. Their evaluations on the benefits of using websites, Garageband and Playstations were really helpful in gaining a broader perspective. Teachers were also asked to identify factors that might hinder them from using music technology in their class. The information they gave was very useful for understanding the pressures and the realities of teaching music technology to a whole class.

**Table 10 Teachers' quotes on the benefits of using Garageband & Playstation**

<p><b>Beneficial websites</b></p>	<p><i>Music Lab – rhythm, pitch etc demonstrated clearly (Y3/4)</i>  <i>Super Dooper Music Looper DSO Kids Music Lab (Y1/2)</i>  <i>Music Lab. Fabulous for learning what the symbols are, using beat and exploring.</i>  <i>Music Lab. Teaches music – notes, good explanations for reading/creating music. (Y1)</i>  <i>Repeat melody. Making tracks. Create a band. Easy to use and instant music achieved. (Y1/2)</i>  <i>DSO – unit plans for teachers. (Y3)</i></p>
<p><b>Benefits of Garageband</b></p>	<p><i>Chn can make own music with all components needed and it always sounds great.</i>  <i>Exposing chn to a variety of instruments, styles (Y0)</i>  <i>Easy to use, success guaranteed, get to hear and know about different genres.</i>  <i>It makes creating “professional quality” music available to chn. (Y5/6)</i>  <i>Children can learn and experiment independently and in small groups. Easy to use and caters for differing levels. Fun to use and encourages discussion between children.</i>  <i>Little teacher input needs. Can “hook” chn into music who may be reluctant in other situations.</i>  <i>They are always successful. (Y5/6)</i>  <i>Able to experiment with instruments/sounds without having the instruments.</i></p>

<p><b>Advantages of Playstations</b></p>	<p><i>A good way of getting info across + encouraging interest Engages chn straight away. Gives praise often. They are familiar with in and outs of games etc.</i></p> <p><i>Good for teachers who are less musical. Great motivator...modern.</i></p> <p><i>It feels like playing a game!</i></p> <p><i>Chn. already sold on Playstation – they would think its cool. Interesting + interactive.</i></p> <p><i>Children are already familiar with Playstations. Can extend their knowledge and they could have lots of fun.</i></p> <p><i>It relates to their lives outside the classroom eg they are familiar with the technology and concept.</i></p> <p><i>Graphic design using music. (Y5/6)</i></p>
--	---

These quotes speak volumes. The collective comments by teachers show a wide range of benefits for using websites, Garageband and Playstations. They identify websites that could help to teach the elements of music and highlight the ease at which children can learn. In using Garageband the teachers could see how easily success could be achieved for children and the subsequent positive impact on self-esteem. The teachers also liked the way Garageband would cater for different levels of expertise. With using Playstations teachers liked the fact that students were already excited about Playstations (*see popular culture 4.3.4 in Literature Review*), knew how to use them and could be motivated through this interactive approach.

**Table 11 Teachers' quotes on the hindrances of using Music Technology**

<p><b>Factors that might hinder the uptake of Music Technology.</b></p>	<p><i>Time</i>  <i>Space</i>  <i>Not enough for everyone</i>  <i>Computers not functioning</i>  <i>Money</i>  <i>Numbers –children vs technology</i>  <i>Giving everyone a 'fair' and suitable amount of time (only 1 computer).</i>  <i>Class size</i>  <i>Safety of equipment</i>  <i>Set up</i>  <i>Availability</i>  <i>Age of chn</i>  <i>Own inadequacies with using technology.</i>  <i>Yet another thing to learn and add to our already crowded curriculum.</i>  <i>Equipment being readily available.</i>  <i>Not enough equipment</i>  <i>Too many children around one computer.</i></p>
---	---

There are many barriers mentioned above that hinder the use of music technology in the classroom today. I believe these comments typify how many New Zealand teachers feel about incorporating music technology into their programme. The most common hindrances were factors relating to resourcing, time, class size, teacher knowledge and confidence.

## 6. CONCLUSION

In researching the way in which the application of ICT increases enthusiasm and motivation in the learning of music, it has been evident that music technology provides an authentic learning environment. Where the school context mirrors the children's experiences outside the classroom, the use of technologies like Playstations, Apple eMacs and keyboards can enthuse, motivate and empower. .

Children demonstrated their enthusiasm in four ways; through excitement, task engagement, interest and sharing. Excitement was communicated through smiles, animated faces, laughter, using superlatives, obvious vocal changes (e.g., speaking faster or louder), hurrying around the room, calling out and an eagerness to start activities. Task engagement was demonstrated through their ability to focus for long periods of time, not being distracted easily and their description of time passing quickly for the majority of the lessons. The children's interest was shown through their punctuality and coming early to lessons, showing persistence in task completion, spending time and money on music related activities outside school and music tuition, and through indicating their desires to continue learning and making music in the future. The final key indicator demonstrating children's enthusiasm for using music technology was frequent sharing of discoveries and compositions with peers, family and friends.

Children demonstrated a preference for composing their own 'beats' and music rather than engaging in other musical activities. Research (*see Literature Review 4.3.2*) from Canada, England and New Zealand's NEMP research reinforce this preference. However, research also indicates that many New Zealand primary schools have not yet become aware of this emerging trend.

Compositional games and software like Garageband and MTV Music Generator were extremely popular with the students. The interface was very useable and involved a level of difficulty appropriate for the student's age and competency. Software used provided a platform where tasks were challenging yet achievable. This was based on an understanding that when both skill and challenge levels are high, 'flow' and engagement is at its optimal (Czikszentmihalyi, cited in McLean, 2003).

In this research project the use of popular music in activities heightened enthusiasm and interest. The children's two favourite activities both contained music that the children knew – Singstar Party and MTV Music Generator. Children also showed strong preferences towards learning drums and guitar. This again indicated the influence of popular culture and the media.

It is well known that as children progress through their primary years and reach the Intermediate level, their desire to listen to popular music increases (Greer et.al., cited in Persellin, 2002) as does their preference for music with a fast

tempo (LeBlanc et.al., cited in Persellin, 2002). Therefore, as teachers, it is important that we understand these changes and influences if we are to enthuse and encourage our students in music and avoid any cultural dislocation (Hennessy, 1998).

Employing different learning styles catered for individual differences and preferences. This allowed important skills to be teacher-directed, enabled children to discover for themselves, and allowed the freedom to work collaboratively. Also, it was understood that as children mature they desire greater autonomy (Eccles & Midgley, cited in Pressley, 2000). Therefore, by having a balance of teacher-direction, play and workstations, enthusiasm was maintained and autonomy encouraged.

Composing music using technology not only enthused children but also empowered them. Children gained an immense sense of pride when they created a piece of music that used a variety of instruments and that sounded like something they might hear on music, tv or the radio. Whether the children were composing using Playstations or computer-based software, they could play their compositions back at any time. They could also be guided by instructions or comments, which gave them instant help or feedback. Consequently the children felt like they were always succeeding. TIMP (1991) researchers observed increased self esteem and self confidence, longer attention spans, heightened social interactions and communicativeness as major outcomes from their year long programme. I also witnessed these characteristics in my own research group - but on a smaller scale, since I had only thirteen lessons with the children. Through compositional opportunities we empower children by providing tools to use in this digitalized music age, which in turn enhances self-belief and confidence.

While teachers involved in this research observed significant benefits in the use of music technology (including motivating and enthusing children), they were also realistic in relation to the possible barriers for implementation in their class. Resourcing, time, class size, teacher knowledge and confidence were identified as the main hindrances. I can identify with these pressures from my own experience. However, as teachers, maybe we ourselves need to be challenged and motivated by research which reminds us that.....

“Enthusiasm is the mother of effort, and without it nothing great was ever achieved”.

Ralph Waldo Emerson



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## 8. Appendix



Dear Parents,

As some of you are aware I have been teaching at Rutherford Primary for the last three years. This year, however, I am working as an E-learning Fellow under the guidance of the MoE (Ministry of Education) and Ultralab.

I am required for this year to carry out a research project. I have chosen to conduct my research with children from Rutherford Primary looking at *how ICT* (information and communication technology) *can enthuse children in learning music*.

The project requires me to convene a special group of 8 children. Your child has shown an interest in my project and has indicated, by taking this letter home, their desire to be considered for this group. If selected further information will be provided as will a consent form that will need to be signed if you wish for your child to participate.

In selected the '8' children for my research I have compiled a set of questions that I would like you to complete with your child. My criteria for selection are varied so please fill it out honestly.

### Questions

1. What interests or hobbies do you have? (*Include clubs currently enrolled in*)

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2. What is something that gets you really excited; what do you really enjoy doing?  
(*It can be something from above*)

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3. What is your favourite subject at school? (*What do you like about it?*)

---

4. Do you enjoy using a computer? (*For learning and/or playing games*)    **Yes**  
**No**

---

5. How many hours would you spend on a computer in an average week?

\_\_\_\_\_Hrs

## Appendix 1

6. On a scale of 1-5 how confident are you with using a computer?

Please circle one 1                      2                      3                      4                      5

Not confident at all

Quiet confident

Very confident

7. Name one or two things you do around the house without having to be asked - most of the time? (*For example, tidying your room*)

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8. In an average week how much time would you spend reading at home?

Circle one Less than 1                      1-2                      2-3                      3-4                      4+ Hours

9. When you read at home or do homework how often would you do so without having someone ask you to?

Please circle one 1                      2                      3                      4                      5

Never

Occasionally

All the time

10. What type of music do you like to listen to? (Hip hop, rock, R&B - list artists if you wish)

---

11. Which of the following, if any, do you have in your home? (Please tick)

- Playstation / Xbox
- ipod
- Computer
- Mp3 player
- Discman
- Other digital music devices \_\_\_\_\_

Appendix 1

12. Have you ever learnt a musical instrument before or are learning one? (*i.e. have had lessons*) If so, what instrument and for how long ?

---

13. Do either of your parents or anyone in your household play a musical instrument? If so, who?

---

14. Does it interest you to learn a musical instrument? **Yes** **No**

If so, what instrument interests you the most? \_\_\_\_\_

15. Where other than school might you play a musical instrument or sing? (*For example, church, on brother's guitar, singing in the shower, etc.*)

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16. Why do you wish to be involved in this research project?

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Thank you so much for the time you have taken to fill in this questionnaire. Please return this form to your class teacher by **April 13th**. I will be in contact with the selected children in Week 3 of Term Two. Parents, if you have any questions regarding this questionnaire or my research please contact me on 834-5887.

Kind Regards,

## Evaluation

Name: .....

Date: .....



1. Did you enjoy using DJ Desks & FX to create music? Explain why or why not.
2. Are you proud of the music you created? Why or why not?
3. How did you find the lesson/tutorial to help get you started?
4. Did time go past quickly, normally or slowly?
5. What problems did you come across and how did you solve them?
6. How long do you think you stayed on-task and focused on your activity? What distracted you or kept you focused?
7. What questions do you have that you are still wondering about?

## Lesson \_\_\_ Evaluation

**Name:**

**Date:**

### GARAGEBAND

1. How did you decide to use Garageband today?
  
2. Did you enjoy what you did? If so what was enjoyable?
  
3. What did you learn or achieve today (this could include new words you learnt)?
  
4. Did time go past quickly, normally or slowly?
  
5. Did you get frustrated at all during today's lesson? If so what frustrated you?
  
6. Did you need help today? If so who did you get to help you?
  
7. What questions do you have that you are still wondering about?
  
8. Do you think you were easily distracted today from the activity? If so what distracted you



## Evaluation

Name: .....

Date: .....

### MAKING TRACKS – BBC Website

1. Did you have fun exploring music through this website? If so, what was fun about it?
  
2. Rank your 3 favourite games and say why you liked them.
  - i.
  
  - ii.
  
  - iii.
  
3. Which was your least favourite game and why?
  
4. Did time go past quickly, normally or slowly?
  
5. How long do you think you stayed on-task and focused on your activity? What distracted you or kept you focused?
  
6. What did you learn about through using this website?
  
7. What questions do you have that you are still wondering about?

## Evaluation

Name: .....

Date: .....



1. Did you enjoy using Music 3000 to create music? Explain your answer.
  
2. Are you proud of the music video you created? Why or why not?
  
3. How did you find the lessons/tutorials to help get you started?
  
4. Did time go past quickly, normally or slowly?
  
5. What problems did you come across and how did you solve them?
  
6. How long do you think you stayed on-task and focused on your activity? What distracted you or kept you focused?
  
7. What questions do you have that you are still wondering about?

# Evaluation

Name: .....

Date: .....

## LEARN THE ELEMENTS

1. What did or didn't you like about using the internet to learn about music?
  
2. What did you learn from exploring these two sites? (List all the things)
  
3. What do you think other children could learn about music from playing and exploring these two sites?
  
4. Do you think you learnt more about music from these site than from the Playstation or Garageband in the time that you had? Explain your answer.
  
5. Would you prefer a music lesson to use these types of websites to help teach you music or through being told and writing in a book? Why?
  
6. How long do you think you stayed on-task and focused on your activity? What distracted you or kept you focused?

# Evaluation

Name: .....

Date: .....

## PC GAMES

1. **What do you think about the following PC music creation software games?** (Comment on how easy or hard to use it was, the loops, how fun it was and any other opinions you have.)

1. Audacity

2. Hammerhead

3. Acid Express DJ

4. Superdooper Music Looper

5. CD Scratch 1200

2. Which was your favourite site and why?

3. Which was your least favourite site and why?

## Evaluation

Name: .....

Date: .....



1. Did you enjoy using MTV Music Generator to create music? Explain why or why not.
2. Are you proud of the music you re-mixed? Why or why not?
3. How did you find the lesson/tutorial to help get you started?
4. Did time go past quickly, normally or slowly?
5. What problems did you come across and how did you solve them?
6. How long do you think you stayed on-task and focused on your activity? What distracted you or kept you focused?
7. What questions do you have that you are still wondering about?

## Evaluation

Name: .....

Date: .....



1. What did you enjoy most about making a soundtrack to Star Wars?
2. What did you learn or achieve today (this could include new words you learnt)?
3. Were you excited about doing this activity? If so what was exciting?
4. Did time go past quickly, normally or slowly?
5. What problems did you come across and how did you solve them?
6. How long do you think you stayed on-task and focused on your activity? What distracted you or kept you focused?
7. What questions do you have that you are still wondering about?

## **Lesson \_\_\_ Evaluation**

**Name:**  
**Date:**

1. Was today's lesson interesting to you? If so what was interesting?
2. What was the best part or the most fun part of the lesson?
3. Did time go past quickly, normal or slowly?
4. Were you eager or keen to get on with the task?
5. How hard did you try to finish the activity?
6. Was there enough teacher help if you needed it?
7. What questions do you have that you are still wondering about?
8. How long do you think you remained focussed on the task?
9. Do you think you were easily distracted today from the activity? If so what distracted you?
10. Did you find the activity challenging, easy, average?
11. What other activities would you like to do or learn about?
12. Write down any questions that you think of during today's lesson?

## Lesson \_\_\_ Evaluation

**Name:**

Pure Play

**Date:**

1. What was different about today's lesson?
2. Did you like choosing what you could do for the whole lesson? Why?
3. What workstation did you have the most fun at? What was so enjoyable?
4. What did you learn or achieve today (this could include new words you learnt)?
5. Would you like all music lessons to be like this? Why or why not?
6. Did time go past quickly, normally or slowly?
7. Did you get frustrated at all during today's lesson? If so what frustrated you?
8. Did you need help today? If so who did you get to help you?
9. What questions do you have that you are still wondering about?
10. Do you think you were easily distracted today from the activity? If so what distracted you?



# FINAL EVALUATION

Name.....

Please be as specific and thoughtful as you can when answering these questions. Thanks.

1. What was the best thing about being in the Music Technology programme?
  
  
  
  
  
  
  
  
  
  
2. Rank the following activities from most enjoyable to least enjoyable (*1 being the most through to 10 being the least*).
  - DJ Desks & FX
  - PC1 Games
  - Internet Music Games
  - Orchestra Sites
  - Making Tracks
  - Making soundtracks
  - Music 3000
  - MTV Music Generator
  - Singstar
  
  
  
  
  
  
  
  
  
  
3. Rank the style of teaching which you liked the most (*1 being most liked to 3 least liked*).
  - Teacher directed (like when I told you how to use Garageband)
  - Pure Play (when you had all the choices)
  - Workstations (given a variety of tasks to do with the teacher to assist)
  
  
  
  
  
  
  
  
  
  
4. Tell me about all the boring things that we did in class and why they were boring.

## Appendix 12

5. What was the hardest activity, lesson or thing about the programme? Was it too hard for you?
  
6. What PS2 games or internet sites, if any, did you try at home? How long would you have spend on these?
  
7. What is one thing that you have learnt about music or learnt to do in the last term that has stayed in your head?
  
8. Do you think you are now more interested in music than you were before this programme? Why do you think this?
  
9. What would you like to learn more about or learn to do with music?
  
10. What other comments, recommendations or suggestions do you have that might help to make a music programme more exciting, interesting and fun?

Thanks for all your hard work and filling out all my evaluation forms. This was your last one. Well Done.

**Interview Questions for Rutherford Teacher**

1. What are some of the comments you have heard in and around your class in relation to the Music Technology programme I have been running?

*By the children in the group:*

*By other children:*

*Others (parents, staff)*

2. Would you describe the behaviour and attitude of the children in the programme as being enthusiastic? If so, how was this enthusiasm shown?
3. What negative or positive effects, if any, have you observed in the children involved?
4. Do you have any other comments or observations that may help my research into developing enthusiasm in music?

**Peer Interview**

- 1. Who did you know that was in the music programme?**
  
- 2. What things did they say about the programme to you or your friends?**
  
  
  
  
  
  
  
  
  
  
- 3. Would you have liked to be in the programme? Why?**
  
  
  
  
  
  
  
  
  
  
- 4. What do you think the team learned about?**
  
  
  
  
  
  
  
  
  
  
- 5. Would you say that they were excited about coming every Tuesday and Thursday afternoon to my class? Explain.**



technology | innovation  
learning | research

**Thursday 6 July, 2005**  
**Parent Questionnaire**

Well it has come to the end of the practical component of my research and I wish to thank you sincerely for allowing your child to be part of my project. It has been such an eye opening experience for me. The data I have collected from the children is superb. I have a lot of analysis of video, evaluations, interviews and work samples to do still. Today sees the official end of the teaching lessons but I will be back for a follow up lesson in Wk 2 or 3 of Term 3 to collect the parent questionnaire, ask the children a few final questions and give them a cd of the group's work.

As I alluded to in the consent form, earlier this term, I do require some feedback from parents. Please feel reassured that your name or your child's will not be used in any of the publication documents or reports. In completing the survey your careful consideration of the questions and honesty would be greatly appreciated. It would be of greater benefit to me if the questionnaire was completed towards the end of the holidays as your child may choose to spend some of their time making music, which I would be very interested to know about.

Please return this questionnaire with your child to the Principal (Michelle Bacon) by the end of **Week One**. Thank you.

**Your child's name**.....

1. What do you think a good music programme should do for your child?
  
2. Have you noticed any difference in your child's general attitude or feeling about music since s/he has been attending this music programme? If so, please explain whether or not you think that it has had something to do with the Music Technology programme?

## Appendix 15

3. What has your child specifically said about the music programme? (Please comment on as many things as possible).
  
4. What activities this term, if any, have you observed after school hours where your child has chosen to experiment, compose or play with music? (Not including normal music lessons or practice).
  
5. Would you describe your child's attitude towards the programme as being enthusiastic? If so, what has indicated to you this level of excitement and interest?
  
6. What has your child learnt or gained through this experience?
  
7. What signs, if any, are there that your child might now want to pursue music further?
  
8. Please comment if there is anything else at all that you think might help me gain a better understanding into how enthusiasm for music can be developed through the use of ICT (Information & Communication Technology)?

If you have any questions or further information that you wish to discuss with me please feel free to contact me on 8345887.

Warm Regards,

# Interview Questions

**Date:** .....

**Name:**.....

## **Musical knowledge and interest**

1. What music have you learnt about at school before these lessons?
  
2. What have you enjoyed doing in a music programme before?
  - a. What haven't you enjoyed doing?
  
3. What would you like to learn about music this term?
  - a. Why do these things interest you?

## **Personality and learning styles**

1. Do you prefer to work on your own or work with someone? Why?
  
2. Do you prefer to be a leader or be lead? Why?
  
3. How do you think you learn best? (For example, in a quiet room, one-on-one with a partner, working it out yourself, listening to someone, etc.)

**Enthusiasm**

1. What do you think enthusiasm means?

Tell me about a time when you did these things:

1. Lost track of time when you were working at something?
2. Told your family something you really enjoyed doing at school without being asked.
3. Talked, texted or phoned your mates about something exciting you did at school.

**What is 'cool'**

1. What does cool mean to you?
2. What, if anything is cool about this programme?
3. What could be improved to make this programme better?
4. Does what other people think is 'cool' influence what you do or what you like?  
Give an example or explain your answer if you can.



### **Computers**

1. Do you think that using a computer to help you with your schoolwork keeps you more focussed or on-task for longer? If so, how is this possible?

### **Teaching and learning**

1. What is different about these lessons from a normal lesson?
2. What is a good teacher like?
3. What is one particular lesson or activity that you remember fondly at school that you really really enjoyed? Explain why it was so enjoyable?
4. Do you like to have choice in the classroom over things like:
  - a. What activities you do?
  - b. What you read?
  - c. How you spend your time?
  - d. Where to sit?
5. Do you like to have time to 'play' and discover things for yourself rather than being told how to do something all the time? Why?
6. Do you think you learn better through playing and discovering things, being told or a mixture of the two?
7. In what ways can giving you more choices in the classroom help you to learn better?

## Teachers' views of Music Technology resources

What year do you teach? \_\_\_\_\_

1. What websites did you visit that you think would be beneficial in teaching music? Explain.
2. What obvious benefits do you see for using "Garageband" to teach music?
3. What advantages could you see in using Playstations for learning music?
4. What factors might hinder you from using music technology in your class?
5. What is the chance now (this term) that you will try some type of music technology in your own class? (Please circle one)

No chance

Slight chance

Good chance

Definitely

**Please, if you have any other information you think might help my research just write it on the other side of this paper.**

Thank you very much for you time. *Mark*

## Quantitative and qualitative behavioural indicators

<b>QUANTITATIVE BEHAVIOURS</b>	
<p><b>Body language behaviours</b></p> <p>Significant number of eye contact instances</p> <p>Physically moves towards the group or stimuli</p> <p>Excitement animated gestures</p> <p>Leaning forward</p> <p>Face and body square on during conversation</p> <p>Palm up gestures</p> <p>Head nodding</p> <p>Excessive nodding</p> <p>Laughing – open mouthed</p> <p>Tilted head - interest</p> <p>Dilated pupils – wide-eyed</p> <p>Smiling</p>	<p><b>Verbal behaviours</b></p> <p>Hastened excited speech patterns</p> <p>Uses affirming statements about activity</p> <p>Uses superlatives</p> <p><i>Verbal agreement including changes in pitch, tone volume</i></p> <p>Makes positive comments</p> <p>Engages in “self-talk” about the task</p>

## Appendix 18

<p><b>Inquisitive behaviours</b></p> <ul style="list-style-type: none"> <li>Asks questions of the group</li> <li>Asks questions of the teacher</li> <li>Asks questions of others indiscriminately (ie not necessarily just friends)</li> <li>Seeks clarification</li> <li>Looks for information out of class time</li> </ul>	<p><b>Collaborative behaviours</b></p> <ul style="list-style-type: none"> <li>Shares openly with others inside and outside school</li> <li>Asks questions of the group</li> <li>Tutors others</li> <li>Shares innovative ideas and discoveries</li> <li>Frequently initiates contact with other students</li> </ul>
<p><b>QUALITATIVE BEHAVIOURS</b></p>	
<p><b>Passion And Self-motivation</b></p> <ul style="list-style-type: none"> <li>*Genuine interest</li> <li>*Forgets time</li> <li>*Eagerness</li> <li>*Persistence with task</li> <li>*Wondering</li> <li>*Commitment to the task</li> <li>*Happiness</li> <li>*Focusing on the task and not being distracted from it</li> <li>*Accepting challenge</li> <li>*Excitement</li> <li>*Risk is no longer an obstacle</li> <li>*Having fun</li> </ul>	

17 May 2005

## Information / consent form for parents

Kia ora

As some of you are aware I have been teaching at Rutherford Primary for the last three years. This year, however, I am working as an e-learning Fellow under the guidance of the MoE (Ministry of Education) and Core Education.

I am required for this year to carry out a research project. I have chosen to conduct my research with children from Rutherford Primary exploring *how ICT* (information and communication technology) *can enthuse children in learning music*.

The project requires me to convene a special group of 8 children. Your child has been selected as a member of this group for their enrichment through an innovative music learning experience.

My research will take place this term, commencing two weeks today. It will require your child to be present *Tuesday and Thursday afternoons* during normal school hours. The child will be released from regular classroom work following consultation involving the Principal, the classroom teacher and me. It is not expected that there will be any academic loss as a consequence of your child's participation. Instead, you could expect your child to gain valuable skills in composing and recording digital music, experience on-line learning and increase knowledge in music theory. May I reassure you that no risks are foreseen as a result of your child participating in this project. You can withdraw your child at any time.

The results from my project will become part of my report and will be seen by my supervisor, the Core Education research team, the Ministry of Education and any interested community or educational groups. Raw data gathered during the project will be stored securely at my home and will be destroyed three years after the research is complete. The final report of my research will be publicly available online and through publication and at conferences.

Rutherford Primary School will not be identified, but will be referred to in my research as 'the school'. Completion of the consent form below will not only allow your child to participate, but will give permission for photographs and video footage of your child to be recorded and used for data analysis and reporting. Music they have composed and written material your child produces will also be used, for which we also need your consent. To ensure anonymity your child will be assigned a different name in my research.

I am carrying out, the project, under the supervision of Dr Michael Winter, who can be contacted at Core Education on 03-379-0715. He will be pleased to discuss any concerns you may have about your child's participation in this project. In addition, I am available to talk with you regarding any general concerns or queries you may have. My contact number is 834-5887.

This project has been reviewed and approved by Michael Winter and the Core Education team.

## Appendix 19

Your assistance would be appreciated at the conclusion of this project by completing a survey indicating any impact this programme has had on your child. Thank you for taking the time to read and consider this information. Please complete the attached consent form if you agree to your child being part of this exciting learning opportunity at Rutherford Primary School.

Yours faithfully,

Mark Edwards

### **Consent Form for Child**

*I have read and understood the information provided outlining the research plan dated on the 17<sup>th</sup> of May. I consent to Mark Edwards working with my child in the learning and production of digital music as part of his research project. Further, I consent to the presentation of results to fulfill the requirements set by Core Education and the MoE, with the understanding that confidentiality will be preserved. I understand that my child may withdraw from the project at any time and all information collected about him/her withdrawn. On this basis I consent to my child participating in this research project.*

Name \_\_\_\_\_ (please print child's name)

Signed \_\_\_\_\_ Date \_\_\_\_\_

***IF YOU DO NOT WANT YOUR CHILD TO PARTICPATE, DON'T SIGN YOUR NAME.***



	<i>Readings/ researching/ documentation</i>	<i>Interviews</i>	<i>Videoining</i>	<i>Written Observations</i>	<i>Surveys</i>
1. What is enthusiasm?	Collect information on the definition and origin. Formulate my own definition.			Gather data on general displays of enthusiasm by the 8 children from my group.	Ask teachers at Rutherford Primary School what their understanding of "enthusiasm" is.
2. How do children display enthusiasm?	Research books, articles, reports, the internet ( <i>ERIC, general searching under keywords</i> ) .	Explore with the 8 children, prior to the lessons, ways they display enthusiasm?			
3. Do children display enthusiasm when using ICT in learning music? If so how?	Prior reading, articles, books, studies, etc.	.	Analyze levels of enthusiasm in videoed lessons - based on the children's facial expression and body language during the lesson. <i>Collect digital photos and short video edits that display enthusiasm.</i>	Make ongoing anecdotal notes, during lessons, in reference to prescribed indicators of enthusiasm.	At the conclusion of each lesson ask children to comment on how they felt - whether they felt enthusiastic. <i>Questions on the survey form will change slightly each time based on the lesson.</i>
4. What music hardware, software, and on-line resources are most useful in supporting the teaching and learning of music?	Source information from: - The Rockshop - Apple - Internet searching - Seminars - Readings	Scott Bulloch from Apple.  Mark Grimes from Edtech.			
5. What can I (the Teacher) do to foster children's enthusiasm for music, when using ICT?	Research books, articles, reports, the internet, people/teachers with experience.		Video myself teaching - experiment with and document differing pedagogies. Reflect and critique these for further experimental approaches.		



## Appendix 21

<p>6. How and to what extent does previously having learned to play a musical instrument affect children's levels of enthusiasm?</p>	<p>Readings, books, internet, etc.</p>		<p>Analyze video data. Make ongoing anecdotal records on the differences, or similarities observed, ie., between the children who have prior music experience and those who don't.</p>	<p>Ask children, prior to the first lesson, what musical experience they have had.</p>
<p>7. What can we learn from the study that enables us to develop effective classroom resources?</p>	<p><i>Keep an ongoing record of all the websites, resources, etc., that I use.</i></p>		<p>Allow a group of teachers to experiment with the collected resources and available ICT equipment in my classroom:</p> <ul style="list-style-type: none"> <li>- Video this process for later review</li> <li>- Write notes during this lesson based on teachers' responses to the resources, links and equipment provided</li> <li>- Survey teachers about their experience asking questions like:             <ol style="list-style-type: none"> <li>6. What website links were beneficial and potentially useful for whole class teaching?</li> <li>7. What benefits do you see for your class in using "Garageband" to teach music?</li> </ol> </li> </ul>	

## Appendix 21