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# The effect of a pop/rock music repertoire on the music achievement and preferences of lower secondary school students

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# THE EFFECT OF A POP/ROCK MUSIC REPERTOIRE ON THE MUSIC ACHIEVEMENT AND PREFERENCES OF LOWER SECONDARY SCHOOL STUDENTS.

BY

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A Thesis Submitted in the Partial Fulfillment of the Requirements
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# USE OF THESIS


The Use of Thesis statement is not included in this version of the thesis.

# ABSTRACT

This research tested the effect of using a pop/rock repertoire to teach selected music skills to lower secondary school students in a conventional school setting. Two year 9 co-educational music classes from the same school were used for the experiment. The research was conducted in an experimentally controlled environment in which one class was the experimental group, and the other class was the control group. Measurements in changes of student achievements and musical preferences were the focus at the data collecting stages.

Reported research indicates that students need to be motivated for learning to occur. One approach to motivation is the incorporation of pop/rock music in programmes. However, popular music is only slowly finding its way into many school programmes because many teachers lack vital resources such as skills, appropriate repertoire material and guidance. As a consequence, many of those teachers have questioned and continue to question the value of popular music in music education.

The results of this experiment were statistically analysed and interpreted to determine whether the selected pop/rock repertoire significantly increased the achievement levels of those students. The analyses indicated that students using pop/rock repertoire for learning musical concepts, significantly increased their achievement levels from the pre-test to post-test stage but that both classical and pop/rock repertoires were equally effective in increasing the achievement rate of students. All students had a higher preference for pop/rock music and a significantly lower preference for classical music.

## DECLARATION

I certify that this thesis does not incorporate without acknowledgement any material previously submitted for a higher degree or diploma in any institution of higher education; and that to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text.

Signature....█████████████....

Date..............10 - 8 - 94..........................

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# CHAPTER I

## Introduction

**Thesis Title:**
*The Effects of a Pop/Rock Music Repertoire on the Music Achievement and Preferences of Lower Secondary School Students.*

*Background to the study*

Music, like other artforms, changes from age to age and often expressively reflects and sometimes leads current trends and cultural structures. In this research, popular music is defined as music which is reflective of the trends and cultures current to the day and is restricted in this study to music since the Second World War. The various styles which include rock, reggae, soul, motown, jazz, funk, new wave and disco, provide clear examples.

The songs of Bob Dylan, such as the *Time's they are a changin'* expressed one aspect of the radical mood of the 1960s. Dylan voiced the desire for political and social change which were typical of that era. A popular group called the Beach Boys created songs such as *Good Vibrations* and *Surfin' in the USA* which were synonymous with the American surfing way of life in the 1960s. In the late 1970s Pink Floyd composed *Another brick in the wall* in which the text is anti-authoritarian. Dunbar-Hall et al. (1988).

With the above examples and other similar examples, the literature expresses two implications. First, popular music can appeal to today's youth because it reflects current fashions, social issues, and other trends. Such 'appealing' music in the teaching and learning environment allows the teacher a better chance of conveying musical concepts since most students are motivated by the appealing content. This is especially evident in Werpy's article, *Choosing Music That Motivates* (1987).

Second, one of the major goals of today's music educators is to develop creative, self-expressive individuals. Most artists who create rock/pop music are providing clear examples of how individuals creatively express views through the medium of music. Students can be exposed to various examples of those artists and their music and introduced to various techniques, such as improvisation and composition via technological tools such as synthesizers and computers. Adopting such techniques will give students the opportunity to be creative, self-expressive

individuals. (Balkin, 1990; see also Davidson, 1990; Fowler, 1987; Jacobs, 1990; Kuzmich, 1989; Moore, 1990; Pogonowski, 1987).

Popular music is presently being integrated in many school music programmes around Australia. In some places this movement is slow owing to a lack of syllabus material based on popular music. In Western Australia (W. A.) there is a growing demand for syllabus material based on popular music as evidenced by the development of the *Secondary Education Authority's* (S.E.A.) accredited years 11 and 12 *Music in Society* syllabuses.

*Significance of the Study*

In Australia, the student dropout rate in music from year 8 to year 12, is consistently high. In Western Australia, 1993, only 2.1% of the total population of Tertiary Entrance Examination (TEE) candidates sat for the TEE in music. Students complain that the larger portion of repertoire used in the classroom is not relevant to their culture. If students dislike the music, it is likely that their motivational levels are relatively lower. This is a major concern because with low motivation levels, effective learning is more difficult. Low levels of motivation cause students to become bored, disillusioned and develop negative attitudes towards school music. Carrol (1988, p. 322) states, "the challenge for teachers is to keep spontaneity, stimulation, satisfaction and energy high while music engages students and teachers alike".

This statement clearly reinforces the view that motivational levels need to be kept high for learning to occur. It also highlights the fact that creating a positive working environment requires the teacher to be highly motivated as well. Positive student response towards teaching strategies helps to sustain high motivation levels in teachers.

Educators could adopt music which will motivate students and pop/rock music can serve this purpose. The literature clearly indicates that many teachers who realise the value of using the popular music idiom in their everyday teaching, lack resources and guidance. Other teachers have become disillusioned with this idiom after being exposed to poorly prepared material. The literature indicates an abundance of popular music material, however there is a need for more research and guidance for the effective integration of popular music in today's curriculum (Cutietta, 1991).

*The Purpose of the Study*

This study attempts to delineate the educational advantages when using pop/rock repertoire in the conventional classroom setting. The main advantages were hypothesised to include positive changes in student preferences and achievement levels. This research sets out to demonstrated that musical concepts like harmony, pitch and rhythm can be taught with a pop/rock repertoire in a conventional classroom setting. This research indicates that the use of a pop/rock syllabus is valid for the teaching of selected musical concepts. A large body of literature including Paynter, 1982; Dunbar-Hall, 1993; and Vulliamy et al, 1982 justifies the use of pop/rock materials in music education.

*The Null Hypothesis and Research Questions*

*Null Hypothesis*

There is no significant difference between the musical achievements and preferences of year 9 students who study a pop/rock repertoire in order to learn selected musical concepts and year 9 students who study classical repertoire in order to learn the same musical concepts.

*Research Questions*

1.  Is there a significant difference in the student achievement of musical concepts, comparing pre-test and post-test data of each group?

2.  Is there a significant difference in the musical preferences of students, comparing pre-test and post-test data of each group ?

3.  Is there a significant difference in the achievement levels of the experimental group when compared to control group;

    A) at the pre-test stage ?
    B) at the post-test stage ?

4. Is there a significant difference in the musical preference of the experimental group when compared to the musical preferences of the control group;

    A) at the pre-test stage ?
    B) at the post-test stage ?

*Outline of the Study*

This research involved the participation of two year 9 classes in a Perth metropolitan, co-education, private school. The research was experimental in style, requiring one class to be the control group and the other class to be the experimental group. Both groups were taught by the same teacher; both programmes shared the same objectives; both programmes had similar teaching strategies, similar classroom settings and similar types of assessments. The difference between the two groups was the assigned repertoire, which required the control group to learn musical concepts using a classical repertoire and the experimental group to learn musical concepts using a pop/rock repertoire.

Both groups were pre-tested and post-tested with the same musical achievement and musical preference tests. Both groups were also tested with the Gordon (1965) Music Aptitude Profile at the pre-test stage. The first two tests were constructed to determine whether there were any significant changes between pre-testing and post-testing in the musical achievement and musical preferences of both groups.

Results were analyzed to determine the effectiveness of using pop/rock musical material in the classroom when compared to classical musical material in the classroom.

*Definitions of Key Terms in the Study*

*Pop/Rock Music*

Music which is reflective of the trends and cultures current to the day since the Second World War. The various styles which include rock, reggae, soul, motown, funk, new wave and disco, provide clear examples.

*Jazz Music*

"Jazz is a true fusion, combining principles and elements drawn from both European and African music. It is almost fair to say that jazz is the foundation on which modern popular music has been built. " (Collier, 1981, p. 4)

Arnold (1983) describes jazz music as:

> A popular music distinguished by its characteristic rhythms and harmonies and frequently involving improvisation. Jazz began as a social music, the natural response of the black population, especially in the Southern American states, to their environments, their sorrows and oppressions, their hopes and aspirations. Jazz developed in New Orleans, the meeting place of many races. (p. 986)

This research restricts the jazz repertoire to jazz from the turn of the twentieth century such as *Maple Leaf Rag* (Joplin) and *Hotter Than That* (Armstrong) to the jazz of today such as *L. Is For Lover* (Jarrea) and *The Return Of The Brecker Brothers* (Brecker Brothers).

*Classical Music*

Sandved (1957, p. 480) describes classical music as " music which through the course of time has established itself by reason of its lasting or 'permanent' value, as opposed to the 'hit-song' and other ephemeral compositions".

Lloyd (1968, p. 111) describes Classical music as;

> Music written between 1750 and the early 1800's. 'classical music' also means, loosely, art music of any period as distinguished from popular or folk music. The greatest music of the Classical period came from composers such as Haydn and Mozart, although Beethoven's early works, too, are cast in Classical Moulds. Since so many outstanding composers of the period lived and worked in Vienna, the age is often referred to as the Viennese Classical period.

For this research, the term 'classical music' will be used in a generic sense to define art music of any period as distinguished from popular music, folk music or the jazz artform.

*Summary of Introduction*

The literature reports that one essential aspect of any teaching programme is ongoing evaluation. This progress-monitoring strategy helps educators to strengthen their programmes by identifying and eliminating weaker areas while expanding stronger areas of their programme. However, this strategy is only as effective as the teacher who controls the process. Most educators can define the problems using the above strategy, but many will consciously neglect possible solutions because of a negative attitude or lack of skills or knowledge and guidance or any combination of these. This research attempts to break some of the negative barriers by providing empirical research which will need to be confirmed using other approaches and methods. Hopefully, these answers will provide enough insight to change some attitudes, increase knowledge and provide guidance for improving areas such as teacher skills and teaching strategies. All these improvements will directly and indirectly contribute towards increasing the motivational levels in students and teachers, hence creating positive learning environments necessary for effective teaching and learning.

Students' learning rates tend to decrease when they are not interested in the selected music repertoire. Increasing motivational levels in students is a pre-requisite for more effective learning. This research seeks to determine the degree to which pop/rock music can be an effective strategy for increasing motivational levels. This experiment attempts to illustrate that pop/rock music is as effective as classical music for the teaching and learning of the selected musical concepts and will attempt to ascertain students' preferences for pop/rock music compared to the classical repertoire which was used to cover the same musical concepts and skills.

# CHAPTER II

# Review Of The Literature

*Some Developments in Music Education*

In today's complex society, the rate of change has become an important and very influential factor. Technological advancements have taken some societies to much higher levels of learning and understanding, which in turn have provided the impetus for change in society.

Alvin Toffler's (1970) article reminded us that it is not change itself (we know that change is going to occur) but the speed of change that now disrupts and threatens man. Benner (1976, p. 37), stated that "mass communication, travel and mobility, technological resources, shifting value systems, and changing life-styles lead us to the recognition that pluralistic societies accommodate variation and diversity in musical forms, functions and styles and that musics are both divergent and convergent."

From these observations, Benner (1976) observed:

> In a changing society, music instruction as a discipline subject
> in schools should give students the understandings and skills
> that will enable them to analyse, participate in, and make
> judgements about the music of the present, and give students a
> basis for comprehending music of the future. (p. 36)

This observation is more directed towards a 'process-based' system of teaching and learning than to the more traditional 'content-based' approach. The current literature is reflective of a 'process-based' approach to music education.

Pogonowski (1987, p. 36), asserted that education should strive to develop 'independent learners'. She suggested that this can be achieved by developing skills in critical thinking and problem-solving. She defined critical thinking as higher order thinking skills such as analysis, synthesis and evaluation and suggests that these skills are developed when students are actively involved with their learning. That is, learning through experiencing. This can be achieved using a mix of older period music and contemporary music.

Balkin (1990, p. 32) described a creative learning approach as a strategy for developing critical thinking skills stating, "the creative person must continually rethink, reconsider, replace, refine, redo, reaffirm, reprocess, rewrite and reconceptualize." He suggested that this 're' factor is the essence of problem solving, and that music is an ideal medium for exploring the 're' factor.

In support of Pogonowski and Balkin, Webster (1990,p. 23) examined creative thinking in music describing it in terms of ability to think divergently for increasing student achievement in music based on the mind's ability to 'think in sound'. He suggested that the ability to internally imagine sound meaningfully is not only important for music achievement, but also for the encouragement of imaginative divergent thinking capabilities. In addition, Webster also states that although there are many interested music professionals in the formal study of creativity, " it is precisely this kind of thinking that is so often not stressed by music teachers - often ignored in favour of factual or skill-orientated content".

*Strategies for Teaching and Learning Musical Concepts*

Much music education literature indicates that active learning or learning through experiencing can be facilitated through activities such as performance, improvisation and composition. Wiggins (1989) stated:

> Through composition students are no longer dependent on the teacher, they are thinking and working like musicians, limited only by their incomplete knowledge of notation. Most students realize this and want to be able to read, notate and play their own creations....composing becomes a motivating force for learning to read music and practising an instrument. (p. 36)

Wiggins (1989) implied that opportunity to create not only allows scope for individual growth and self expression, but also increases motivation levels and self-esteem because of the sense of ownership and personal achievement. He claimed that composition is an excellent tool for student self-evaluation, a skill that Pogonowski (1987) considered a pre-requisite in order for critical thinking to function effectively. With a similar emphasis on composition, Pogonowski (1987) included performance and improvisation as activities for assisting students to develop critical thinking skills.

Cutietta (1991, p. 41) emphasised that transcribing from recordings is one of the best types of ear training for both teachers and students. This learning technique was evidently used in the workplace, where many of the great jazz players who had no formal training depended on old recordings which they critically listened to and imitated.

Technology has also become a focus of attention in music education. Margolis' (1987) article highlighted three important advantages that result from utilising technology as a teaching/learning tool.

They include:

1.  motivation is very high since the synthesiser and related technology holds a built-in fascination for students;
2.  students can work at their own individual pace and ability levels; and
3.  the use of computers for compositional activities allows the student to instantaneously monitor the sounds they hear.

Moore (1990, p. 41) listed technology as one strategy for the encouragement of creative thinking. Feldstein (1989, p. 39) listed technology as a strategy for sustaining high motivational levels in students in order to increase their achievement rates, stating "technology is part of the students' everyday lives....computers, portable keyboards, synthesisers and that old standby, television, are the topics that young persons around the world talk about". The article further emphasised the need for teachers to become computer literate. Feldstein (p. 39) stated, "It is our responsibility to acquaint ourselves with computers and available programmes that will motivate instrumentalists and help their learning curves increase".

The above views on music technology are reflected in the 1989 system-level evaluation of the relevance of computer-assisted learning in the study of electronic music in Australian secondary schools. From this evaluation, Hazel and Livermore (cited in Thonell, 1993, p. 351) listed the following recommendations;

1)  teachers need to be encouraged to use technology in their programmes;

2)     more professional development is required in this
       area;

3)     more liaison is required with the music industry and
       tertiary institutions providing the relevant courses;
       and

4)     equipment needs to be bought centrally and made
       available to schools for music making.

Similar views on technology and education are also evident in the articles by Kuzmich (1989), Jacobs (1990), and Davidson (1990).

The Orff, Kodaly and Dalcroze techniques are three practical approaches to teaching music which are still being adopted and adapted today because of their enduring relevance to music education and the trends of 1910 onwards. Each of these teaching strategies holds the basic view that "music is life-enhancing and that every human being is endowed with musical capacities that can and should be developed" (Peery et al. 1987, p. 185).

Brown (cited in Peery et al.,pp. 184-193), provided a comprehensive summary of these major approaches. Brown concluded, that all three approaches emphasize the notion of learning through experiencing although each approach has a different method for presenting musical experiences. Orff emphasized playing instruments, while Kodaly began with singing and Dalcroze utilized dance and movement.

Music educator C. Fowler (1987) suggested singing, playing instruments and dance/movement, as excellent teaching strategies for enhancing a cognitive approach to teaching and learning. In a final statement Fowler (1987,p. 32) concluded that, "theories of learning have dramatically changed during the past decade, with cognitive conceptions of learning replacing behavioural ones." This view supported the researchers mentioned earlier such as Pogonowski (1987) who emphasized that critical thinking is a result of experimental learning which embraces the learner's affective and cognitive domains.

At the classroom level Friedmann (1989), Andress (1989), Jacobs (1990), Davidson (1990), Moore (1990) and Balkins (1990) indicated that for student-based learning to develop successfully, there needs to be a supportive teaching/learning environment, class discussion and small group work.

*Motivation and Preferences: Research Findings and Educational Implications*

Improving classroom teaching and learning processes requires careful evaluation of factors including student attitudes, preferences and motivation. Therefore awareness of student likes and dislikes, and factors influencing student motivation levels is of importance to the teacher but is not necessarily the basis for all curriculum content.

P. Sink (cited in Colwell, 1992, p. 606) reported that major studies of the 1980's identified sociocultural reasons: for adolescent music preferences; for adolescent students' motivations to continue music study; and for the relationships among music attitude and achievement variables. Highlighted sociocultural reasons included radio and peer influences.

Earlier studies revealed interesting trends in the musical preferences of adolescent students. Evans (1965) concluded that repeated hearings increased preference for the music presented. In support of Evans' findings, Getz's (1966) research findings recommended that to maximize adolescent music preferences, six to eight hearings of a composition should be planned throughout one semester. Finnas's (1989) research reported that repeated listening to classical music increased musical preference. It can be concluded from these findings that repeated hearings can increase preference for the music presented.

Greer, Dorrow, and Randall (1974) investigated the musical preferences of elementary children and concluded that children like music which they perceive as their own. This finding was supported by Le Blanc (1979) who reported that adolescent students prefer music perceived as their own, popular music, music which reflects the current trends and culture.

Other studies on musical preference indicated that preferences are not only modified by the repetition of selected musical examples, but also by peers and mass media personalities (sociocultural factors). Inglefield (1968) attempted to bias the preference responses of students and his results indicated that conformity to the mass consensus was evident.

Boyle, Hosterman, and Ramsey (1981) attempted to find the reasons why students preferred popular music by asking for each students' self-reported reasons. The findings indicated that music characteristics and sociocultural reasons were factors influencing preference. Sociocultural reasons included peer influence, hearing

music on the radio, and the "danceablity" of the music. Upper primary students expressed sociocultural influences as more important than lower secondary school students. Supported by Kelly (1961) was the finding that musically trained students were less influenced from peer group pressures. Kelly also reported that year eight students preferred popular music to classical music regardless of musical training.

Finnas (1989) who tested students for preferences privately and publicly found that adolescent musical preferences were higher for classical and folk music when expressed privately than when expressed publicly. This study confirms that some adolescent students conform to popular music preferences in the presence of peers.

Price (1986, p. 154) defined preferences as being different from attitudes, claiming that the word 'preference' is sometimes incorrectly used to describe attitude. He describes attitudes as being a result of past learnings to the object in question and defined 'preference' as "an act of choosing, esteeming, or giving advantage to one thing over another".

In addition, Price stated that a preference is not necessarily influenced by prior knowledge but can be influenced by experience, and knowledge of itself will not change preferences. The implication for music teachers is that students coming to school with high preferences for pop/rock music may or may not alter their preference simply because of new knowledge presented by the teacher. Teachers may experience a more positive response by acknowledging musical preferences of students and making efforts to incorporate those preferences in their teaching programmes. Such a strategy would work towards increasing the motivational levels of students. However this would depend upon the objectives of a music course.

Research indicates that student motivation to continue music studies declines over age. This trend is reflected in Hoffer (cited in Colwell, 1993) who assessed enrolment trends in American secondary schools between 1964 and 1967, and found a 42.2% decrease in lower secondary school music enrolments. Reimer's (1989) research highlighted that less than 2% of all high school students in the United States are enrolled in any nonperforming music course.

In Frakes' (1984) study to find reasons why students continued or discontinued music study it was shown that students who continued had high music and academic scores, liked the teacher, and studied music privately. Students who

discontinued perceived themselves as less musically able than other students and received minimal family support. These findings highlight that the students' home environment, self concept and teacher-student relationship are major factors in determining the continuation or discontinuation of music studies in high school.

Lillemyr's (1983) paper indicated that students who had high interest levels in music and who believed they were musically capable, were highly motivated and had positive perceptions of their capabilities. Asmus (1986, p. 267) reported that students' perceptions of their music ability attributed to 80% of the reasons cited for success or failure in school music. These studies by Asmus (1986) and Frakes (1984) indicated that students generally discontinued music because of a low self concept regarding their music ability.

Asmus (1986) reported that age influences students' perception of success or failure. Lower secondary school students indicate effort more than musical ability as the main contributor for success, and bad luck as the main attributer for failure. As age increases, students perceive musical ability as the main contributer for success or failure in music studies.

Taebel and Coker (1980) examined relationships among music achievement, music attitudes and teacher competencies. The study supported the previous research finding that positive attitudes towards music decreased between primary and higher school. This study further indicated that positive attitudes were associated with teaching strategies. From all the variables examined such as socioeconomic conditions, teaching materials, time spent in class music, and private music study, positive gains were mainly associated with teaching strategies.

The implications from these findings suggest that educators need to evaluate their teaching approach and music programmes in order to develop interested and productive learners. The need to develop and sustain interest in each student through positive reinforcement and high quality music teaching programmes is essential. These implications are further supported in Frake (1984), who suggested that motivating music programmes in lower secondary school were vital to encourage continued music studies.

*Popular Music: A Strategy for Increasing Student Interest and Enhancing Music
Programmes in Schools*

At the beginning of this literature review, the claim was made that changes in
areas such as fashion, technology, economy and the ever increasing 'speed of
change', are major forces in reshaping societies and later generations. This trend is
not however, a recent development. Cultural differences between teachers and
students were evident in the nineteen sixties in such areas as fashions, values and
ideals, and musical taste. The Tanglewood Symposium in the USA in 1967 was in
part an attempt to improve the existing teaching and learning process. One of the
positions emphasized at that symposium was the need for teaching music of all
periods, forms, cultures, and styles, including popular music. This symposium was
an attempt to better relate music education back to contemporary composition. The
reality of change is evident in the articles of many writers in the late sixties and early
seventies ( Mark, 1978).

In 1969, Binkley (p. 31) suggested that students grow up in a society in which
the immediacy of electronic communications has created a new reality, "... a mythical
world of unrelated events held together by the older generation's rational point of
view, which the child does not possess."

Housewright (1969, p. 27) asserted that students of the period in which he
wrote were more independent, more aware and more sophisticated. They had
already formulated ideas about music, even by the time they reached kindergarten.
In junior high school they were already making their own music. Housewright (1969,
p. 27) stated, "As a means of expression, music holds more meaning for young
people today than it ever has before. Teenagers have thrown over the rituals and
preferences of the past."

In 1970, Smith (p. 86) described the children of his day as "citizens of another
culture." Smith stated that children were already partially formed individuals, with
their own musical tastes and attitudes as a result of exposure to the modern day
media. Smith emphasized that the media were transmitting a new mass culture,
which was at war with traditional school learning. As a result, the students' concept
of music was different from that of any preceding generation i.e. creating
communication barriers between teachers and students. To overcome this

communication breakdown between teachers and current culture, many suggestions and strategies were developed by music educators.

Werpy (1987) supported the notion that motivation levels peak if students can relate to their study materials, especially if they believe that they will discover for themselves. Werpy suggested that using popular music in the classroom, which is of interest to students because of its relevance to their sub-culture, can be a very useful strategy for the increasing motivational levels of students.

In support of Werpy, Klocko (1989, p. 41) pointed out that today's children grow up in a society where a variety of music styles are omnipresent. Music is experienced in their homes, places of worship, movie theatres, stores, schools, outdoor areas, and concert halls.

They value many unique styles, including country, rock, soul, pop. Letts (1971, cited in Thonell, 1993) stated:

> The range of expression of popular music is limited by comparison with the more elaborate art music, although for its adherents it is probably deeply moving, on occasion. Musical structures are mimetic of human emotional processes, but are mimetic in a way which accords with the probabilities and conventions expected by the audience for a particular style.
> (p. 356)

Much current literature concludes that educators should teach musical concepts through popular music which is familiar and which will motivate the students of today and tomorrow. According to Pembrook (1991, p. 30), research has demonstrated that concepts learned via popular literature can subsequently be transferred to other types of literature and vice versa.

Although popular music is beginning to filter into the school systems, Pembrook (1991,p. 30) believed that it had not been analyzed thoroughly enough so that it could be presented to students. Some teachers include a portion of popular music in their programmes purely on student demand, while others use it merely as 'bait' in order to draw the students to more traditional music.

Binkley (1969, p. 32) further stressed that most students accepted the latest of rock as their music. "Teachers relate more to earlier eras and some teachers do not even admit rock'n'roll into their definitions of music".

In 1991, Robert Cutietta reported:

> Even twenty years after resolving to broaden their outlook at the Tanglewood Symposium, many music educators show little respect for popular music....we have not done what they intended....we have included pop music into the curriculum, but all for the wrong reasons. (pp. 27-28)

One of the reasons (mentioned earlier), was the 'bait-and-switch' technique to get students involved with classical music.

Cutietta (1991) generalised that there were few programmes that truly looked at pop music as having unique musical qualities to offer and techniques which had been adapted to include pop music in a way that allowed it to have musical integrity and authenticity. Cutietta (1991) used the following example to highlight this point:

> A teacher takes an eighty-member concert band and includes arrangements of 'Beatles' tunes. The Beatles' compositions were originally conceived for and performed by four musicians only. The melody is assigned to instruments which never appeared on the original score. The result of this exercise is a musical product that the teacher does not particularily like, but persists in order to give students experiences in popular music and the students complain that it 'wasn't like the record.' Interestingly, most directors of this stereotypical situation blame the music for the negative outcomes.(p. 28)

Cutietta (1991,p. 28) outlined three main points as the challenge for music educators within the following twenty years. They are:

1.  to include pop music in the curriculum in ways that have musical integrity;
2.  to devise and incorporate new techniques and models of instruction into everyday aspects of music education;
3.  for colleges and universities to begin the process of opening minds, especially those of preservice educators, to many types of music by shifting their primary emphasis from preserving the past to exploring what it means to find beauty and human expression in all types of music.

Grier (1991, p. 39), stressed that the time had come for the profession to stop fighting about whether popular music should be taught. It is being taught. In support of Cutietta, Grier stated that "it is time for the universities to acknowledge this and start teaching the pedagogy of popular music to future teachers....there is a need to work to have popular music of excellent quality represented in the curriculum."

*Music Education in Australia*

Some Australian music education appears to reflect the view of other educators outside Australia. Integration of pop/rock music in schools has been supported by many researchers for almost three decades. Sarah (cited in Thonell, 1993) completed an experimental research to assess students' response to pop music played as part of their lesson.

Sarah (1979) concluded;

> The experiment gave evidence of increased enjoyment of the pop song by the experimental group and the results indicate that interest in the pop song or record under consideration was not lessened by its inclusion into the music lesson, but rather interest was increased. (p. 107)

The article *"An Australian Studies Perspective in Music Education"* by Oliver (1987) expressed the need for educators to focus on the cultural identity of students in order to promote self awareness and self-esteem. Educators need to provide the music which is reflective of the Australian music culture. Oliver (1987) stated,

> The most important implication for music education is the total immersion of youth in the very strong 'pop' music culture which has emerged within Australia...young Australians 'tune-in' and identify with these musical experiences...the role of the media in the popularisation of such music has been considerable. (p. 57)

This scenario reinforces the view that many young Australians identify with their music culture which is predominantly pop/rock music. Oliver (1987, p. 57) stated, that the problem, cultural confusion existed because students in school were framed in another cultural tradition of classical music repertoire by teachers who had emerged from a classical background of training and experience.

One implication for teachers is the need to develop skills and generally become more familiar with the cultural background of their students. In the ASME 7th National Conference Report, 1990, Stowasser (cited in Thonell, 1993) stated:

> I strongly believe that all who are involved in the teaching of music at the tertiary level need to appraise the courses currently offered in their institutions, using the needs of their students as their primary criteria. (p. 338)

Research by Stowasser (1983) and Bridges (1970) have shown that a great number of secondary school teachers have been through the AMEB or Trinity College of London (TCL) examination systems and subsequently went on to train as music teachers at the tertiary level. These studies indicate that this type of teacher background actively discourages students from creative learning, thus there is a need for tertiary institutions to change the learning mode of these future teachers, to one which encourages creativity. Positive change is already evident in some universities such as Edith Cowan University in Perth, Western Australia, where trainee teachers have the choice to major in classical or jazz/popular music. Edith Cowan University has had this jazz/popular secondary teacher education stream since 1987.

In Western Australia, the accredited year 11 and year 12 music syllabuses *Music in Society* includes options of pop, rock and jazz. In 1988, Carrol (cited in Thonell, 1993, p. 323) reported that current teaching programmes in Australia have matured and that emphases had changed to include a much higher level of practical music making. Teachers are under extreme pressure to change with the times which includes exploring new computer technology and contemporary styles. One of the major issues is a lack of guidance, as Carrol emphasised:

> Most secondary music teachers were educated themselves almost exclusively in the field of Western art music, and choose to be involved as audiences and practioners mainly in this area. Where this is so they have to study the new fields of music for themselves, and in contemporary styles often with only actual music and no sage to guide them. (p. 322)

This statement indicates the need for universities to address these issues with current trainee teachers. Carrol (1988, p. 322) reported positive changes, evidently reflected in curriculum documents. However, most curriculum documents do not address specific practices. The challenge for secondary teachers is to individualise

goals, to create stimulating and encouraging learning situations where students can work at their own rate, can find new musical and personal insights, and can develop the competencies to which they aspire.

*Conclusion*

It is quite clear from the literature reviewed that music education in the next twenty years will need to change further in order to accommodate the complex nature of the modern day student. Today's educator will be required to adopt a process-based approach to teaching and learning. Such an approach allows students to learn through experiencing and therefore all the advantages inherent in this 'learning by doing' method. One of the strengths of this approach is the motivational factor. It is important that students are presented with music which is sufficiently interesting so that students will want to take control of their learning. Teachers who incorporate popular music in their programmes are likely to increase the motivational interest of students.

Perhaps educators should consider this exhortation by Sarah (1979):

> An important justification for the inclusion of pop/rock music in the curriculum lies in the relevance that this music can have for young people, for not only do they enjoy the music, they also understand it. For the music teacher concerned to lessen the distance between music education in the classroom and 'musical self-education' which is achieved beyond and sometimes despite the classroom, the inclusion of pop music might be one possible approach towards narrowing the gap and reducing the current high level of dissatisfaction many students demonstrate towards school music. (p. 108)

# CHAPTER III

# Method Of Data Collection

*(A) Target Population/Subjects*

Two year 9 co-educational classes were selected at a private school in Perth, Western Australia. One class was randomly selected and served as the experimental group. The other class acted as the control group. The size of the sample in each class was 20, giving a total of 40 subjects. The sample was sufficient in size since the type of research is experimental, in which the acceptable minimum sample size is 15 subjects per group (Gay,1990, p. 119).

*(B) Research Design*
*(i) Design*

The approach used in this study was the pre-test - post-test control group design outlined in Gay (1990, p. 286). This design was selected because it allows for the control of sources of invalidity, and for the use of cluster sampling, in which randomly selected groups, not individuals, was possible.

The experimental period (3rd term), from pre-test to post-test stage ran for one full school term of 10 weeks. The teaching period was realistically 9 weeks in length because of the time required for post-testing in week 10. The pretesting did not affect the experimental term because it was completed in the last week of the preceding term.

Both groups were administered three pre-tests; (i) a musical achievement test, (ii) a musical preference test and (iii) a musical aptitude test. Pre-testing was necessary in order:

1) to establish whether or not the two groups were significantly different in ability levels at the beginning of the experiment (achievement/aptitude tests);

2) to determine the musical achievement and preference of all subjects before the commencement of the experiment so that comparisons could be made with the respective post-test results;

3)     to ensure that the musical concepts being taught throughout the 10 weeks were not too difficult or too simple (the achievement test);

4)     for minimising threats to internal validity such as, mortality and differential selection of subjects.

Both groups were retested with the same musical achievement and musical preference test at end of the experiment. Post-testing was required for two main reasons:

1)     to enable comparisons between experimental and control group performances, for any significant differences throughout the 10 week experimental period; and

2)     to enable comparisons between the pre-test and post-test performances of each group.

Both groups received identical resources such as classroom, classroom setting, teacher, time, technical facilities including overhead projector, and hi-fi stereo system, learning objectives and teaching strategies. Thus the two groups were treated as similarly as possible in their everyday environment. The variables were that the experimental group received the treatment, a pop/rock repertoire, while the control group used a standard classical repertoire for learning the same musical concepts.

*(ii) Assumptions and Limitations*

The results of this experiment are limited in terms of generalising to non - experimental situations because of the unique social, musical and educational conditions that may prevail in other schools. However, this problem is minimised because the detailed description of this experiment gives enough information for the reader to determine the extent to which the experiment can be generalised to his/her environment.

The Hawthorne and placebo effects were possible limitations, however, because the experiment covered 10 weeks, those effects were minimised. The fact that all subjects were in their normal context, with their usual teacher at all times, also contributed towards minimising the above mentioned effects.

*(C) Data Collection Instruments*
*(i) Instruments*

The musical achievement test (see *Appendix A* , pp. 62-70) was designed to test students' knowledge at the pre-test and at the post-test stage. The pre-test results allowed the researcher to determine what knowledge the students had before the experiment. The post-test results allowed the researcher to determine what learning occurred over the 10 week experimental period. The test was designed to reflect the goals and objectives of the school music syllabus. To ensure validity, the questions were not directed towards a particular musical style and the focus was on the application of concepts rather than content-based questions.

The musical achievement test compiled by the researcher has five sub-sections. The first sub-section is *General Knowledge* and contains 8 items. These items tested each student's knowledge on the following musical concepts; form, texture, compositional devices, various instruments and their characteristics, techniques for varying a theme, terms and signs.

The second sub-section is *Aural/Visual* and contains 13 items. This sub-section required each subject to critically listen to the selected pieces, then fill-in the missing information. Typical tasks included listening to the recorded examples and then inserting such things as time signatures, repeat signs, tempi and dynamic markings on the provided manuscript.

Sub-section three, *Dictation* , contains only 3 items. Sub-section three required each subject to recognize and notate selected pitches, rhythms, and chords from the recorded examples.

Sub-section four *Aural Recognition* required each student to aurally recognise tonality, musical instruments and their role in the recorded examples, instrument techniques, compositional devices, form, and time signatures.

The final sub-section five, *Visual* , required each student to recognise and notate, form, time signatures, tonality, slurs and ties from provided scores. All listening examples had elements of both, classical and pop/rock music styles. In addition, all musical examples were composed and recorded by the researcher, therefore the music was unknown to both groups. This strategy contributed to experimental validity because all students were hearing the compositions for the first time, thus threats to internal validity such as history were minimised.

The musical preference test (see *Appendix B,* pp. 71-74 ) was designed to test each student's preference for music. Both the experimental and control group were pre-tested and post-tested with this instrument. The pre-test allowed the researcher to determine which type of music was most popular amongst the students, and the post-test determined what significant preference changes, if any, occurred as a result of this experiment throughout the 10 week experimental period.

There are three sub-sections within the musical preference test; pop/rock, jazz and classical. Each sub-section contains 10 excerpts, giving a total of 30 excerpts. Each excerpt is 15 seconds in length and the total test time is 20 minutes. Each of the 10 excerpts were graded from earlier musical period to twentieth century music. The classical extracts range from pre-1600 to the twentieth century, the jazz extracts range from the early twentieth century (negro blues) to the present, and the pop/rock extracts range from the 1950's rock'n roll to the present. All excerpts and instructions were randomly ordered and recorded onto an audio cassette. Each student had an answer sheet. The excerpts were calculated to determine the degree of 'like' or 'dislike' within each of the three sub-sections. Scoring required students to record their preferences 1, 2, 3, 4, or 5, for each excerpts, in accordance to the scale below.

| 1 | strongly dislike |
|---|------------------|
| 2 | dislike |
| 3 | uncertain |
| 4 | like |
| 5 | strongly like |

The subjects were also tested with the *Musical Aptitude Profile* (Gordon, 1965). This is a standardised instrument which has been subjected to four revisions. Unlike the achievement test, this instrument is not concerned with technical or historical facts about music. This test is designed to minimize musical achievement so that the most basic factors of musical aptitude, for example, aural perception, may be adequately assessed (Gordon, 1965, pp. 1-6). The complete battery consists of three sub-sections; *Tonal Imagery , Rhythm Imagery, and Musical Sensitivity* .

(ii) *Reliability Analyses Of Testing Instruments*

**Table 1:** Reliability tests have calculated high reliability levels for all testing instruments both at the pre-test and post-test stages of the experiment as indicated in *Table 1*.

*Table 1 - Reliability Analyses Of Testing Instruments*

|  | N of Cases | N of items | Alpha |
|---|---|---|---|
| Achiev. Pre-test | 33 | 49 | 0.8429 |
| Achiev. Post-test | 35 | 49 | 0.8200 |
| Apt. Test Pre-test | 36 | 4 | 0.821 |
| Pref. Post-test | 35 | 30 | 0.8928 |
| Pref. Pre-test | 34 | 30 | 0.919 |

(iii) *Initial Treatment of Data*

This section describes how the raw data was obtained and tabulated from the individual test papers in preparation for analysis.

All analyses of raw data were executed via the Systat programme. Data from all tests were analysed to three decimal places to allow the researcher to ascertain if the calculated significance was greater or less than the predetermined level of significance. The predetermined level of significance for the t-tests was set at 0.05.

All administered pre and post 'Musical Achievement' test papers were collected by the researcher at the end of each testing session. The researcher marked and tabulated the raw scores of each individual student. Five variables, *General Knowledge* , *Aural/Visual* , *Dictation* , *Aural Recognition* and *Visual*  were established. Sub-section totals were combined to create overall test totals for both pre and post-tests. Those results were finally transfered to a separate file located within the Systat analysis programme. It was from this file that t-test and correlation analyses were applied.

Similarly to the Musical Achievement data, the Musical Preference test papers were collected, assessed and results tabulated by the researcher. The table was structured to represent each item in its respective sub-section pop/rock, jazz or classical. Scoring involved recording each student's response 1, 2, 3, 4 or 5, for each item. All items were calculated to determine the degree of 'like' or 'dislike' within each of the three sub-sections. These totals were labelled "pre" or "post" accordingly. Similarly, all three sub-section totals were transfered to the Final Data Totals Masters file for analysis.

Unlike the other tests, the *Musical Aptitude Profile* (Gordon, 1965) is a standardised instrument and supplies student scoring cards, tabulation charts and data scoring procedures. The table has the two sub-sections separated into three columns. Sub-section I, *Tonal Imagery* is divided into Melody, Harmony and Tonal Total . Sub-section II, *Rhythm Imagery* is divided into Tempo , Meter, and Rhythm Total . Included in this table is the composite score , which is the total score for both sub-sections. Every column contains two figures, the standard score and the percentile ranking. These calculations are included in the instructions as part of the tabulation procedure. Similarly, all three sub-sections totals were transfered into a computer file for analysis.

*(D) Treatment: The Rock/Pop Repertoire Programme*

*(i)     The Programme Goals and Objectives*
The programme was based on the music curriculum document published by the Education Department of Western Australia (EDWA). The general objectives stated that at the completion of the unit students will have:


*       studied musical perception and basic music knowledge including
        rhythm (simple, duple, triple, and quadruple and compound duple
        and triple), pitch (both treble and bass clefs), and major and minor
        tonality;


*       studied orchestral, string, woodwind and brass instruments;


*       a knowledge of the organization of a musical composition as
        Binary, Ternary, Minuet and Trio, Scherzo and Trio, Rondo, Theme
        and Variation and Sonata form;

\*	develop literacy skills through participation in the learning
	activities which are selected to develop the unit objectives.

The achievement test was designed to test each of these learning objectives. Care was taken not to include content specific items which applied to one group only such as general terminology which is genre specific. The pop/rock repertoire was chosen to present and convey the learning objectives presented in the curriculum document. Since the above objectives were programmed for two terms not all concepts were able to be covered in the time span of this research, one 10 week term.

Exposure to the treatment was predominantly in the literature periods in which the selected repertoires were used to teach the specified music concepts. See *Appendix D-D 1,* (pp. 97-101) for the list of specific concepts covered within the ten week experimental period. Some of the listed general knowledge concepts which are content specific were purposely excluded from the test to avoid content invalidity.

(ii) *Programme Details*

The treatment (see *Appendix D-D2/3/4/5* pp. 102-122) was administered to the experimental group. The researcher constructed the programme using the school's syllabus outline as a guide. Included in this package are the video and audio recordings, scores and analysis notes of the selected pop/rock repertoire. The analyses provided the teacher with the musical concept information for each of the pieces, such as form, harmony, texture, instrumentation, time and key signatures, compositional devices, instrument techniques, terms and signs.

**Table 2:** On the following page *Table 2* lists repertoire used throughout the 10 week experimental period for both, experimental and control group.

*Table 2  -  Programme Repertoire For Experimental and Control Group*

| Experimental Group | Control Group |
|---|---|
| 1   *A Whiter Shade of Pale* | 1   *Emperor Quartet*   (Haydn) |
| 2   *Peter Gunn*   (Mancini)<br><br>*Baby ElephantWalk*   (Mancini)<br><br>*The Pink Panther*   (Mancini) | 2   *Symphony No. 5*<br><br>*Sonata op. 49, no.2*<br><br>(Beethoven) |
| 3   *Rocky III Soundtrack*   (B Conti) | 3   *Messiah*   (Handel) |

*A Whiter Shade of Pale*  was rearranged into a theme and variations form. This piece was an appropiate choice because the entire piece is based on an eight bar harmonic progression. The researcher sequenced and recorded the arrangement onto a audio tape and constructed accompanying student worksheets. The corresponding work, *Emperor Quartet* , second movement, by Haydn, is a classical example of theme and variations form and was used with the control group.

In addition to highlighting theme and variations form, the teacher was able to use these pieces to focus on other musical concepts such as instrumentation, compositional devices, texture and instrumental techniques. For a more detailed explanation see *Appendix  D-D3*  (pp. 105-118).

The Henry Mancini tunes listed in *Table 2* were used with the experimental group as substitutes for Beethoven's *Symphony no. 5* and *Sonata op. 49 no. 2*. The teaching focus was on sonata form and instruments of the orchestra, especially transposing instruments (see *Appendix  C-D 3*, pp. 105-118 for greater detail). The Beethoven compositions contain movements which are classic examples of sonata form and which were orchestrated to include all instruments of the orchestra. Similarly, Mancini used orchestral instruments for his contempory compositions, however, his works are not in sonata form. This is not surprising since sonata form, unlike ternary and binary form, is rarely evident in non-classical works.

The teacher illustrated sonata form by extracting the relevant information from Mancini's *Baby Elephant Walk*.  This composition is based on the 12-bar blues progression. The teacher used a typical 12-bar design to explain how it is be reflective of the sonata form structure. The 12-bar blues, sonata form, was specified by the teacher as follows;

* Introduction
* Exposition: 12-bar blues (melody line)
* Development: Improvisation over 12-bar blues (using motives of exposition section)
* Recapitulation: 12-bar blues (melody line repeats)/Codetta

This exercise gave the students a simple and realistic overview of sonata form. The harmonic articulation of sonata form was discussed in detail although the above exercise did not illustrate contrasting keys. Students were expected to describe the form in simple terms and to recognise it aurally. The above strategy was sufficient enough to satisfy this objective. The Mancini examples were prepared on audio cassette format by the researcher.

Part three of the repertoire focuses on music and drama. The main areas were programme music, oratorio and opera. Bill Conti's *Rocky III* soundtrack was used as the pop/rock answer to the more traditional setting of Handel's *Messiah* . Concepts such as motivic development, aria, recitative and other were able to be expressed through the movie *Rocky III* . References to other stage musicals such as *Sound of Music, Cats, Phantom of the Opera,* were also used to further highlight musical concepts. The researcher prepared a video recording containing examples and highlights of the movie to accompany the analysis notes.

Although the pieces presented in *Table 2* (p. 27) focus on certain musical concepts, the teacher used all pieces to consistently reinforce other concepts. A list of concepts covered and analysis notes are found in *Appendix D-D* 2/3/4/5 (pp. 102-122).

*(E) Procedure* (Tables 3, 4 and 5)
The researcher met with the music co-ordinator and teacher at the experimental school. At this meeting, the researcher was informed of the intended teaching programme and the time availability per week, for the experimental period. The programme contained details such as teaching objectives, strategies, resources and the standard classical repertoire. Each class had a total of 3 hours of lessons per week. The first session was one hour, and the second session was 2 hours. Approval was granted from the school and parents. Two year 9 classes were chosen for the experiment. At random, one class was labelled the 'experimental' group and the other year 9 class was labelled the 'control' group.

Following this meeting, the researcher devised a 10 week pop/rock repertoire programme, based on the programme of the school. Included in this repertoire programme were the scores, tapes, video recordings (where possible), and analyses of all pieces.

The researcher also devised the musical preference and musical achievement tests. Both tests were piloted at the researcher's private school to a sample of 20 students to ensure clarity in the test construction. Both tests were administered and revised twice. The musical aptitude test by Gordon (1965) is a standardised test.

In the final week of the previous term, the experimental and control groups were both pre-tested by the researcher. Students were tested at the end of the term prior to the experiment in order to minimize possible interaction between the pre-test and the treatment, as well as minimising the possible placebo and Hawthorne effects. The students had 2 weeks holidays in between pre-testing and the commencement of the experiment.

The pre-tests included the 1) musical aptitude test, 2) musical preference test, and 3) musical achievement test. The musical aptitude test was administered in the one hour sessions each to the experimental and control group. The musical achievement test was combined with the musical preference test, which is 20 minutes in length, and administered to each group. The researcher collected all papers at the end of each testing session. Both the experimental and control group received all tests in the same room, with same resources for example a recording/playback stereo system. All musical test extracts were recorded to ensure that all students received similar treatment.

In the last week of the term preceding the experiment term, the researcher met with the teacher who taught both the experimental and control group. The researcher forwarded the pop/rock repertoire programme and agreed on times for regular weekly progress checks. The teacher used the holiday period to orientate herself with the treatment repertoire.

In week one of term 1, semester 2, the experimental teaching period began. The teacher taught both the control and experimental group using the same programme for both groups. The only change was the pop/rock repertoire, which was used with the experimental group only. All students were post-tested in week 10, term 1, semester 2. The one hour period in week 10 was used for revision, since

the aptitude test was not re-administered. The researcher re-administered the same musical achievement and preference tests which were used at the pre-test stage. The researcher followed the same testing procedure as per pre-test sessions. On the following page *Tables 3, 4* and *5* provide an overall summary of the experimental procedure.

*A Summary of the Overall ExperimentPeriod Procedure*

*Table 3 - Pre-test Programme*

| Experimental Group | Control Group |
|---|---|
| Musical Achievement Test (Pre-test) | Musical Achievement Test (Pre-test) |
| Musical Preference Test (Pre-test) | Musical Preference Test (Pre-test) |
| Musical Aptitude Test (Pre-test) | Musical Aptitude Test (Pre-test) |

*Table 4 - Teaching Programme Overview (10 week programme)*

| Programme Objectives | similar for both groups |
|---|---|
| Content | similar for both groups |
| Strategies | similar for both groups |
| Resources | similar for both groups |
| Time | 3 hours per week for each group |
| Teacher | same teacher for both groups |
| Repertoire | pop/rock for experimental group and classical for the control group. |

*Table 5 - Post-test Programme*

| Experimental Group | Control Group |
|---|---|
| Musical Achievement Test (Post-test) | Musical Achievement Test (Post-test) |
| Musical Preference Test (Post-test) | Musical Preference Test (Post-test) |

# CHAPTER IV

# Analysis Of Results

*Introduction*

This chapter analyses the raw data from each of the following tests; musical achievement, musical aptitude and musical preference tests.

Data from test results from both groups was analysed statistically, giving; number of cases, minimum score, maximum score, mean score, variance, standard deviation and median. The statistical data was obtained from the following test results:

(i)   Musical Achievement pre-test and post-test results;

(ii)  Musical Achievement sub-section pre-test and post-test results;

(iii) Musical Achievement sub-section pre-test and post-test results for both groups combined;

(iv)  Musical Aptitude composite results;

(v)   Musical Aptitude combined composite results;

(vi)  Musical Aptitude sub-section results;

(vii) Musical Aptitude combined sub-section results;

(viii) Musical Preferences sub-section, pre and post-test results, for each group;

(xi)  Musical Preferences overall pre and post-test results, for both groups combined.

The statistical data from the above tests were used to answer all the research questions. (See *Appendix C* , pp. 75-96 for details of the above results.)

A large portion of calculations was completed to determine the levels of significance, comparing the achievement and preference test results of the experimental and control group, and comparing the achievement and preference pre and post-test results of each group. Inferential statistics were applied to determine significant levels.

The t-test was adopted for calculations since there were only two groups involved. The paired samples t-test was applied to determine whether there was a significant difference when comparing the following data of the experimental and control group;

    (i)      pre-test experimental and control musical achievement results,

    (ii)     pre-test experimental and control musical aptitude results,

    (iii)   post-test experimental and control musical achievement results,

    (iv)   pre-test experimental and control musical preference results for each of the three sub-section groups, pop/rock, jazz and classical,

    (v)     post-test experimental and control musical preference results for each of the three sub-section groups, pop/rock, jazz and classical, and

    (vi)   post-test experimental and control musical achievement, sub-section results. There being five sub-sections, five separate calculations were made.

The above calculations were used to define the level of significance for research questions 3 and 4.

The paired samples t-test was also applied to identify any significant differences when comparing the pretest and posttest results of each group of the following:

    (i)      pre-test and post-test results of each sub-section in the musical preference test;

    (ii)     pre-test and post-test results of the musical achievement test; and

    (iii)   pre-test and post-test results of each sub-section in the musical achievement test.

These calculations were used to determine the level of significance for research questions 1 and 2.

Correlation coefficient analyses were applied to determine whether a relationship exists between two sets of data. Here the *Pearson r* coefficient was used since the data collected was represented in equal interval scales. The following data was correlated for each group;

(i)     pre-test musical achievement results with post-test musical achievement results, and

(ii)    pre-test musical preference results with post-test musical preference results for each of the sub-sections pop/rock, jazz and classical.

These above calculations were used to determine the correlation between pre-test and post-test results of both the musical achievement test and the musical preference test. This information was used to answer research questions 1 and 2. (See *Appendix C* , pp. 87-91 for details of the above t-test results.)

*Statistical Analyses of the Musical Achievement and*
*Musical Aptitude Results*

**Table 6** below presents summary statistics of the musical achievement total test results. The same calculations were undertaken for each sub-section within the achievement test. Since the sub-section results were reflective of the overall results it was not necessary to include the sub-section results in this section, although a copy of the sub-section results are in *Appendix C* ( pp. 76-79).

*Table 6 - Musical Achievement Pre and Post test Total Scores Analyses*
*For Experimental and Control Group*

|  | Pre-test Exp. | Pre-test Con. | Post-test Exp. | Post-test Con. |
|---|---|---|---|---|
| No. students | 17.0 | 15.0 | 19.0 | 17.0 |
| Min. score | 24.5 | 23.0 | 45.7 | 43.0 |
| Max. score | 64.5 | 68.0 | 90.0 | 89.5 |
| Mean score | 44.9 | 45.7 | 71.0 | 69.0 |
| Variance | 87.4 | 161.4 | 92.8 | 150.8 |
| Stand. dev. | 9.3 | 12.7 | 9.6 | 12.1 |
| Median | 44.0 | 48.0 | 71.0 | 70.0 |

The experiment commenced with two groups of 20 students, but because of absences, the numbers were lower. At the analysis stage, the computer has taken this information into account and therefore adjusted the scores accordingly. The sample size of students at the pre-test stage were 17 for the experimental group and 15 for the control group. At the post-test stage, the sample size increased to 19 for the experimental group and 17 for the control group as shown in *Table 6*, p. 34.

There was a considerable difference in the score range for both groups. At the pre-test stage, the scores ranged from 24.5 to 64.5 for the experimental group and from 23 to 68 for the control group. This indicated that there was a wide range of student ability levels within both of the groups. This point was further exemplified by the standard deviation (experimental = 9.3; control = 12.7) and variance (experimental = 87.4; control = 161.4) of both groups which indicated a wide spread of scores for both groups (see *Table 6*, p. 34).

Of the two groups, the control group had the greater variance of scores at the pre-test stage and post-test stage. At the pre-test stage, the median score for the control group was 48 as compared to 44 for the experimental group, indicating that the scores were slightly higher for the control group. However, at the post-test stage, the experimental group median score was 1.2 higher than the control group. Although the groups were almost identical with the median score, the experimental group increased their median score when compared to the control group median. Less variance in the experimental results implies that more students scored closer to median and mean score in the control group i.e. there are more higher scoring students in the experimental group.

At the pre-test stage, the mean for the experimental group was 44.9 and 45.7 for the control group. The mid-forty resulting averages at the pre-test stage indicated that although students had some background knowledge of the concepts presented, there were many unknown concepts that could be taught throughout the 10 week experimental period. The almost identical means at the pre-test stage indicated that the two groups were evenly matched in aptitude levels. This observation was confirmed with the t-test application, where no significant differences were found between the two groups at the pre-test stage.

**Table 7** presents the results of the statistical analyses on the Musical Aptitude Profile total test results. The same calculations were performed for each sub-section within the preference test. The sub-section aptitude calculations indicate that students found the rhythm examples slightly more difficult than the tonal examples. The sub-section results are listed in *Appendix C*, pp. 81-82.

*Table 7 - Musical Aptitude Profile Total Test Scores Analyses for Experimental and Control Group*

|  | Experimental Group Aptitude Scores | Control Group Aptitude Scores |
|---|---|---|
| Number of cases | 18.0 | 18.0 |
| Minimum score | 45.0 | 34.0 |
| Maximum score | 70.0 | 69.0 |
| Mean score | 59.1 | 58.1 |
| Variance | 60.3 | 4.6 |
| Standard deviation | 7.1 | 8.6 |
| Median score | 62.0 | 61.0 |

The sample sizes of both groups were identical, 18 in each. Although the groups were matched in the high ranges scores, 70 for the experimental group and 69 for the control group, the control group had a lower range score of 34 compared to 45 for the experimental group. This is evident in the variance and standard deviation statistics, which show the control group to have a slightly wider spread of scores. The wider variation of abilities levels within the control group is reflected in the achievement test statistics, which indicates a similar trend. However, t-test results reveal that these varying ability scores for the control group are not significant.

*Tests of Significance:   T-Test Analyses  of the Musical Achievement and*
*Musical Aptitude  Profile Results*

The means of the aptitude test of the two groups are almost the same, 59.1 for the experimental group and 58.1 for the control group. The t-test calculations for data indicate no significant difference between the two groups for the achievement test. This information has helped to establish that there were no significant differences between the two groups before the  experimental period.

Although there were differences between the two groups, it was necessary to determine whether these differences were significant or had occurred by chance. The t-test was employed to determine the level of significance. The following t-test calculations focused on significance between the two groups, and hence, helped to answer research questions 3, 4 and 5.

A t-test was first applied to compare the experimental and control pretest Musical Achievement total scores. This calculation specifically answered research question 3 a;

*Is there a significant difference in the achievement levels of the experimental group when compared to the control group ?*

There was no significant difference in pre-test achievement levels, comparing control and experimental group scores,  (t = 0.000, df = 12, p = 1.000).

A t-test was conducted on the experimental and control Musical Aptitude Profile test scores. This calculation specifically answered research question 4;

*Is there a significant difference in the musical aptitude levels of the experimental group when compared to the control group ?*

There was no significant difference in musical aptitude levels between the control and experimental group, (t = 0.226, df = 16, p = 0.824).

The two above t-test results confirm that because there was no significant

difference between the experimental and control group, the groups were to some degree matched in ability levels at the pre-test stage. This was an advantage because it indicated similar ability levels of the two groups.

The following t-test calculation tests for any significance difference between experimental and control group at the posttest stage. This calculation will specifically answer research question 3 b;

*Is there a significant difference in the achievement levels of the experimental group when compared to the control group at the post-test stage ?*

There was no significant difference in musical achievement levels, comparing experimental and control post-test scores, (t = 0.3, df = 15, p = 0.7). This indicates that the experimental group achieved at the same rate as the control group. The experimental group did not achieve significantly higher than the control group, nor did they achieve significantly lower. This confirms that the Pop/Rock repertoire used to teach the set musical concepts to the experimental group may be as effective as the traditional repertoire in presenting the same musical concepts.

It was not necessary to include the post-test sub-section t-test calculations in this section since the t-test for the overall post-test achievement indicated no significant difference between the two groups and this was reflected in the sub-section t-test results. The sub-section results are listed in *Appendix C,* pp. 83-84.

Next, the t-test was applied to determine the levels of significance, comparing the musical achievement pre-test and post-test data of each group. This analysis directly answers research question 1;

*Is there a significant difference in the student achievement of musical concepts, comparing pre-test and post-test data of each group ?*

There was a significant difference when comparing the pre-test and post-test data of both the experimental and control group. The mean difference between the pre-test and post-test data of the experimental group was 28.141 (t = 10.49, df = 15, p = 0.00). The mean difference between the pre-test and post-test data of the control group was 22.482 (t = 12.225, df = 13, p = 0.00). This indicates that both groups have significantly improved their achievement scores at the post-testing stage, thus significant learning had occurred in both groups by the end of the 10 week

experimental period. In both cases, the probability of the differences being a result of chance were zero out of 10. Although the experimental group had a higher mean than the control group, t-test calculations (see *Appendix C*, pp. 83-85 ) determining significant differences, comparing experimental and control achievement results at the pre-test and post-test stage, show no significant differences between the two groups at the pre-test or the post-test stage.

*Statistical Analyses of the Musical Preference Results*

The following section of this chapter will focus on the musical preference data analyses. Statistical analysis was applied to the musical pre and post-test data in order to obtain; number of cases, minimum score, maximum score, mean score, variance, and standard deviation. The mean scores were required for analysis in this section. The following score grading scale is necessary for interpreting the musical preference scores in *Tables 8* (p. 40)*and Table 9* (p.40).

| 1 - 10 | Strongly dislike |
|---------|------------------|
| 11 - 20 | Dislike |
| 21 - 30 | Uncertain |
| 31 - 40 | Like |
| 41 - 50 | Strongly like |

**Table 8** (p. 40) lists the pre and post musical preference, sub-section mean scores, for both groups combined. Students expressed a preference for the pop/rock sub-section extracts averaging 40 at the pre-testing stage and 40.2 at the post-testing stage. Borderline disliking, but tending towards uncertainty was evident for the jazz sub-section with overall averages of 29.7 at the pre-testing stage and 30.8 at the post-testing stage. The classical sub-section extracts were the least popular with overall averages of 19 and 19.8 for the pre and post-test scores respectively. This average of 19 does however border on uncertainty rather than strongly dislike. In summary, students have shown a very definite liking for pop/rock music.

*Table 8 - Pre and Post Musical Preference Sub-Section Mean Scores*
*For Both Groups Combined*

|  | Pre-test Mean Scores | Post-test Mean Scores |
|---|---|---|
| PopRock | 40.0 | 40.2 |
| Jazz | 29.7 | 30.8 |
| Classical | 19.0 | 19.8 |

**Table 9,** describes the pre and post-test Musical Preference sub-section mean scores for the experimental and control group. Although the *Table 9* (p. 41) scores are reflective of the trends exhibited in *Table 8* it was necessary to separate the scores so that group comparisons could be made. At the pre-test stage, the control group had an average preference score of 41.5, strongly like, compared to 38.6 for the experimental group. The control group scores also show a slighly higher preference for jazz at the pre-test stage, 31.2 compared to 28.2 for the experimental group. This trend is also evident in the classical sub-section with a score of 20.3 compared to 17.7 for the experimental group. At the post-test period, the control group scored slightly higher for the pop/rock and classical sub-sections (see *Table 9*, p. 41). Both groups had an equal mean score of 30.8 for the jazz sub-section at the post-testing stage, thus indicating borderline uncertainty but tending towards liking in their preferences.

In comparing the pre-test and post-test data of each group, some interesting aspects become apparent. The experimental group mean scores show a slight increase in liking for pop/rock music, from 38.6 to 39.7, however, the control group averages show a slight drop in averages for pop/rock from 41.5 to 40.6. This trend is also evident for the jazz sub-section (see *Table 9*, p. 41). The experimental group mean scores showed an increased liking for classical music, from 17.7 at the pre-test stage to 20.3 at the post-test stage. The control group mean averages indicated a slight increase from 20.3 to 20.4 at the post-test stage.

*Table 9 - Pre and Post Test Musical Preference Sub-Section Mean Scores*
*For Experimental and Control Group*

|  | Experimental Pre-test Means | Control Pre-test Means | Experimental Post-test Means | Control Post-test Means |
|---|---|---|---|---|
| Pop/Rock | 38.6 | 41.5 | 39.7 | 40.6 |
| Jazz | 28.2 | 31.2 | 30.8 | 30.8 |
| Classical | 17.7 | 20.3 | 19.2 | 20.4 |

In summarising the statistical analyses, the data indicated that both groups have a strong liking for pop/rock music at pre and post-test stages. There were differences between the experimental and control group at the pre and post-test stage, but the differences were slight. At the post-test stage, the experimental group increased their liking for pop/rock, jazz and increased their liking for classical music. The control group slightly decreased liking for pop/rock music and jazz music but slightly increased their liking for classical music.

*Tests of Significance: T-test Analyses of the Musical Preference Results*

The differences presented by the above statistical data ( *Table 9* ), between the two groups and within each group were t-tested for significance. This section will examine whether these differences are significant or could have occurred by chance. The analysis will help answer research questions 2 and 5. These t-test results are listed in *Appendix C* (pp. 83-91).

The first set of t-tests explored the level of significance, comparing the experimental and control musical preference results at the pre-test stage. There were no significant differences between the two groups, in each of the three sub-sections pop/rock, jazz, and classical. In the pop/rock sub-section, although the mean difference was 3.33 between the experimental and control group, the probability of this difference resulting to chance was 2.24 times out of 10, therefore the difference was not significant (t = 1.271, df = 14, p = 0.224). In the jazz sub-section, since the mean difference was 4.067 between the experimental and control group, the probability of this difference resulting to chance was 8 times out of 100, therefore the

difference was not significant (t = 1.866, df = 14, p = 0.083). In the classical sub-section, since the mean difference was 2.733 between the experimental and control group, the probability of this difference resulting to chance was 2.28 times out of 10, therefore the difference was not significant (t = 1.262, df = 14, p = 0.228).

The second set of t-tests explored the level of significance, comparing the experimental and control musical preference results at the post-test stage. There were no significant differences between the two groups in each of the three sub-sections pop/rock, jazz, and classical. In the pop/rock sub-section, since the mean difference was 0.267 between the experimental and control group, the probability of this difference resulting to chance was 8 times out of 10, therefore the difference was not significant (t = 1.145, df = 14, p = 0.887). In the jazz sub-section, since the mean difference was 0.067 between the experimental and control group, the probability of this difference resulting to chance was 9 times out of 100, therefore the difference was not significant (t = 0.029, df = 14, p = 0.978). In the classical sub-section, since the mean difference was 1.533 between the experimental and control group, the probability of this difference resulting to chance was almost 5 times out of 10, therefore the difference was not significant (t = 0.711, df = 14, p = 0.489).

This information was used to answer research question 5;

*Is there a significant difference in the musical preference of the experimental group when compared to the musical preference of the control group;*

*A) at the pre-test stage ?*
*B) at the post-test stage ?*

The answer to both A and B is that there was no significant difference between the musical preference of the experimental group when compared to the musical preference of the control group. Since there were no significant differences in the pattern of musical preferences between the experimental and control group at the pre-test and post-test stage, it can be concluded that the two groups have similar preferences for pop/rock, jazz and classical music.

The following t-tests were applied to identify any significant differences when comparing the musical preference, pre-test and post-test results of each group. These t-test calculations can be found in *Appendix C* (pp. 87-91). This particular analysis specifically answers research question 2;

*Is there a significant difference in the musical preferences of students,
comparing the pre-test and post-test data of each group?*

There was no significant difference, comparing the experimental pre-test and
post-test data of the sub-sections;

1) pop/rock     (t = 0.656, df = 17, p = 0.521), and
2) classical     (t = 1.338, df = 17, p = 0.198).

The above pop/rock t-test result indicated that the mean score of 1.111 was
not significant because the probability of this difference resulting by chance is 5
times out of 10. The classical t-test calculation above, indicated that the mean score of
1.500 was not significant because the probability of this difference resulting by
chance is almost 2 times out of 10.

However, there was a significant difference when comparing the experimental
pre-test and post-test data of the sub-section jazz (t = 2.172, df = 17, p = 0.044). The
mean difference was 2.61 and the possibility of this difference resulting to chance
was only 4 times in 100, therefore this difference is significant.

There was no significant difference, comparing the control pre-test and post-
test data of the sub-sections;

1) pop/rock (t = 0.461, df = 15, p = 0.651),
2) jazz      (t = 0.175, df = 15, p = 0.863), and
3) classical    (t = 0.147, df = 15, p = 0.885).

The above pop/rock t-test result, indicates that the mean score of 0.438 was
not significant because the probability of this difference resulting by chance is 6
times out of 10. The jazz t-test calculation above, indicates that the mean score of
0.188 was not significant because the probability of this difference resulting by
chance is 6 times out of 10. The mean score of 0.125 for the classical t-test was not
significant because the probability of this difference resulting by chance is almost 9
times out of 10.

Therefore answering research question 2;

*Is there a significant difference in the musical preferences of students, comparing pre-test and post-test data of each group?*

There were no significant differences between the musical preference pre-test and post-test data of each group, except within the jazz sub-section of the experimental group in which a significant difference was found between the pre-test and post-test data. This means that the students in the experimental group significantly increased their liking for jazz music from the pre-test to the post-test stage of the experiment.

This final section will focus on correlation analyses. As mentioned in the Introduction, the *Pearson Product Moment Correlation Coefficient* was used. These results are listed in *Appendix C* (pp. 92-96). These analyses provide more indepth information for answering research questions 1 and 2.

The first data to be correlated were the pre-test musical achievement results and the post-test musical achievement results of each group. The experimental group coefficient of 0.320 (df = 18) is not significant for this degree of freedom at the 90% confidence level. (*Table A.2*, cited in Gay 1990, p. 542). This low correlation indicated that some students who scored low in the pre-test, scored high in the post-test. It can also be concluded that the high scoring students in the pre-test could have scored lower in the post-test, however, this scenario is less probable since t-tests show a significant increase in student achievement scores from the pre-test to the post-test stages.

The control group coefficient of 0.858 (df = 17), is significant at the 99.9% level of confidence, thus the control group's high coefficient of 0.858 indicates a significantly high correlation between pre-test and post-test musical achievement scores. This indicates that the higher scoring students scored higher in their post-test and the lower scoring students continued to score at the lower end of the scale at the pre-test and post-test stage.

*Correlational Analyses of the Musical Achievement and Musical Preference Results*

The following section analyses the correlational calculations administered on the musical preference data. First, the pre-test pop/rock sub-section scores were correlated with the post-test pop/rock sub-section scores for both the experimental and control group. The correlation coefficient for the experimental group was 0.298 (df = 18) and 0.797 (df = 17) for the control group.

The experimental group coefficient of 0.298 (df = 18) is not significant at any of the prescribed levels of significance. At the lowest 90% confidence level, the required minimum coefficient for significance is 0.3783, thus it can be concluded that the resulting 0.298 coefficient suggested no correlation between the pre-test and post-test pop/rock results of the experimental group. This may indicate that some students changed their preferences for some pop/rock sub-section items at the post-test stage.

The control group coefficient of 0.797 (df = 17), represents a significantly high correlation between pre-test and post-test pop/rock sub-section results. This coefficient is significant at the 99.9% confidence level. This confirms that the control group students did not change their individual preferences for pop/rock music at the post-test stage. This was not surprising since the control group did not have any exposure to pop/rock music throughout the 10 week experimental period.

Second, the pre-test jazz sub-section scores were correlated with the post-test jazz sub-section scores for both the experimental and control group. The correlation coefficient for the experimental group was 0.557 (df = 18) and 0.776 (df = 17) for the control group.

The experimental group coefficient of 0.557 (df = 18), represented a significant correlation between pre-test and post-test jazz sub-section results. This coefficient is significant at the 95% level of confidence. This confirms that the experimental group students who liked the jazz examples at the pre-test stage, continued to like them, and the experimental group students who disliked the jazz items at the pre-test stage, continued to dislike them at the post-test stage.

The control group coefficient of 0.776 (df = 17), represented a significant correlation between pre-test and post-test jazz sub-section results. This coefficient is significant at the 99.9% level of confidence. This confirmed that the control group students who liked the jazz examples at the pre-test stage, continued to like them,

and the control group students who disliked the jazz items at the pre-test stage, continued to dislike them at the post-test stage.

Thirdly, the pre-test classical sub-section scores were correlated with the post-test classical sub-section scores for both the experimental and control group. The correlation coefficient for the experimental group was 0.233 (df = 18) and 0.883 (df = 17) for the control group.

The experimental group coefficient of 0.233 (df = 18) is not significant at 90% confidence level, thus it can be concluded that there is a significantly low correlation between the pre-test and post-test classical sub-section results of the experimental group. This indicated that some students changed their preferences for some classical items at the post-test stage.

The control group coefficient of 0.883 (df = 17) represented a significantly high correlation between pre-test and post-test classical sub-section results. This coefficient is significant at the 99.9% level of confidence. This confirmed that the control group students who liked the classical examples at the pre-test stage, continued to like them and the control group students who disliked the classical items at the pre-test stage, continued to dislike them at the post-test stage.

# CHAPTER V

## Interpretation Of Results

The results of this study support the null hypothesis; there is no significant difference between the musical achievement and preference of year 9 students who received the pop/rock repertoire and year 9 students who studied the classical repertoire for learning the same music concepts. The consistency of performance comparing the experimental and control group illustrated that the pop/rock repertoire was as effective in conveying the set music concepts as the classical repertoire.

It was not surprising to find no differences in the pre-test achievement and preferences results since all randomly chosen subjects belonged to a similar sociocultural group. The equal achievement of results between the experimental and control group were reflective of the aptitude results (see *Table 7* p. 36) which indicated no differences in the ability levels of control and experimental group students (t = 0.226, df = 16, p = 0.824). Similarly, the post-test achievement and preference results indicated no significant differences between the experimental and control group. These results indicate that the two groups achieved similar results with different repertoire material.

From chapter four, analyses comparing the pre-test and post-test data of each group, the achievement test results indicated significant achievement increases for both the experimental (t = 10.49, df = 15, p = 0.00) and control (t = 12.225, df = 13, p = 0.00) groups. The results indicated that significant learning had occurred for both the experimental and control group throughout the ten week experimental period (see *Table 6* p. 34). The achievement mean scores increased from 45% at the pre-test stage to 70% at the post-test stage, thus, the two sets of repertoire were equally effective for teaching the same musical concepts, with both repertoires contributing significantly to increasing student achievement within the ten week experimental period.

Cuttieta (1992, p. 29) concluded that "one does not need to have any specific knowledge to have a preference, knowledge by itself will not normally change a preference. Since preferences are not necessarily based on knowledge, unlike attitudes they cannot be taught". Student preferences for pop/rock and classical music did not alter from pre-test to post-test stages, thus, knowledge administered throughout the experimental period had no apparent effect on the preferences of

students. However there was an exception with jazz preferences of the experimental group. This result is explained later in this chapter.

**Table 10:** Chapter four analyses indicated that there were no significant differences in student preferences when comparing the experimental and control group sub-sections at the pre-test or post-test stage, thus the experimental and control group indicated similar preferences at the pre-test and post-test stage of the experiment.

*Table 10 - T-test Analyses Comparing the Experimental and Control Group*
*Preferences for each Sub-Section*

| Genre | test | t | df | p |
|---|---|---|---|---|
| Pop/Rock | pre-test | 1.271 | 14 | 0.224 |
| Pop/Rock | post-test | 1.145 | 14 | 0.887 |
| Jazz | pre-test | 1.866 | 14 | 0.083 |
| Jazz | post-test | 0.029 | 14 | 0.978 |
| Classical | pre-test | 1.263 | 14 | 0.228 |
| Classical | post-test | 0.711 | 14 | 0.489 |

Sink (cited in Colwell, 1992, p. 606) reported that studies in the 1980's describe sociocultural reasons such as media and peer influences for adolescent musical preferences. The results of Sink's report were reflected in this research where subjects were from the same sociocultural background and expressed similar musical preferences.

The preferences of the students who had elected to do music, for classical and pop/rock music did not change from the pre-test to the post-test stage for either experimental or control groups for the pop/rock sub-section. Preferences were quite high before the experiment began. Despite previous experiences in learning music concepts through classical music, all subjects expressed strong dislike towards classical excerpts at the pre-test stage of the experiment (see *Table 8*, p. 40), therefore it was expected that this trend would continue throughout the ten weeks. Price's (1986) research indicated that student preferences may not necessarily be altered simply because of new knowledge administered by the teacher. This view was evident in this experiment in which the control group subjects did not alter their low

preference for classical music at the post-test stage after being exposed to this music for ten weeks.

Kelly (1961) reported that students had a low preference for classical music regardless of musical training, therefore student preferences maybe moulded by other influences such as sociocultural factors. Certain sociocultural factors (media and peer influences) were not able to be controlled over the experimental period, hence there was no expectation that the ten week experimental period would alter the subjects' strongly defined preferences.

However, the results were useful for providing a clear indication of student preferences. All subjects indicated strong liking for pop/rock excerpts, and strong disliking for classical excerpts at both the pre-test and post-test stages of the experiment. These results reflect Greer's findings which concluded that students show a liking for music they perceive as their own or with which they are more familiar (Greer et al. 1974). Le Blanc's (1979) research indicated that students perceive popular music as their own and prefer popular music to other styles.

Despite low preference for classical music, the control group achievement scores were equally as high as the achievement scores of the experimental group who received the pop/rock treatment, their 'preferred' music. Some literature indicated that it is quite possible that some students 'secretly' enjoy studying classical music but refrain from expressing these preferences owing to peer pressures. Finnas's (1989) research indicated that preferences for classical music when expressed privately were higher, confirming that some adolescent students conform to popular music preferences in the presence of peers.

Early studies by Getz (1966) and Evans (1965) concluded that repeated hearings can increase preference for that music presented. Analyses indicated a significant increase in student preference, comparing the experimental pre-test and post-test data of the sub-section jazz (t = 2.172, df = 17, p = 0.044, p. 90). There are overlapping boundaries between the jazz and pop/rock styles, for example, the 'blues' style and sound is common to both pop/rock and jazz. Since many of the sounds and rhythms in jazz music were evident in the pop/rock repertoire, it could be that the indirect exposure to jazz elements through the pop/rock repertoire, was responsible for the experimental group's significant increase in preference for jazz music.

To further substantiate this claim, the control group analyses indicated no significant increase in preferences for the jazz sub-section (t = 0.175, df = 15, p = 0.863, p. 90). This result supports the above claim that exposure to jazz elements is likely to increases preference for this style because control group subjects were not exposed to any jazz elements, thus, unlike the experimental group, they expressed no change in preference for jazz at the post-test stage.

Despite the significant increase in preference for the jazz sub-section, the experimental group's preference still indicated uncertainty towards this style. This could be owing to the fact that jazz music has received minimal exposure compared to pop/rock music in the school, media and home contexts.

# CHAPTER VI

# Conclusions and Recommendations

*Conclusions*

The results of this research show no significant difference between the musical achievements and preferences of year 9 students who studied a pop/rock repertoire in order to learn musical concepts and year 9 students who studied a classical repertoire in order to learn the same musical concepts. This conclusion supports claims that pop/rock repertoire can be equally effective as classical repertoire for the teaching and learning of selected musical concepts, and this supports research by Vulliamy et al. (1982) and Paynter (1982).

There were no significant differences in achievement results comparing the experimental and the control groups. Significant differences were evident comparing the achievement performance of each group (see *Table 6*, p. 34). There were no significant differences in preference results comparing the experimental and the control groups. Students indicated high preferences for pop/rock music and low preferences for classical music. This supports findings by Price (1986) and Colwell (1992).

A significant difference was evident comparing the pre-test and post-test jazz preferences of the experimental group. The indirect exposure to certain jazz elements through the pop/rock repertoire might account for the significant shift in jazz preferences within the experimental group. This supports research findings that repeated hearings seem to increase students' preferences for the music presented. Despite this significant shift, the overall preference for jazz music continued to indicate uncertainty at the post-test stage (see *Table 8*, p. 40 and *Table 9*, p. 41).

The results of this study are consistant with others reported in the literature such as studies documented in Colwell (1992). The major finding of this study illustrates that pop/rock music appears to be as effective as classical music for presenting selected musical concepts to students. Students indicated higher preferences for pop/rock music, lower preferences for classical music and uncertainty towards jazz music.

The implications of these results suggest that because pop/rock music is effective in presenting musical concepts to students in the educational context and students express a high preference for this style, teachers could consider integrating pop/rock music into their everyday teaching programmes. Such a strategy may increase student interest and motivational levels because students would be learning with music they prefer. Frakes (1984) suggested that motivating music education was essential to encourage continued music studies.

Success of music programmes are dependent largely on teachers. There is a need for universities to regularly reassess teacher education curriculum content to ensure relevant education programmes for future teachers. Bowman (1990) states,

> Musician-educators for the twenty-first century will need to be excellent musicians and effective teachers. They will require the same knowledge and skills as music teachers for our present: a high degree of musicianship and the skill to impart musical knowledge to students of all ages. (p. 295)

Bourne (cited in Thonell, 1993), claimed teacher education courses in music appear to be changing for the better. Bourne indicated that there is a readiness in Australian tertiary institutions to accommodate musical practices and styles including jazz and popular music making found in today's society. However there is a need for tertiary institutions to nurture this positive growth. Bourne (p. 332) concludes "as music education has become more tolerant of a multitude of musical languages, so it is being confronted with the necessity of exploring the manner and conditions of making music in Australia, now and in the past".

Further change at the school-based level is also required through on-going curriculum development which is reflective of the needs and wants of today's students. Although many teaching packages are in circulation, current, high quality in-service teaching packages which provide clear analyses and instructions in pop/rock music are in demand. Colwell (1992, p. 433) asserts that a strong and well-supported music programme is essential for motivating school students.

Finally, there is a great need for more research within the Australian context. In America, a vast amount of research work has proven useful for the further understanding and improvement of music education, although the validity of many of these findings has not been tested empirically, thus, more experimentally-based research is needed (Colwell, 1992).

This research has reflected other findings: that pop/rock music is effective for teaching music concepts; and that students have higher preferences for pop/rock music compared to many other music styles. In addition, the research also highlighted areas which require further research in the Western Australian context. Research is needed to measure factors such as: the success of school programmes including the integration of popular repertoire; its use and effectiveness; the effectiveness of tertiary teacher education programmes; student motivation compared to student preferences; and students' attitudes toward music.

*Summary of the Findings and Recommendations*

*Research Findings*

1.   There is no significant difference between the musical achievement and preference of year 9 students who received pop/rock repertoire and year 9 students who received classical repertoire for learning the same musical concepts. The consistency of performance between the experimental and control group indicates the pop/rock repertoire was as effective in conveying the selected music concepts as the classical repertoire.

2.   Students preferred pop/rock music irrespective of the repertoire used in their classroom. Students indicated low preferences for classical music and expressed uncertainty towards jazz music. T-test analyses indicated that indirect exposure to jazz elements significantly increased student preferences for jazz music. Exposure to classical or pop/rock music caused no significant change in student preferences.

*Recommendations*

1.  Teachers could consider using pop/rock music in their music programmes for the following reasons;

    a)  students have a higher preference for pop/rock music, and

    b)  pop/rock music is effective for the teaching and learning of selected musical concepts in a classroom situation.

2.  Teacher-education institutions could assess the current teacher needs and make changes to accommodate those needs. One area may be the development of skills and teaching resources for effective integration of pop/rock music in primary and high schools. Units may be developed to include effective training in the areas of improvisation, composition, arranging and music technology. Curriculum units may be expanded to include implementation strategies for the inclusion of popular music in the music curriculum.

3.  Further research is required within Australia to better define contextual problems in music education. Target areas might include the incorporation of new non-classical content and the best strategies for teaching it. Further research is required into student musical preferences and factors affecting musical choice and their implications for schools, teachers and teacher education.

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# APPENDIX: A

*Music Achievement Test Paper*

# APPENDIX A

## INSTRUCTIONS:

1.   ABSOLUTE SILENCE IS REQUIRED.

2.   NO BOOKS ALLOWED ON DESKS.

3.   MATERIALS REQUIRED: BIRO, PENCIL, ERASER, RULER.

4.   ABSOLUTE SILENCE IS REQUIRED AND MUST BE
     MAINTAINED UNTIL ALL TEST PAPERS HAVE BEEN
     COLLECTED.

5.   FAILURE TO COMPLY WITH ANY OF THE ABOVE WILL
     RESULT IN A ZERO MARK BEING AWARDED.

## ORDER OF TESTING:

PART A:   LISTENING EXAMPLES 1 AND 2. (ON TAPE)
          50 MINUTES.

PART B:   WRITTEN SECTION. 20 MINUTES.

PART C:   THE 'FLASHCARD' MUSIC TEST. (ON TAPE)
          20 MINUTES. *(SEE APPENDIX B)*

## *MUSICAL ACHIEVEMENT TEST*

NAME: _____

MALE/FEMALE: _____

DATE OF BIRTH: _____

YEAR LEVEL: _____

## PART A:   LISTENING EXAMPLE 1 - AURAL ANALYSIS
##            (30 MINUTES)

1)   This composition is an example of "Theme and Variations" form. In your own words, describe Theme and Variation form. In your answer,describe any 2 compositional devices which the composer might use in varying a theme.

a) Definition:

_____

_____

_____

_____

b) Compositional devices:

i)_____

ii)_____

2)   On the sheet titled 'Listening Example 1', (*not included in the Appendix*) insert the following;

a)   <u>Time signatures</u>:

   (i)    a time signature at the beginning;
   (ii)   a time signature at the beginning of variation1;
   (iii)  a time signature at the beginning of variation 2.

b)   <u>Repeat signs</u>. (There are 3 sets of repeat signs.)

c)   Insert " Variation 2" and " Variation 3" where variation 2 and 3 commence.

d)  Tempo markings below the commencing bar of each
    variation. Write in the most appropiate term from those
    listed below:

    Variation 1    a) Presto  b) Moderato    c) Grave.
    Variation 2    a) Allegro b) Allargando  c) Maestoso.
    Variation 3    a) Presto  b) Allegro     c) Lento.
    Variation 4    a) Presto  b) Allegro     c) Lento.

3)  Complete the 'Theme' melody. (note: some notes are provided.)

4)  Write the chord symbols below the theme. (note: some chords are
    provided; one bar has 2 different chords, all the other bars have
    one chord.)

5)  a)  Name the 2 instruments used in the Theme section.

        1. _____
        2. _____

    b)  Of the 2 instruments used in the theme, which plays the
        accompanying role?

    _____

6)  a)  List any 3 instruments used in the 1st Variation.

        1. _____
        2. _____
        3. _____

    b)  In bars 17 to 24, name the the instrument;

    i)   which sustains the chords _____
    ii)  which plays the arppeggios _____

7)  a) What is the tonality of this composition ? _____

    b) Does the tonality change ?  YES   NO   (CIRCLE one answer)

    if YES, in which bar does it change ? Bar:_____

8)  a) Name the compositional device used in bars 25 to 33.

    _____

b) What is the name of the percussion instrument used in bar 41? _____

c) List any 2 compositional devices which are evident in bars 42 to 58.
i) _____
ii) _____

d) What playing technique is used in bars 42 to 58 ?

_____

**END OF LISTENING EXAMPLE 1**

NAME: _____
MALE/FEMALE: _____
DATE OF BIRTH: _____
YEAR LEVEL: _____


## LISTENING EXAMPLE 2 - AURAL ANALYSIS (20 MINUTES)


9) a) <u>Listen</u> to this example. Using Letter names 'A' , 'B' etc.. outline the form in the space provided below;

_____

b) Give the <u>name</u> and a brief <u>description</u> of the form.

_____
_____
_____
_____
_____


10) On the sheet titled 'Listening Example 2', complete the following tasks;

a) Insert the correct time signature at the beginning.

b) Write the missing melody played on the flute.

c) There are 2 sets of repeat signs. Insert both at the appropiate places.

d) Insert the missing 'dal segno' sign and 'coda' sign.

11) a) In which key does this piece begin ?

_____

b) The key changes. In which bar does it change for the first time ? _____

c) What is the key of the new tonality ?

_____

d) Does the composition remain in this new tonality until the end ?

YES          NO          (CIRCLE one answer)

12) List all the instruments which you can hear in this composition. Firstly, write the 4 major instrumental family groups in the spaces provided below, secondly, list the instruments under the appropiate family group.

| 1. | 2. | 3. | 4. |
|----|----|----|----|
|    |    |    |    |
|    |    |    |    |
|    |    |    |    |
|    |    |    |    |
|    |    |    |    |
|    |    |    |    |
|    |    |    |    |

13) Tick the box indicating the correct metre

| A | Simple triple | |
|---|---|---|
| B | Compound quadruple | |
| C | Simple quadruple | |
| D | Simple Duple | |
| E | Compound Duple | |

14) What is the tonality of the chords used in;

a)   Bars 5 and 6     **Major**     **Minor**     (CIRCLE one answer)

b)   Bar 16     **Major**     **Minor**     (CIRCLE one answer)

**END OF PART A**

NAME: _____

MALE/FEMALE: _____

DATE OF BIRTH: _____

YEAR LEVEL: _____

## PART B:  WRITTEN SECTION (20 MINUTES)

15)  <u>Describe</u> in detail, <u>Sonata form</u>: Use appropiate technical terms to describe the various sections, referring to key contrasts usually found in Sonata form. (i.e. the modulations that are typical of this structure.)

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

16)  a) What is a transposing instrument ?

_____

_____

_____

_____

b)  List the names of 2 transposing instruments.

i)  _____

ii)  _____

17) There are many techniques which can be used to vary a theme.
List 4 techniques.

(i) _____

(ii) _____

(iii) _____

(iv) _____


18) Explain the difference between polyphonic and homophonic texture.

_____

_____

_____

_____

_____

_____


19) Study the melodies below, then answer the questions which follow.

Melody I



Melody II

<u>Melody 1.</u>

    a)    Using letter names 'A','B' etc.., outline the form on the music above.

    b)    Write down the name of the form ? _____

    c)    What is the key ? _____

    d)    At the beginning insert the correct time signature.

    e)    Place a 'T' over any ties.

    f)    Place a 'S' over any slurs.

<u>Melody 2.</u>

    a)    Using letter names 'A','B' etc.., outline the form on the music above.

    b)    Write down the name of the form ? _____

    c)    What is the key ? _____

    d)    At the beginning insert the correct time signature.

    e)    Place a 'T' over any ties.

    f)    Place a 'S' over any slurs.

<u>**END OF PART B.**</u>

# APPENDIX: B

*Music Preference Test Paper*

**The 'Flashcard' Music Test)**

# APPENDIX B

## MUSICAL PREFERENCE TEST

Name: _____

Male/Female: _____

Year Level: _____

School: _____


## INSTRUCTIONS:


Part 'C' will require you to carefully listen to 30 recorded excerpts of music. You will be required to indicate, at the end of each example, your degree of 'like' or 'dislike' of each excerpt along the following scale;


| strongly dislike | dislike | uncertain | like | strongly like |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |


Place a **CIRCLE** around the number which best describes your feeling towards each excerpt. (30 excerpts)


N.B.  •     This test is 30 minutes in length - Part C - 20 minutes.

•     Answer ALL questions


**Turn over to the next page to begin Part C.**

**(Wait for the teacher's instruction to begin.)**

## PART C (20 MINUTES) REMEMBER: CIRCLE YOUR ANSWER.

| | strongly dislike | dislike | uncertain | like | strongly like |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| 1) | 1 | 2 | 3 | 4 | 5 |
| 2) | 1 | 2 | 3 | 4 | 5 |
| 3) | 1 | 2 | 3 | 4 | 5 |
| 4) | 1 | 2 | 3 | 4 | 5 |
| 5) | 1 | 2 | 3 | 4 | 5 |
| 6) | 1 | 2 | 3 | 4 | 5 |
| 7) | 1 | 2 | 3 | 4 | 5 |
| 8) | 1 | 2 | 3 | 4 | 5 |
| 9) | 1 | 2 | 3 | 4 | 5 |
| 10) | 1 | 2 | 3 | 4 | 5 |
| 11) | 1 | 2 | 3 | 4 | 5 |
| 12) | 1 | 2 | 3 | 4 | 5 |
| 13) | 1 | 2 | 3 | 4 | 5 |
| 14) | 1 | 2 | 3 | 4 | 5 |
| 15) | 1 | 2 | 3 | 4 | 5 |
| 16) | 1 | 2 | 3 | 4 | 5 |
| 17) | 1 | 2 | 3 | 4 | 5 |
| 18) | 1 | 2 | 3 | 4 | 5 |
| 19) | 1 | 2 | 3 | 4 | 5 |
| 20) | 1 | 2 | 3 | 4 | 5 |
| 21) | 1 | 2 | 3 | 4 | 5 |
| 22) | 1 | 2 | 3 | 4 | 5 |
| 23) | 1 | 2 | 3 | 4 | 5 |
| 24) | 1 | 2 | 3 | 4 | 5 |
| 25) | 1 | 2 | 3 | 4 | 5 |
| 26) | 1 | 2 | 3 | 4 | 5 |
| 27) | 1 | 2 | 3 | 4 | 5 |
| 28) | 1 | 2 | 3 | 4 | 5 |
| 29) | 1 | 2 | 3 | 4 | 5 |
| 30) | 1 | 2 | 3 | 4 | 5 |

## END OF PART C

## Selected Repertoire:

### POP/ROCK
**50's**

(A)  1. *Jailhouse Rock* (E. Presley) RCA TSP 135.
     2. *The wanderer* (Dion) W.B. BSK 3359.

**60's**

(B)  1. *Twist and Shout* (Beatles) AXIS 6439.
     2. *Eagle Rock* (Daddy Cool) Summit Records SRA 295.001

**70's**

(C)  1. *Movin' Out* (B. Joel) CBS SBP 237057.
     2. *Dancin' Queen* (ABBA) RCA VPL 1.4197.

**80's**

(D)  1. *Gonna Fly Now* (Rocky III) United Artists LO-51130.
     2. *Thriller* (M. Jackson) EPIC ELP 4328.

**90's**

(E)  1. *The Power Of Rhythm* (B.G. Prince of Rap) EPIC 657902-2.
     2. *Coming Out Of The Dark* (G. Estefan) EPIC 467782-2.

### JAZZ
**Pre-30's**

(F)  1. *Maple Leaf Rag* (Joplin) WCB AS-10478.
     2. *Hotter Than That* (L. Armstrong) WCB AS-10478.

**30's/40's**

(G)  1. *Dizzy Spells* (Benny Goodman Quartet) WCB AS-10478.
     2. *Sophisticated Lady* (D. Ellington) RCA RDS 6044.

**50's/60's**

(H)  1. *Naptown Blues* (O. Peterson trio) MPS 821-846-1.
     2. *My Way* (F. Sinatra) WEA 7599-26522-1.

**70's**

(I)  1. *Vulcan Worlds* (C. Corea) Polydor PD 6509.
     2. *On Broadway* (G. Benson) W.B. 2WB 3139.

**80's/90's**

(J)  1. *L. Is For Lover* (A.Jarrea) WEA 253080-1.
     2. *Tower Of Inspiration* (D. Weckl) GRP B J03.

## CLASSICAL

Pre-1600's
- (K)
  1. *Pope Marcellus Mass-Kyrie* (Palestrina) AS 10474.
  2. *Alleluia, Vidimus Stellam* (Gregorian Chant) AS 10474.

1650-1750
- (L)
  1. *Messiah - 'o thou tellest'* (Handel) BS 10474.
  2. *Brandenburg Concerto* No.2 (Bach) Bay Records FW-306.

1750-1830
- (M)
  1. *Sonata No. 8, C minor* (Beethoven) Classics CFP 4075.
  2. *Piano Concerto (B Flat)* (Mozart) Bay Records FW-303.

1830-1910
- (N)
  1. *Prelude For Piano,op.28 Emi* (Chopin) WCB AS10476.
  2. *La Donna E Mobile* (Verdi) WCB AS10476.

1900 - onwards
- (O)
  1. *Putnam's Camp* (Ives) WCB AS 10476.
  2. *Three Songs, op. 18 No. 1.* (Webern) WCB BS 10477.

# APPENDIX: C

*Calculations:*

**APPENDIX C**

*Calculations:*

## Statistical Analyses: C 1 . 1 - C 1 . 12

**C 1. 1** *Statistical Analyses of Musical Achievement
Pre-test and Post-test Scores*

*Definitions for Abbreviations:*

| | | |
|---|---|---|
| MAPREEX | Pre-test achiev. scores | experimental group |
| MAPRECO | Pre-test achiev. scores | control group |
| MAPPOSTEX | Post-test achiev. scores | experimental group |
| MAPOSTCO | Post-test achiev. scores | control group |

*Calculations*

| | MAPREEX | MAPRECO | MAPOSTEX | MAPOSTCO |
|---|---|---|---|---|
| N of cases | 17 | 15 | 19 | 17 |
| Minimum | 24.500 | 23.000 | 45.750 | 43.000 |
| Maximum | 64.500 | 68.000 | 90.000 | 89.500 |
| Range | 40.000 | 45.000 | 44.250 | 46.500 |
| Mean | 44.971 | 45.767 | 71.039 | 69.015 |
| Variance | 87.421 | 161.495 | 92.870 | 150.816 |
| Stan dev. | 9.350 | 12.708 | 9.637 | 12.281 |
| Median | 44.000 | 48.000 | 71.250 | 70.000 |

## C 1. 2 *Statistical Analyses of Musical Achievement pretest Sub-Section Results - Experimental Group*

*Definitions of Abbreviations:*

| GKTOTPRE | Pre-test general knowledge sub-section results |
|----------|------------------------------------------------|
| AVTOTPRE | Pre-test aural-visual sub-section results |
| DICTOPRE | Pre-test dictation sub-section results |
| AURTOPRE | Pre-test aural-visual sub-section results |
| VISTOPRE | Pre-test visual sub-section results |

*Calculations*

|           | GKTOTPRE | AVTOTPRE | DICTOPRE | AURTOPRE | VISTOPRE |
|-----------|----------|----------|----------|----------|----------|
| N of cases | 18      | 18       | 18       | 18       | 19       |
| Minimum   | 3.000    | 2.500    | 0.000    | 8.000    | 3.000    |
| Maximum   | 13.000   | 17.000   | 5.500    | 18.500   | 15.000   |
| Mean      | 8.750    | 11.028   | 0.750    | 13.278   | 10.053   |
| Variance  | 6.625    | 15.690   | 2.860    | 8.154    | 11.136   |
| Stan. dev. | 2.574   | 3.961    | 1.691    | 2.855    | 3.337    |

## C 1. 3 *Statistical Analyses of Sub-Section Results - Control Group Calculations*

|          | GKTOTPRE | AVTOTPRE | DICTOPRE | AURTOPRE | VISTOPRE |
|----------|----------|----------|----------|----------|----------|
| N of cases | 16 | 17 | 17 | 16 | 17 |
| Mimimum | 0.500 | 4.000 | 0.000 | 9.000 | 4.500 |
| Maximum | 13.000 | 21.000 | 3.500 | 19.500 | 15.500 |
| Mean | 7.500 | 11.588 | 1.971 | 13.875 | 9.882 |
| Variance | 12.200 | 22.601 | 2.171 | 10.150 | 9.860 |
| Stan. dev. | 3.493 | 4.754 | 1.473 | 3.186 | 3.140 |

## C 1. 4 *Statistical Analyses of Pretest Musical Achievement Sub-Section Results - Both Groups Combined*

|          | GKTOTPRE | AVTOTPRE | DICTOPRE | AURTOPRE | VISTOPRE |
|----------|----------|----------|----------|----------|----------|
| N of cases | 34 | 35 | 35 | 34 | 36 |
| Mimimum | 0.500 | 2.500 | 0.000 | 8.000 | 3.000 |
| Maximum | 13.000 | 21.000 | 5.500 | 19.500 | 15.500 |
| Mean | 8.162 | 11.300 | 1.343 | 13.559 | 9.972 |
| Variance | 9.359 | 18.562 | 2.835 | 8.906 | 10.242 |
| Stan. dev. | 3.059 | 4.309 | 1.684 | 2.984 | 3.200 |

## C 1. 5  *Statistical Analyses of Musical Achievement Post-test Sub-Section Results - Experimental Group*

*Definitions of Abbreviations:*

| | |
|---|---|
| GKTOTPOS | Post-test general knowledge results |
| AVTOTPOS | Post-test aural-visual results |
| DICTOPOS | Post-test dictation results |
| AURTOPO | Post-test aural-visual results |
| VISTOPOS | Post-test visual results |

| | GKTOTPOS | AVTOTPOS | DICTOPOS | AURTOPO | VISTOPOS |
|---|---|---|---|---|---|
| N of cases | 19 | 19 | 19 | 19 | 19 |
| Mimimum | 10.500 | 9.000 | 1.000 | 11.500 | 7.500 |
| Maximum | 22.000 | 21.500 | 12.000 | 22.000 | 17.500 |
| Mean | 16.816 | 16.658 | 5.724 | 18.237 | 13.605 |
| Variance | 9.645 | 7.779 | 10.569 | 9.010 | 8.599 |
| Stan. dev. | 3.106 | 2.789 | 3.251 | 3.002 | 2.932 |

## C 1. 6 *Statistical Analyses of Musical Achievement Posttest Sub-Section Results - Control Group*

|  | GKTOTPOS | AVTOTPOS | DICTOPOS | AURTOPO | VISTOPOS |
|---|---|---|---|---|---|
| N of cases | 17 | 17 | 17 | 17 | 17 |
| Mimimum | 7.500 | 12.500 | 1.000 | 9.000 | 7.500 |
| Maximum | 21.000 | 20.000 | 11.000 | 22.500 | 16.000 |
| Mean | 14.912 | 17.206 | 5.632 | 17.882 | 13.382 |
| Variance | 17.570 | 4.783 | 7.454 | 15.235 | 6.235 |
| Stan. dev. | 4.192 | 2.187 | 2.730 | 3.903 | 2.497 |

## C 1. 7 *Statistical Analyses of Post-test Musical Achievement Sub-Section Results - Both Groups Combined*

|  | GKTOTPOS | AVTOTPOS | DICTOPOS | AURTOPO | VISTOPOS |
|---|---|---|---|---|---|
| N of cases | 36 | 36 | 36 | 36 | 36 |
| Mimimum | 7.500 | 9.000 | 1.000 | 9.000 | 7.500 |
| Maximum | 22.000 | 21.500 | 12.000 | 22.500 | 17.500 |
| Mean | 15.917 | 16.917 | 5.681 | 18.069 | 13.500 |
| Variance | 13.921 | 6.264 | 8.845 | 11.631 | 7.286 |
| Stan. dev. | 3.731 | 2.503 | 2.974 | 3.410 | 2.699 |

## C 1. 8 *Statistical Analyses on Pre-test Musical Aptitude Total Test Scores - For Experimental and Control Groups*

*Definitions for Abbreviations:*

| APTSSE | Pre-test musical aptitude scores | experimental group |
|---|---|---|
| APTSSC | Pre-test musical aptitude scores | control group |

|  | APTSSE | APTSSC |
|---|---|---|
| N of cases | 18 | 18 |
| Mimimum | 45.000 | 34.000 |
| Maximum | 70.000 | 69.000 |
| Mean | 59.167 | 58.167 |
| Variance | 60.382 | 74.618 |
| Median | 62.000 | 61.000 |
| Stan. dev. | 7.771 | 8.638 |

**C 1. 9**  *Statistical Analyses on Pre-test Musical Aptitude Total Test Scores Both Groups Combined*

*Definitions for Abbreviations:*

| COMTOTSS | Pre-test musical aptitude scores | combined |
|---|---|---|

|  | APTSSE |
|---|---|
| N of cases | 36 |
| Mimimum | 34.000 |
| Maximum | 70.000 |
| Mean | 58.667 |
| Variance | 65.829 |
| Stan. dev. | 8.113 |

## C 1. 10 *Statistical Analyses of Musical Aptitude Pre-test Sub-Section Results Experimental Group*

*Definitions for Abbreviations*

| | | |
|---|---|---|
| TONMEL | pre-test aptitude | tone (melody) results |
| TONHER | pre-test aptitude | tone (harmony) results |
| TONTOT | pre-test aptitude | combined tone results |
| RHYTEM | pre-test aptitude | rhythm (tempo) results |
| RHYMET | pre-test aptitude | rhythm (meter) results |
| RHYTOT | pre-test aptitude | combined rhythm results |

| | TONMEL | TONHAR | TONTOT | RHYTEM | RHYMET | RHYTOT |
|---|---|---|---|---|---|---|
| N of cases | 18 | 18 | 18 | 18 | 18 | 18 |
| Mimimum | 44.000 | 42.000 | 44.000 | 43.000 | 32.000 | 44.000 |
| Maximum | 77.000 | 77.000 | 77.000 | 72.000 | 67.000 | 66.000 |
| Mean | 60.500 | 59.833 | 60.111 | 60.000 | 55.833 | 58.000 |
| Variance | 91.088 | 116.735 | 95.516 | 40.471 | 79.912 | 44.000 |
| Stan. dev. | 9.544 | 10.804 | 9.773 | 6.362 | 8.93 | 6.633 |

## C 1. 11 *Statistical Analyses of Musical Aptitude Pre-test Sub-Section Results Control Group*

|  | TONMEL | TONHAR | TONTOT | RHYTEM | RHYMET | RHYTOT |
|---|---|---|---|---|---|---|
| N of cases | 18 | 18 | 18 | 18 | 18 | 18 |
| Mimimum | 5.000 | 15.000 | 15.000 | 40.000 | 40.000 | 42.000 |
| Maximum | 77.000 | 70.000 | 74.000 | 72.000 | 67.000 | 70.000 |
| Mean | 60.056 | 59.111 | 59.167 | 58.722 | 55.500 | 57.167 |
| Variance | 181.938 | 159.281 | 160.029 | 113.977 | 69.206 | 66.500 |
| Stan. dev. | 13.488 | 12.621 | 12.650 | 10.676 | 8.319 | 8.155 |

## C 1. 12 *Statistical Analyses of Musical Aptitude Pre-test Sub-Section Results Both Groups Combined*

|  | TONMEL | TONHAR | TONTOT | RHYTEM | RHYMET | RHYTOT |
|---|---|---|---|---|---|---|
| N of cases | 36 | 36 | 636 | 36 | 36 | 36 |
| Mimimum | 15.000 | 15.000 | 15.000 | 40.000 | 32.000 | 42.000 |
| Maximum | 77.000 | 77.000 | 77.000 | 72.000 | 67.000 | 70.000 |
| Mean | 60.278 | 59.472 | 59.639 | 59.361 | 55.667 | 57.583 |
| Variance | 132.663 | 134.199 | 124.352 | 75.437 | 72.457 | 53.850 |
| Stan. dev. | 11.518 | 11.584 | 11.151 | 8.685 | 8.512 | 7.338 |

# T-Test Analyses: C 2 . 1 - C 2 . 5

## C 2. 1 *T-Test Calculations For Significant Differences Comparing Experimental And Control Groups Achievement Test Sub-Section Post Scores*

*Definitions for Abbreviations:*

| GKPOEX | post-test general knowledge results | experimental group |
|---|---|---|
| GKPOCON | post-test general knowledge results | control group |
| AAAVPOEX | post-test aural-visual results | experimental group |
| AVPOCON | post-test aural-visual results | control group |
| DICPOEX | post-test dictation results | experimental group |
| DICPOCON | post-test dictation results | control group |
| AURPOEX | post-test aural results | experimental group |
| AUPOCON | post-test aural results | control group |
| VISPOEX | post-test visual results | experimental group |
| VISPOCON | post-test visual results | control group |

*Calculations:*

1. PAIRED SAMPLES T-TEST ON   GKPOEX AND GKPOCON
   WITH   16 CASES
   MEAN DIFFERENCE =  2.594
   SD DIFFERENCE =  5.158
   T =  2.011 DF =  15  PROB =   0.063

2.   PAIRED SAMPLES T-TEST ON  AVPOEX AND
     AVPOCON  WITH 16 CASES
     MEAN DIFFERENCE = -0.938
     SD DIFFERENCE = 3.794
     T = -0.988  DF = 15  PROB = 0.339

3.   PAIRED SAMPLES T-TEST ON  DICPOEX AND DICPOCON  WITH
     16 CASES
     MEAN DIFFERENCE = -0.344
     SD DIFFERENCE = 4.535
     T = -0.303  DF = 15  PROB = 0.766

4.   PAIRED SAMPLES T-TEST ON  AURPOEX AND AURPOCON
     WITH 16 CASES
     MEAN DIFFERENCE = 0.156
     SD DIFFERENCE = 5.464
     T = 0.114  DF =15  PROB = 0.910

5.   PAIRED SAMPLES T-TEST ON  VISPOEX AND  VISPOCON
     WITH 16 CASES
     MEAN DIFFERENCE = -0.031
     SD DIFFERENCE = 3.699
     T = -0.034  DF = 15  PROB = 0.973

## C 2. 2 T-Test Calculations For Significant Differences Comparing Experimental And Control Group Of Pre-test and Post-test Musical Achievement Total Scores

*Definitions for Abbreviations:*

| MAPREEX | Achievement pre-test scores | experimental group |
|---------|-----------------------------|--------------------|
| MAPRECO | Achievement pre-test scores | control group |
| MAPOSTEX | Achievement post-test scores | experimental group |
| MAPOSTCO | Achievement post-test scores | control group |

*Calculations:*

1.  PAIRED SAMPLES T-TEST ON  MAPREEX AND  MAPRECO
    WITH 13 CASES
    MEAN DIFFERENCE = 0.000
    SD DIFFERENCE = 14.324
    T = 0.000  DF = 12  PROB = 1.000

2.  PAIRED SAMPLES T-TEST ON MAPOSTEX AND MAPOSTCO
    WITH 16 CASES
    MEAN DIFFERENCE = 1.438
    SD DIFFERENCE = 16.209
    T = 0.355  DF = 15  PROB = 0.728

## C 2. 3  *T-Test Calculations For Significant Differences Comparing Experimental And Control Group - Pre-test Musical Aptitude Total Scores*

*Definitions for Abbreviations:*

| APTSSE | Pre-test aptitude total scores | experimental group |
|--------|-------------------------------|--------------------|
| APTSSC | Pre-test aptitude total scores | control group |

*Calculation:*

PAIRED SAMPLES T-TEST ON  APTSSE AND APTSSC WITH 17 CASES
MEAN DIFFERENCE =  -0.529
SD DIFFERENCE = 9.651
T = -0.226  DF = 16  PROB = 0.824

## C 2. 4  T-Test Calculations For Significant Differences Comparing Experimental And Control Groups Pre-test and Post-test Musical Preference Sub-Section Scores

*Definitions for Abbreviations:*

| POPPREEX | preference pre-test pop/rock sub-section score | experimental group |
|----------|------------------------------------------------|--------------------|
| POPPRECO | preference pre-test pop/rock sub-section score | control group |
| JAZPREEX | preference pre-test jazz sub-section score | experimental group |
| JAZPRECO | preference pre-test jazz sub-section score | control group |
| CLSPREEX | preference pre-test classical sub-section score | experimental group |
| CLSPRECO | preference pre-test classical sub-section score | control group |
| POPPOEX | preference post-test pop/rock sub-section score | experimental group |
| POPPOCO | preference post-test pop/rock sub-section score | control group |
| JAZPOSEX | preference post-test jazz sub-section score | experimental group |
| JAZZPOSC | preference post-test jazz sub-section score | control group |
| CLSPOSEX | preference post-test classical sub-section score | experimental group |
| CLSPOCO | preference post-test classical sub-section score | control group |

*Calculations:*

1. PAIRED SAMPLES T-TEST ON POPPREEX AND POPPRECO WITH 15 CASES
   MEAN DIFFERENCE = -3.333
   SD DIFFERENCE = 10.154
   T = -1.271  DF = 14  PROB = 0.224

2. PAIRED SAMPLES T-TEST ON JAZPREEX AND JAZPRECO WITH 15 CASES
   MEAN DIFFERENCE = -4.067
   SD DIFFERENCE = 8.439
   T = -1.866  DF = 14  PROB = 0.083

3. PAIRED SAMPLES T-TEST ON CLSPREEX AND CLSPRECO WITH 15 CASES
   MEAN DIFFERENCE = -2.733
   SD DIFFERENCE = 8.388
   T = -1.262  DF = 14  PROB = 0.228

4. PAIRED SAMPLES T-TEST ON POPPOEX AND POPPOCO WITH 15 CASES
   MEAN DIFFERENCE = -0.267
   SD DIFFERENCE = 7.106
   T = -0.145  DF = 14  PROB = 0.887

5. PAIRED SAMPLES T-TEST ON JAZPOSEX AND JAZZPOSC WITH 15 CASES
   MEAN DIFFERENCE = -0.067
   SD DIFFERENCE = 8.996
   T = -0.029  DF = 14  PROB = 0.978

6. PAIRED SAMPLES T-TEST ON CLSPOSEX AND CLSPOCO WITH 15 CASES
   MEAN DIFFERENCE = -1.533
   SD DIFFERENCE = 8.348
   T = -0.711  DF = 14  PROB = 0.489

## C 2. 5 *T-Test Calculations For Significant Differences Comparing The Pre-test and Post-test Sub-Section Preference Results For Each Group*

*Definitions for Abbreviations:*

| | |
|---|---|
| POPTOPRE | preference pre-test pop/rock score |
| POPTOTPO | preference post-test pop/rock score |
| JAZTOPRE | preference pre-test jazz score |
| JAZTOTPO | preference post-test jazz score |
| CLASTOPR | preference pre-test classical score |
| CLASTOPO | preference post-test classical score |
| MATOTPRE | pre-test achievement scores |
| MATOTPOS | post-test achievement scores |

*Calculations*

1.  PAIRED SAMPLES T-TEST ON POPTOPRE AND POPTOTPO
    WITH  18 CASES
    FOR EXPERIMENTAL GROUP
    MEAN DIFFERENCE = -1.111
    SD DIFFERENCE = 7.186
    T = -0.656  DF = 17  PROB = 0.521

## C 2. 5 *T-Test Calculations For Significant Differences Comparing The Pre-test and Post-test Sub-Section Preference Results For Each Group*

*Definitions for Abbreviations:*

| | |
|---|---|
| POPTOPRE | preference pre-test pop/rock score |
| POPTOTPO | preference post-test pop/rock score |
| JAZTOPRE | preference pre-test jazz score |
| JAZTOTPO | preference post-test jazz score |
| CLASTOPR | preference pre-test classical score |
| CLASTOPO | preference post-test classical score |
| MATOTPRE | pre-test achievement scores |
| MATOTPOS | post-test achievement scores |

*Calculations*

1.  PAIRED SAMPLES T-TEST ON POPTOPRE AND POPTOTPO
    WITH  18 CASES
    FOR EXPERIMENTAL GROUP
    MEAN DIFFERENCE = -1.111
    SD DIFFERENCE = 7.186
    T = -0.656  DF = 17  PROB = 0.521

2. PAIRED SAMPLES T-TEST ON POPTOPRE AND POPTOTPO
   WITH 16 CASES
   FOR CONTROL GROUP
   MEAN DIFFERENCE = 0.438
   SD DIFFERENCE = 3.794
   T = 0.461  DF = 15  PROB = 0.651

3. PAIRED SAMPLES T-TEST ON JAZTOPRE AND JAZTOTPO
   WITH 18 CASES
   FOR EXPERIMENTAL GROUP
   MEAN DIFFERENCE = -2.611
   SD DIFFERENCE = 5.101
   T = -2.172  DF = 17  PROB = 0.044

4. PAIRED SAMPLES T-TEST ON JAZTOPRE AND JAZTOTPO
   WITH 16 CASES
   FOR CONTROL GROUP
   MEAN DIFFERENCE = 0.188
   SD DIFFERENCE = 4.277
   T = 0.175  DF = 15  PROB = 0.863

5. PAIRED SAMPLES T-TEST ON CLASTOPR AND CLASTOPO
   WITH 18 CASES
   FOR EXPERIMENTAL GROUP
   MEAN DIFFERENCE = -1.500
   SD DIFFERENCE = 4.756
   T = -1.338  DF = 17  PROB = 0.198

6. PAIRED SAMPLES T-TEST ON CLASTOPR AND CLASTOPO
   WITH 16 CASES
   FOR CONTROL GROUP
   MEAN DIFFERENCE = -0.125
   SD DIFFERENCE = 3.403
   T = -0.147  DF = 15  PROB = 0.885

7. PAIRED SAMPLES T-TEST ON MATOTPRE AND
   MATOTPOS
   WITH 16 CASES
   FOR EXPERIMENTAL GROUP
   MEAN DIFFERENCE = -28.141
   SD DIFFERENCE = 10.721
   T = -10.499  DF = 15  PROB = 0.000

8. PAIRED SAMPLES T-TEST ON MATOTPRE AND
   MATOTPOS
   WITH 14 CASES
   FOR CONTROL GROUP
   MEAN DIFFERENCE = -22.482
   SD DIFFERENCE = 6.881
   T = -12.225  DF = 13  PROB = 0.000

# Pearson Correlation Matrix: C 3 . 1 - C 3 . 8

*Definitions for Abbreviations:*

| | | |
|---|---|---|
| MAPREEX | achievement pre-test results | exp. group |
| MAPOSTEX | achievement post-test results | exp. group |
| MAPRECO | achievement pre-test results | control group |
| MAPOSTCO | achievement post-test results | control group |
| POPPREEX | pre-test pop/rock results | exp. group |
| POPPOEX | post-test pop/rock results | exp. group |
| POPPRECO | pre-test pop/rock results | control group |
| POPPOCO | post-test pop/rock results | control group |
| JAZPREEX | pre-test jazz results | exp. group |
| JAZPOSEX | post-test jazz results | exp. group |
| JAZPRECO | pre-test jazz results | control group |
| JAZZPOSCO | post-test jazz results | control group |
| CLSPREEX | pre-test classical results | exp. group |
| CLSPOSEX | post-test classical results | exp. group |
| CLSPRECO | pre-test classical results | control group |
| CLSPOCO | post-test classical results | control group |

*Calculations:*

C 3 . 1 PEARSON CORRELATION MATRIX

| | MAPREEX | MAPOSTEX |
|---|---|---|
| MAPOSTEX | 1.000 | - |
| MAPOSTEX | 0.320 | 1.000 |

BARTLETT CHI-SQUARE STATISTIC:   1.460 DF = 1  PROB = 0.227

MATRIX OF PROBABILITIES

| | MAPREEX | MAPOSTEX |
|---|---|---|
| MAPOSTEX | 0.000 | - |
| MAPOSTEX | 0.227 | 0.000 |

NUMBER OF OBSERVATIONS:   16

C 3 . 2 PEARSON CORRELATION MATRIX

|          | MAPRECO | MAPOSTCO |
|----------|---------|----------|
| MAPOSTCO | 1.000   | -        |
| MAPOSTCO | 0.858   | 1.000    |

BARTLETT CHI-SQUARE STATISTIC:   15.351 DF= 1  PROB= 0.000

MATRIX OF PROBABILITIES

|          | MAPRECO | MAPOSTCO |
|----------|---------|----------|
| MAPOSTCO | 0.000   | -        |
| MAPOSTCO | 0.000   | 0.000    |

NUMBER OF OBSERVATIONS:  14

C 3 . 3 PEARSON CORRELATION MATRIX

|          | POPPREEX | POPPOEX |
|----------|----------|---------|
| POPPREEX | 1.000    | -       |
| POPPOEX  | 0.298    | 1.000   |

BARTLETT CHI-SQUARE STATISTIC:   1.443 DF = 1  PROB = 0.230

MATRIX OF PROBABILITIES

|          | MAPREEX | MAPOSTEX |
|----------|---------|----------|
| MAPOSTEX | 0.000   | -        |
| MAPOSTEX | 0.229   | 0.000    |

NUMBER OF OBSERVATIONS:  18

## C 3 . 4 PEARSON CORRELATION MATRIX

|  | POPPRECO | POPPOCO |
|---|---|---|
| POPPRECO | 1.000 | - |
| POPPOCO | 0.797 | 1.000 |

BARTLETT CHI-SQUARE STATISTIC:    13.636 DF = 1   PROB = 0.000

### MATRIX OF PROBABILITIES

|  | MAPRECO | MAPOSTCO |
|---|---|---|
| MAPRECO | 0.000 | - |
| MAPOCO | 0.229 | 0.000 |

NUMBER OF OBSERVATIONS:   16

## C 3 . 5 PEARSON CORRELATION MATRIX

|  | JAZPREEX | JAZPOSEX |
|---|---|---|
| JAZPREEX | 1.000 | - |
| JAZPOSEX | 0.557 | 1.000 |

BARTLETT CHI-SQUARE STATISTIC:    5.746 DF = 1   PROB = 0.017

### MATRIX OF PROBABILITIES

|  | JAZPREEX | JAZPOSEX |
|---|---|---|
| JAZPREEX | 0.000 | - |
| JAZPOSEX | 0.016 | 0.000 |

NUMBER OF OBSERVATIONS:   18

## C 3 . 6 PEARSON CORRELATION MATRIX

|          | JAZPRECO | JAZPOSC |
|----------|----------|---------|
| JAZPRECO | 1.000    | -       |
| JAZPOSC  | 0.776    | 1.000   |

BARTLETT CHI-SQUARE STATISTIC:   12.450 DF = 1  PROB = 0.000

MATRIX OF PROBABILITIES

|          | JAZPRECO | JAZPOSC |
|----------|----------|---------|
| JAZPRECO | 0.000    | -       |
| JAZPOSC  | 0.000    | 0.000   |

NUMBER OF OBSERVATIONS:   16

## C 3 . 7 PEARSON CORRELATION MATRIX

|          | CLSPREEX | CLSPOSEX |
|----------|----------|----------|
| CLSPREEX | 1.000    | -        |
| CLSPOSEX | 0.233    | 1.000    |

BARTLETT CHI-SQUARE STATISTIC:   0.869 DF = 1  PROB = 0.351

MATRIX OF PROBABILITIES

|          | CLSPREEX | CLSPOSEX |
|----------|----------|----------|
| CLSPREEX | 0.000    | -        |
| CLSPOSEX | 0.351    | 0.000    |

NUMBER OF OBSERVATIONS:   18

## C 3 . 8 PEARSON CORRELATION MATRIX

|          | CLSPRECO | CLSPOCO |
|----------|----------|---------|
| CLSPRECO | 1.000    | -       |
| CLSPOCO  | 0.883    | 1.000   |

BARTLETT CHI-SQUARE STATISTIC:    20.373 DF = 1  PROB = 0.000

MATRIX OF PROBABILITIES

|          | CLSPREEX | CLSPOSEX |
|----------|----------|----------|
| CLSPREEX | 0.000    | -        |
| CLSPOSEX | 0.000    | 0.000    |

NUMBER OF OBSERVATIONS:   16

# APPENDIX: D

## The Treatment Details:

# APPENDIX D : THE TREATMENT DETAILS

## D 1 *Music Concepts For Term 3, Semester 2: Year 9, 1993.*

### A: General Knowledge

1. **Aria:**

    an elaborate composition for solo voice (occasionally for two voices with instrumental accompaniment.)

2. **Arpeggio/s:**

    the notes of a chord played one after another instead of simultaneously.

3. **Binary Form:**

    (see forms)

4. **Broken Chords:**

    using the notes of a chord (triad, seventh chord, etc)

5. **Compositional Devices:**

    definition - methods that a composer uses to create an effect in his/her music. These include:

    (a)     **Augmentation/Diminution:** presentation of a subject in increased values (augmentation) or in lesser values (diminution) so that, e.g. the crotchet becomes a minim (augmentation) or a quaver (diminution).

    (b)     **Call and Answer:** where a leader (solo) sings/plays a phrase which is then repeated by the group.

    (c)     **Imitation:** the restatement in close succession of a melody (theme, motif) in different parts.

    (d)     **Ostinato:** a repeated pattern (either rhythmic or rhythmic-melodic).

(e)     **Ornamentation**: decorating a melody in various ways -
adding notes, sliding from one note to another, trills or turns.

(f)     **Pedal Point**: a long - held note, normally in the bass,
sounding with changing harmonies in other parts,
e.g. *A Whiter Shade of Pale.*

(g)     **Sequencing**: in composition, the exact repetition (often in a
single part) of a musical phrase at another pitch.

## 7. Coda/Codetta

a concluding section or passage - added in order to give the
impression of finality. A Codetta is a relatively short concluding
passage.

## 8. Development:

(see Sonata form)

## 9. Ensemble:

a group of musicians performing together.

## 10. Exposition:

(see Sonata form)

## 11. Homophonic:

one melodic line heard (one voice) against a chordal
accompaniment.

## 12. Instrumental Techniques:

something a player uses to create an effect/playing technique.
These include:
**Muting** -   a device for softening or dampening the sound of an
instrument (trumpet, strings etc).
**Distortion** - a distorted sound produced with an electric guitar.
**Pizzicato** - meaning plucked (strings).
**Arco** - bowed (strings).
**Glissando** - creating a slide effect.
**Roll** - quick rhythmic pattern (used in percussion).

### 13. Instrumental Timbre:

Tone-colour: the character of a sound as distinct from its pitch; hence, the quality of sound that distinguishes one instrument from another. It is largely, though not exclusively a function of the relative strengths of the harmonics present in the sound.

### 14. Libretto:

written text.

### 15. Motive:

a short figure that recurs throughout a composition or a section to unify the piece, e.g. *Beethoven's 5 th Symphony; Peter Gunn Theme.*

### 16. Opera:

(a drama) acted and performed singing with costumes and sets and/or other theatrical effects.

### 17. Oratorio:

work based on a religious text theme composed for choir, solo singers and orchestra.

### 18. Overture:

an instrumental composition intended as an introduction to an opera, oratorio or similar work.

### 19. Polyphonic:

music for many voices where the musical interests is shared equally between the parts, which move independently to produce an interwoven texture.

### 20. Programme Music:

instrumental music in which the composer tries to suggest a story, a scene or an emotion. The title indicates the idea behind the music, e.g. *"Hall of the Mountain King", "Gonna Fly Now".*

### 21. Recapitulation:

(see Sonata form)

22. **Slurs:**

>a curved line which may be the same length as a tie, or longer to cover a group of notes. It shows that the notes under or over it are to be played smoothly (legato).

23. **Ties:**

>makes the sound last longer. It is a short curved line connecting one note with another of the same pitch.

24. **Tonality:**

>The organized relationships of tones with reference to a defined centre, of the tonic and generally to a community of pitch classes, called a scale, of which the tonic is the principal tone, sometimes also synonymous with key.

25. **Transposing Instruments:**

>instruments for which the music is written in a key or octave other than that of their actual sound.

26. **Theme and Variations:**

>is a form of music in which a sequence of movements is based on the systematic variation of a theme stated at the beginning. The elements which can be varied involve the melody, texture, rhythm, tonality and harmony.

**B: Form**

1. **Binary Form:**

>2 part form (AB; AABB) where each section may be repeated.

2. **Ternary Form:**

>3 part form (ABA; AABA; ABBA etc..)

## 3. Sonata Form:

Sonata form is the most characteristic movement form in instrumental music from the Classical period to the 20th century. Sonata form occurs not merely in sonatas, but also in a wide variety of other orchestral and chamber genres. Because this form is common in slow movements and finales as well as opening movements, the much general term Sonata form is preferable to such designations as sonata-allegro form and first-movement form. Sonata form consists of 3 main sections. Exposition, Development and Recapitulation. Included in this form is the Introduction and Coda.

Sonata Form Structure:

Introduction

Exposition: the composer 'exposes' the main ideas of the melody (or themes) in the tonic key and then the dominant relative minor/major key this is then repeated to enable the listener to become familiar with each theme.

Development: develops the musical themes or ideas in new keys (sometimes).

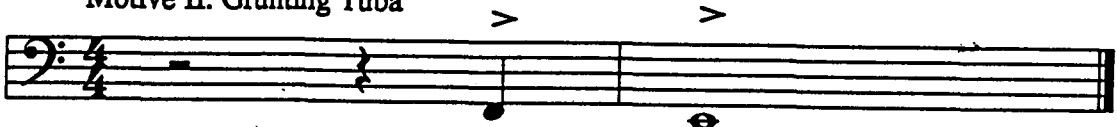Recapitulation: restatement of themes which are now both in the tonic key.

Coda

**D.2.** *Motives: Score Format for the Rocky III Soundtrack.*

Motive V: 'Victory'



Stgs.

F/G

Brass

Bass

Dominant pedal point

"Mickey" Motives: (tempo - Lento)

Motive VI: Over the Horns



Motive VII

Motive VIII

Motive IX

Motive X: 'Take You Back'



take you back        doo-doo-doo doo        take you back

get-ting strong now        (Same motivic idea)

**D 3** *Treatment:  The Selected Pop/Rock Repertoire and Analysis Notes*

## *A Whiter Shade Of Pale:*
**Form:**
>    Theme and Variation form.

**Time Signature/s:**
>    simple quadruple; simple triple; compound duple.

**Key Signature/s:**
>    C major (tonic major); C minor (tonic minor).

**Harmonic Analysis:**
>    diatonic harmony - I  ii  IV  V  vi  chords.

**Texture:**
>    homophonic; polyphonic.

**Instrumentation:**
>    organ; maracas; kit drums; saxophone; timpani; flute; trumpet;
>    piano; tambourine; cowbell; strings; electric bass guitar; congas;
>    timbales; guitar; cymbals.

**Compositional Devices:**
>    pedal point (dominant); sequencing; imitation; call and answer;
>    ostinato; augmentation; ornamentation (trills, turns)

**Instrumental Techniques:**
>    roll (timpani); pizzicato (strings).

**Terms and Signs:**
>    theme; variation; coda; pause sign; ritardando; reggae; repeat
>    signs.

**Comments:**

The main teaching point was Theme and Variations form. Students were required to analyse aurally and visually on the score provided.

*The following guide questions were formulated with the score and recording;*

1. Given the piece
   (a) complete the melody, and
   (b) complete the chord progression.

2.  (a)  Insert the repeat signs. (4 sets of repeat signs).
    (b)  Insert 'variation I, II, III, IV, V' at the appropiate commencing bars.
    (c)  Insert the apropiate time signatures.

3. Indentify:
    (a)  The key of this composition, and
    (b)  the modulation at bar 42 - does it change ? if YES, to what key ?
    (c)  Rit.  What does this mean (bar 57) ?
    (d)  What is the tonality at bar 58 - major or minor ?

4. Identify (and discuss) the following for each variation and the theme:
    (a)  Instruments:
         - transposing/non-transposing ?
         - instrument family ?
    (b)  Compositional devices.
    (c)  Instrument techniques.

5. Talk about the form Theme and Variations.

## *Baby Elephant Walk* (Henry Mancini):

**Form:**
Ternary form.

**Time Signature/s:**
simple quadruple.

**Key Signature:**
F major.

**Harmonic Analysis:**
diatonic harmony - I  IV  V chords.

**Texture:**
homophonic.

**Instrumentation:**
electric calliope; clarinet (E flat); tuba; celeste; piccolo; flute;
saxophone.

**Compositional Devices:**
'riff'/ ostinato - boogie woogie riff (look at score); call  and answer
concept (beginning of section B).

**Instrumental Techniques:**
brass mutes (lower register 'grunts').

**Terms and Signs:**
mezzo piano; grace notes; mezzo forte; forte; crescendo sign;
slurs; ties; pause sign.

**Comments:**

Analysis

| | |
|---|---|
| Introduction | - electric calliope (solo - blues line) anacrusis. |
| | - Band enters (6 bars) |
| A 1: Verse I | - clarinet (solo instrument) |
| | - harmony = 12 bar blues progression. |
| Interlude | - "grunting" tubas (with mutes) |
| A 2: Verse II | - celeste and piccolo (melody) in unison. |
| | - 12-bar blues progression. |
| | - brass and calliope (boogie woogie riff/ostinato) |
| B: Interlude | - leads into solo section (4 bars). |
| | - solos: saxophone (1st time); flute (2nd time) |
| | - solos are played over the 12 - bar blues progression. |
| | - compositional device: 'call and answer'. |
| A 3: Verse III | - with variation towards the end of the verse. |
| | - eclectic ending: other instruments are interjected e.g. flutes, celeste and brass. |
| Codetta | - calliope: stereotypical ending (solo) i.e. the composition ends as it began. |

Points For Expansion:

1.  It is typical of Mancini to make the compositions as descriptive as possible, comical in this instance, for example;

    * Brass - elephant trunk calls (with mute).
    * Boogie riff - swaying elephant walking (tempo - walking pace).
    * Clarinets - baby elephants (high 'squealing' trunk calls).

2.     Harmonic analysis: Chords I, IV, and V. The 12-bar blues progression can be introduced at this stage. The blues scale can be conceptualized using the major scale as the source scale.

## *Peter Gunn* (Henry Mancini):

**Form:**

Ternary form. ( A  A bridge B  A  A  coda)

**Time Signature/s:**

'cut common'/ simple duple time

**Key Signature:**

F major.

**Harmonic Analysis:**

diatonic harmony.

**Texture:**

homophonic.

**Instrumentation:**

alto saxophone; trumpet; tuba; trombone; kit drums; guitar; piano; bass; horn.

**Compositional Devices:**

'riff'/ ostinato; call and answer.

**Instrumental Techniques:**

brass mutes; lipped gliss.

**Terms and Signs:**

molto ritardando; sfz; accent signs; crescendo sign; marcato sign; grace notes; 8ve sign; fortissimo; pause sign; molto

**Comments:**

1. Instrument Role:
   - Alto saxophone: solo (using blues notes).
   - Trumpet, tuba, trombone: plays motives.
   - Kit drums: rhythm
   - Guitar, piano and bass: play the ostinato line.
   - Horn: features "lip gliss" e.g. last bar.

2. Transposing Instruments:
   - alto saxophone (E flat).
   - horn (F).
   - guitar (one octave lower).

## *Rocky III  Soundtrack  (Bill  Conti):*

## *(I)  Eye of the Tiger*

**Forms:**

Binary form ( intro;  A A B;  A A B;  A B;  coda).

**Time Signature/s:**

Simple quadruple time.

**Key Signature:**

G minor.

**Harmonic Analysis:**

minor tonality.

**Texture:**

homophonic.

**Instrumentation:**

guitar (electric); bass (electric); piano; voice; kit drums; voice; synthesized string section.

**Compositional Device:**

'riff'/ ostinato; tonic pedal point in 'A' sections.

**Instrumental Techniques:**

guitar muting; distortion.

**Comments:**

This composition is the turning point within the storyline. At this moment the boxer (Rocky) is making a mental decision to win the final fight. The trainer is stressing to Rocky in order to win he must experience the 'hunger' for victory, like the *Eye of the Tiger*.

The music is programmatic in style - it is associated with non-musical ideas.

1. The recurring 3-chord stabs emulate boxing punches: left - right - left.
2. In the ring the boxer is continuously moving around the ring: the repetitive strong beats are emulating the boxer's footwork.
3. The repetitive guitar ostinato describes the boxer training with the punching bags.

## (II) Take You Back

**Forms:**

Ternary form (A B A).

**Time Signature/s:**

Simple quadruple time.

**Key Signature:**

B minor.

**Harmonic Analysis:**

minor tonality.

**Texture:**

homophonic.

**Instrumentation:**

harmonica; wind chimes/Christmas bells; organ; congas; 'fish';
synthesiser (portamento effect); voices.

**Compositional Devices:**

ostinato: *Motive X* p.104 (see the 'comment' section below) as a bass
ostinato.

**Instrumental Techniques:**

portamento effect (synthesiser).

**Comments:**

In this scene Apollo Creed (trainer) takes Rocky back to the old
boxing scene where rocky first began to fight. This strategy was to
help Rocky regain his memories and earlier feelings of 'hunger' to
win and high self-esteem

## (III) Pushin'

In this segment, Rocky is training for his first fight with Mr 'T'
under the leadership of Mickey, his former trainer. At this stage
rocky does not have the *Eye of the Tiger*. This scene portrays
Rocky's training session as a circus act. Similarly to opera, the sung
text describes the scene.

## (IV) Reflections

**Time Signature/s:**

Simple quadruple time.

**Key Signature:**

E minor

**Harmonic Analysis:**

2 chords alternating (a common trend throughout the whole
soundtrack).

**Texture:**
> homophonic.

**Instrumentation:**

> electric piano; kit drums; congas; synthesizer; strings.

**Compositional Device:**
> bass ostinatos with variations.

**Instrumental Techniques:**
> portamento effect (synthesiser); guitar portamento
> (using volume pedal).

**Comments:**
> The strings provide the sustaining chord while the synthesiser
> semi-improvises over *Motive IV*, p.102 (motivic development).

## (V) Mickey

**Form:**
> Through Composed.

**Time Signature:**
> Simple quadruple time.

**Key Signatures:**
> B minor - D major.

**Harmonic Analysis:**
> Perfect candence; relative major-minor concept.

**Texture:**
> homophonic; monophonic sections.

**Instrumentation:**
> strings; horn; piano.

**Compositional Device:**
> tonic pedal point (B minor section).

**Comments:**
> In this scene Mickey dies. It is a sad and mournful period. Conti
> uses minor tonality to create this mood. *Motives III, VI* and *VIII* are
> used in this section of music (pp. 102, 104 and 104 respectively). The strings
> play *Motive VI,* the horn plays *Motive VII* p. 104 against the strings *(Motive
> VI),* and the horn and strings play *Motive VIII* in unison. Featured is a piano
> solo (over *Motive IX* p.104). The strings eventually take over *Motive IX* while
> the horn plays *Motive VI.* The piano plays *Motive IX* material and finally ends
> on a D major chord (relative major key). This major ending gives the effect of
> resolution, peace and tranquillity. This concept is further emphasised by the
> perfect cadence which immediately followed.

## *(VI) Decisions*

**Form:**
> Through Composed.

**Time Signature/s:**
> Simple quadruple time.

**Tonality:**
> no definite tonality.

**Harmonic Analysis:**
> frequent modulations and atonal sections.

**Texture:**
> homophonic; polyphonic - dense texture created via collage
> technique (mix of white noise, ostinato and clarinet).

**Instrumentation:**
> trumpet; synthesiser (long notes/white noise); clarinet;
> side drum (emulating heartbeat).

**Compositional Devices:**

> ostinato (long sustained synthesiser sounds); diminution (of ostinato line); sequencing (clarinet - sequencing of *Mickey's motive* ).

**Comments:**

> In this segment Rocky reflects on his past and makes the decision to fight and win. The music describes his thoughts, some memories are not clear. Conti uses synthesized white noise and atonality to express this confusion which exists in his mind.

## (VII)  *Gonna Fly Now*

**Forms:**

> Binary form:  Introduction: A1: A2: B1: A3: A4: B: coda (D: B3).
>
> features:     B1 = voices.
>
> A3 = guitar solo.
>
> A4 = strings: *Motive 3*, p.102 / Horns *Motive 1*, p.101.

**Time Signature/s:**

> Simple quadruple time.

**Key Signature:**

> C major.

**Harmonic Analysis:**

> Diatonic mode in which the dominant area is a focus point (V and Vsus4 chords). The piece begins in the key of C major and ends in the relative minor key (A minor). The 'A' section emphasizes chords ii and iii. Conti used chord V (with the suspended 4th) of the relative minor key to get to A minor i.e. chord iii was majorized, for example;

| A Sect. | D mi | E mi | D mi | E mi | D mi | E mi | F maj | E sus 4 |
|---------|------|------|------|------|------|------|-------|---------|
| Chord   | ii   | iii  | ii   | iii  | ii   | iii  | III   | V of V  |

> The alternating ii and iii progression is evident throughout the other sections i.e. creating unity (Mickey, Reflections, Adrian).

**Texture:**

> mostly homophonic; a very good example of polyphonic texture is evident where *Motive I* and *III* p.102 come together.

**Instrumentation:**

> trumpets; trombones; tubas; horns; violins; violas; basses; electric bass; electric guitar; congas; kit drums; harp; piano; tambourine; synthesiser; voices.

**Compositional Devices:**

> electric bass ostinato (*Motive III*, p.102) repetition and "call-answer" (electric guitar); ostinato (voices - *Motive IV*, p.102).

**Instrumental Techniques:**

> portamento (synthesiser); Distortion and note bending technique (electric guitar); glissando (harp).

**Comments:**

> Rocky is finally ready for the main event - 'the big comeback'. This is the main track from which most of the other compositions are derived. Evident in this composition *(Gonna Fly Now)* are all the main themes (look at pp.102-104, *D 2 Motives Score Format for the Rocky III Soundtrack* ).

## *VIII  Adrian*

**Form:**

> Through Composed.

**Time Signature/s:**

> Simple quadruple time.

**Tonality:**

> minor.

**Harmonic Analysis:**

> characteristic 2-chord alternating pattern is evident.

**Texture:**

    homophonic: main lines: piano and trumpet; chords: strings;
    harp: arpeggiating and strumming chords.

**Instrumentation:**

    trumpet; piano; strings; harp.

**Compositional Devices:**

    imitation: piano imitates trumpet motive at the beginning of the
    piano solo.

**Comments:**

    In this segment, Rocky is thinking of his wife Adrian. These are his
    final reflections before the main event. The piano and trumpet solos
    are based on *Motives IV* and *X*, pp.102 and 104 respectively..

## IX  Conquest

**Form:**

    Through Composed.

**Time Signature/s:**

    Simple quadruple time.

**Tonality:**

    major/dissonance.

**Texture:**

    polyphonic: motivic development based on motive I material.

**Instrumentation:**

    Strings; piano; trumpets; horns; tuba; trombone; triangle; snare
    drum; cymbals; side drum.

**Compositional Devices:**

    'Call and Answer' between horns and strings:

**Ostinato:**

The constant repetition of chords I and V is hinting a finale. The concept of tension (V) verses resolution (I) is musically describing two opposing forces fighting for power.

**Sequencing:**

2 beat pattern based on the minor scale.

**Comments:**

In this segment the battle has begun. This composition is a very good example of programmatic writing (describing non-musical events with music):

- fighting/wartime atmosphere is set by the stereotypical marching band rhythms and tempos.
- snare drum: stereotypical marching band percussion instrument.
- drama and intensity is created by the low sounding orchestral instruments (e.g. cellos and basses).
- continous semiquavers express panic, anxiety, excitement, movement and drama.
- orchestral punctuations (chord accents/stabs) emulate punches/blows and aggressive conflict.


- The rhythm (conquest) occasionally cuts/interjects into the continuous semiquaver flow indicating that victory is near. This rhythm interjects towards the end when the opponent is falling or is being dominated.
- The mutes and 'fall-offs' by the tuba emulate the boxer falling to the ground.
- diminished chords and occasional dissonance create intensity and drama.

## D 4 *Movie structure (Soundtrack in Relation to the Visual)*

The following are the summary notes of the prepared video which was created to give students the motives and other musical highlights in relation to the visual set and spoken text and to give students an indication of the overall storyline.

1. Recapitultion of *Rocky II*: Rocky verses Creed (past tense) - Motive V , p.103 (victory) and *Motive I*, p.102 (taken from *Conquest* composition).

2. *Eye of the Tiger* (present tense).
   This segment introduces Mr 'T' is introduced, who has the *Eye of the Tiger* and Rocky in his relaxed, wealthy lifestyle.

3. Rocky and Adrian (wife).
   *Take You Back* (*Motive X,* p.104);
   *Motive IV* , p. 102 (*Trying Harder Now* );
   *Adrian's Theme* (no. VIII, p.116).

4. Promotional charity appearance - marching band version of *Gonna Fly Now.*

5. Rocky's glamorous training camp as he prepares to fight Mr 'T' for the first time. *Pushin'* (no. III, p.112).

6. Trainer (Mickey) to Rocky: " shutup and change your tune ". Rocky is being defeated by Mr 'T' while Mickey becomes very ill and is in the changing rooms moments away from death. Following the fight, Rocky rushes to Mickey's side and Mickey finally dies.

7. Mickey's funeral: *Motives VI, VII,* and *VIII,* p 104. Following the funeral scene, Rocky mourning scene - *Motive IX,* p.104 (piano solo) as well as *Motives VI, VII,* and *VIII* in the background. Apollo Creed (previous competition: Rocky II) becomes Rocky's new trainer/coach. In this scene the *Eye of the Tiger* concept is defined by Apollo Creed.

8.    Rocky leaves his family and glamour life to go back to his
      original roots to rediscover the *Eye of the Tiger*
      (no. II *Take You Back,* p.111). *Motive X* , p.104 material.

9.    Rocky begins training with Apollo Creed. The *Eye of the Tiger* track
      (without the text) becomes the training song.

10.   Rocky reflects with Mickey's theme in the background. In
      this segment Adrian (beach scene) convinces Rocky
      to fight again.

11.   Rocky begins training with a new attitude (no. VII *Gonna
      Fly Now* , p.115). To this point Rocky was never fit enough to
      defeat Apollo in a beach running race and now he finally
      defeats Apollo Creed (victory *Motive V,* p.103). Rocky's win is
      reflective of his fitness and readiness to fight Mr 'T'.

12.   *Conquest Theme*  (no. IX, p.117): towards the end of the final fight.

13.   Rocky defeats Mr 'T'. Victory theme (*Motive V,* p.103) and fanfare
      *Motive 1,*  p. 102.

14.   Humour: Apollo and Rocky want to settle a personal matter.

15.   End of film: *Eye of the Tiger*  (theme song).

## D 5 *Lesson  Planning  Guide*

1.    <u>Rocky III the movie  verses  traditional opera:</u>

<u>Similarities</u>:  Similar to an Opera, Rocky III;

- present a story being told with elaborate sets and costumes,
- contains "Arias" (solo songs with orchestral accompaniment) in which the singers comment on the action,
- has ensembles: songs for 3 or more singers, with one singer per part,
1 has an Overture: played by the orchestra to set the mood and create atmosphere, and
- incorporates libretto (written text).

2.    <u>Rocky III Verses Programme Music:</u>

Most of the music presented is programmatic in style where the composer tries to suggest a story, a scene or an emotion through instrumental music. The titles indicate the main idea/s portrayed by the music, for example, *Gonna Fly Now*  or *Conquest*. Non-musical ideas are portrayed by the use of various musical elements such as pitch, volume, instrumental timbre, metre, rhythm and tempo.

3.    <u>Compositional Devices:</u>

   Describe:
   - ostinato,
   - sequencing,
   - diminution/augmentation,
   - tonic/dominant pedal points,
   - 'call and answer' technique and
   - imitation.

4. Instrumental Techniques:

- Guitar mutes/distortion/portamento with volume pedal/note bending.
- Portamento - synthesiser.
- Glissando - harp.
- Mutes - trumpet.

5. Analysis Using the Prepared Audio and Video Cassette Tape:

Using the prepared audio and video cassette tape and the soundtrack analysis notes (I) to (IX), analyse all motives. Highlight compositional devices and instrumental techniques as they appear.

Student Activities:
- Identify the following;
    - i) instrument techniques,
    - ii) instruments,
    - iii) form,
    - iv) compositional devices;
    - v) tonality
    - vi) texture and
    - vii) motives.
- Discuss motivic development and the purpose/function of unity.
- Discuss programmatic music using the *Conquest* composition.