

**THE ROLE OF SINGING
IN THE
NEMP TESTS**

**Thesis submitted in partial fulfilment of the
Requirements for the
B.A. Honours Degree**

Canterbury University 1998

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MUSI: 464 Curriculum Studies

by

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ABSTRACT

This research focuses on an analysis of music video samples of 183 New Zealand primary students in the National Education Monitoring Project (NEMP) in 1996. There were students in two class levels: Year 4 (halfway through primary education) and Year 8 (at the end of primary education). Students participated in two singing tasks. Eighty-nine students participated in the task "Vocal Sizzle," and 94 students participated in "Sing Song."

There were three areas of focus in this study namely: A study of relatively inaccurate intonation, coping with an uncomfortable pitch level and pitching the first note. Based on the results of the analysis there is discussion and recommendations.

There are a number of reasons why students should be taught to sing. For some people singing is a means of self-expression and communication, for others it might be central to religious beliefs or certain rites of passage. There are also social and physical benefits of singing which are discussed.

All students have the potential to sing, providing they are not afflicted with physical difficulties such as hearing loss. However many students experience difficulties in developing their singing voices due to a variety of different causes, which are described.

Evaluations offer a means of assessing a student's level of achievement or potential, These and they can help music educators to gauge a student's progress or potential. Different types of tests are discussed. The aim of the NEMP tests was to assess the achievement of New Zealand primary school children.

CHAPTER ONE

INTRODUCTION

“Music is our oldest form of expression, older than language or art; it begins with the voice, and with our overwhelming need to reach out to others.”¹

Yehudi Menuhin and Curtis W. Davis

While singing is often the most common music activity in the classroom, it poses special problems in task construction as administered by the National Education Monitoring Project (NEMP) in 1996. The aim of the focus is to identify these difficulties, suggest possible improvements and to consider the information which can be obtained by reviewing the videos and raw data.

There will be three areas of focus:

- A study of relatively inaccurate intonation
- Coping with an uncomfortable pitch level
- Pitching the first note

The first chapter is concerned with the role of singing in people’s lives and why students should be taught to sing. For some it offers a means of self-expression and communication; for others it might be central to religious beliefs or certain rites of passage. The physical benefits associated with singing are also important. For example many pedagogues espouse the idea that developing a singing technique improves the quality of one’s speaking voice; others believe that learning to support the vocal sound with the diaphragm teaches one to relax. There are also the therapeutic effects of sound and music on a person’s well-being, and singing is the simplest means of music-making to achieve that desired result. Arnold Bentley describes the voice as “the most intimately controlled, and, well used, the most beautiful of musical instruments. It is the easily portable, and incidentally, the cheapest. If all our other instruments were taken away there could still be music.”²

Providing a child is not afflicted with physical disabilities such as hearing loss, all children have the potential to sing. However many students experience difficulties in developing their singing voices. A very young child might be physically unable to co-ordinate certain muscles, while an older child in the primary school may have difficulties with pitch and intonation. These difficulties might be associated with tessitura, or an inability to perceive pitch and interpret it with the vocal mechanism.

Many students in the intermediate schools will be at the onset of puberty. This is sometimes associated with a loss of self-esteem which induces a lack of self-confidence. As a result many students may feel inhibited about singing. There are also the physical changes that occur with puberty. This might cause difficulties for boys especially with the changes in their voices.

¹ *The Music of Man*, Yehudi Menuhin and Curtis W. Davis, p. 1.

² *Music in Education*, Arnold Bentley (NFER Publishing Company Ltd. Windsor, Berks. Great Britain, 1975), p. 32.

Controversy still exists whether boys with changing voices should cease to sing until their vocal mechanism is stable, or whether they should continue to sing right through the changes. Many boys of this age will experience fluctuations in their ability to pitch in certain tessituras. Some pedagogues believe that music teachers should adapt to the boys' changing voices, by encouraging them to sing in different registers according to their vocal needs. For girls the changes are less drastic, but they often lose tonal ability in their singing voices and the higher registers tend to be weak. Consequently tessitura is an issue for both genders at the intermediate level. In chapter three these different points are discussed in more detail.

Evaluations offer a means of assessing a student's level of musical achievement or potential. They can help music educators to gauge a student's progress or potential. Sometimes they are the only means available for admitting students' entry to a University or a school of Music. Arnold Bentley cites Colwell: "man adapts to and overcomes his environment by constantly saying to himself 'How am I doing?' then 'How can I do better?' The second question is essential for progress, but it is always preceded by the first question, and that is evaluation."¹ Chapter three focuses on the need for evaluating musical ability and different means of testing.

Chapter four is devoted to the analysis of the NEMP videos in this sample and the concluding chapter offers discussion and recommendations based on the results of the analysis.

¹ Music in Education, Arnold Bentley (NFER Publishing Company Ltd. Windsor, Berks. Great Britain, 1975), p.70.

CHAPTER TWO

THE ROLE OF SINGING IN MUSIC EDUCATION

“Good singing means skilful playing on a well tuned instrument – the human voice.”¹
Julian Gardiner

In music education classes in junior and intermediate schools singing is one of the most common activities. As Arnold Bentley states: “Singing is still the most important medium for music education.”² Yet why should children learn to sing, and why does singing play such a prominent role in music classes? This chapter will address these questions with discussions of the social and physical benefits of singing, and the role this activity plays in the lives of adults as well as children.

Singing as part of culture

Joseph Mainzer writing in 1841 said: “Singing, undoubtedly, constitutes the first ground-work of musical education. All the other branches are only imitations of singing.”³ Singing is one of the most natural means of human communication and expression. Horace Mann wrote: “The voice and the ear are universal endowments... the pleasure resulting from the human voice in song, is the common patrimony of mankind.”⁴ Amongst the Maori people for instance singing is an integral part of their culture. Stuart Manins writes: “Music, as a vital part of a tradition based on communal living, is important because it is widely used in everyday life as well as on special and important occasions. Many Maori children sing spontaneously and fluently because they live with adults who sing frequently, who use singing to enhance all aspects of life, and who enjoy their musical involvement.”⁵

Songs are indeed an important part of the social fabric of all cultures. “Every ritual we share calls for its own music: birth, marriage, death, the planting and the harvest, the coming of spring and fertility, the changing of the seasons, the sufferings of illness and the recovery of health.”⁶ Songs also often arouse and express emotions. “The combination of music and speech into the single expression of song has unique power, conveying feelings of great elation or almost unbearable poignancy.”⁷ Songs are used for protest, for love and honour; they are used as expressions of unity through national anthems. Graeme Askew cites a 1974 study which “found that debilitated youngsters and adults with extreme mental handicaps only passed nights quietly when under the influence of cradle songs.”⁸ Singing is thus an ideal tool to express the common themes of humanity. However there are also other physical benefits to singing.

Physical benefits of singing

When one sings there is a continuation of vibration and energy, whereas in speaking this momentum is constantly arrested. Since the vocal chords vibrate to produce sound, does it follow that the development of tone and resonance arising from the correct use of the singing voice has a positive effect on the speaking voice? Joseph Mainzer wrote: “Singing is the most effective means to improve the organs of the voice, if naturally good.”⁹ Carl Seashore supports this view: “Musicians should recognise that their most effective ally in the cultivation of a

beautiful singing voice lies in the early promotion of the development of an understanding of the meaning and the possibilities of a good speaking voice.”¹⁰ Richard Miller also writes that the singing voice is not independent of the speech mechanism. “Problems of the singing voice frequently are directly attributable to poor speech production.”¹¹ He goes on to say that any vocal fatigue a singer may suffer is more likely to be caused by improper speech habits than an inadequate singing technique. However Morton Cooper, a speech therapist, disagrees with this notion. He maintains that many opera singers are schooled in the technique of correct singing, but they “have little if any awareness of what is efficient or inefficient, let alone what is aesthetic, in regard to the speaking voice. . . Misuse and abuse of the speaking voice may negatively influence and affect, if not destroy, the singing voice.”¹² Anyone who screams or shouts and then tries to sing, will find that these activities have an adverse effect on one’s vocal chords and they do not respond well. Equally if one uses the speaking voice a great deal, such as a teacher might do in a school classroom, this also tends to tire out the vocal chords, and singing becomes a strain.

However there are many opera singers who do have resonant speaking voices, such as Jessye Norman, Placido Domingo and Luciano Pavarotti to name a few. It is also true that if a person speaks in well-modulated tones using the natural placement of the voice, a vocal specialist can usually tell what kind of a singing voice that person might have. For example a man who speaks with a very deep sonorous voice would either have the singing voice of a bass or a bass baritone. Good singing does have a positive effect on speech. The speaking voice has to be utilised in order to help students to understand about their vocal mechanism in singing. By speaking at different pitches and employing the breath correctly this develops the range and resonance capacity of both the singing and speaking voice.

If good singing has a positive effect on speaking, surely good speech should equally have a positive effect on good singing? Kurt Baum, an operatic tenor, supported this view. He said that good speaking leads to good singing.¹³ Some people believe there does exist a correlation between the speaking voice and the singing voice. Morton Cooper believes that individual personalities may be affected by the misuse of the speaking voice. “Any problem with the speaking voice can cause a personality change or a vocal neurosis.”¹⁴ Thus children should be taught to develop the vocal mechanism through speech and song for their own well being. One’s speaking voice is after all something unique to every one of us, and it is a crucial part of our identity. “We can be ruled, nations sometimes have been ruled, by a voice rather than by the words it spoke.”¹⁵ Think of Hitler and his charismatic ability to sway the nation.

The sound experience

David Evans believes that children should be exposed to singing no matter how young: “It is at least as important in their musical development as talking to them is in their speech development.”¹⁶ The human embryo’s first sensory perception is the sound of its Mother’s heartbeat while still in the womb. At birth a baby’s first response is to make vocal sounds that begin with a bawl. Moorhead and Pond write: “Music is for young children, primarily the discovery of sound.”¹⁷ We live in a world dominated by sound, it is part of our consciousness and it can evoke different responses depending on our association with different types of sound. Judith Akoschky describes children’s fascination with sound: “If we watch children at play, imagining and dramatising situations, creating characters or inventing stories, we will notice that

they often accompany themselves with sounds. These sounds become 'characters' within the tale, adding action and making it more dynamic." ¹⁸

Graeme Askew writes: "Sound and music directly affect the human body. This has been known since at least the time of the Egyptian pharaohs... the ancient Greeks also realised that music had an effect on health and used it as a recuperative device." ¹⁹ Murray Schafer is a music educator who has devoted his life to the exploration of sound through music education. He believes that "music is something which sounds. If it doesn't sound it isn't music." ²⁰ In his teaching he has tried to make the enthusiastic discovery of music precede the ability to play an instrument or read notes. An obvious choice for discovering sound possibilities is to make use of the human voice through speech and song. Janet Mills believes that anyone can learn to sing at any age: "One cannot learn to sing overnight, but, with sustained practice, it is possible." ²¹ Practice is the operative word. However, there are two important considerations in discovering one's singing voice viz. the ability to hear the pitch, and the ability to translate that into vocal sound through the vocal mechanism.

"The teaching of singing is to a great extent the teaching of ear training." ²² Developing a musical ear is a crucial component of singing. Without the capacity to hear pitch, we might just as well speak sounds in monotonous. Martina Arroyo, an opera singer, describes pitch as "mental as well as physical. Mentally you must be as high as you are physically. The voice starts in the mind, not in the body." ²³ Pitch association comes about through learning to listen to sounds in a concentrated manner. Concepts of high and low can be taught through movement and spatial awareness; through the use of a keyboard which teaches children to associate sound with the visual element of up and down; and through comparing the sounds of everyday machines such as a vacuum cleaner and the ring of a telephone.

As mentioned before, exercising the speaking voice at different pitches teaches awareness of the possibilities of the vocal range. Joseph Mainzer wrote: "by listening to singing we learn to distinguish the gradation in which the voice is raised or lowered; the ear becomes practised and able to receive and convey the nicest distinctions of tone to the seat of perception. Thus, by gradually attempting to imitate others, we succeed in rendering the organs of voice capable of reproducing the tones which the ear has received." ²⁴

The effects of training and enculturation

Children's awareness of their singing voices is learned through hearing and imitating, i.e. being immersed in a musical environment through the process of enculturation. David Evans writes: "We have such narrow ideas about what constitutes 'music' and these often blind us to what is happening with very small children. It also limits our expectations. For instance, from the time when a baby begins to babble he is already beginning to sing in tune, and by the time he can speak he should be able to sing." ²⁵ Evans goes on to describe how babies he has known who have been sung to frequently are capable of accurately participating in "snatches of the tunes of familiar songs or nursery rhymes at the age when they are starting to talk... it is the *familiarity* of the kind of sound we call singing, the *meaningfulness* and *closeness* of the experience, that makes all the difference." ²⁶ Children who are deprived of these enculturation experiences may present themselves at school as 'tone deaf' with an inability to pitch any notes correctly, or else they show an unwillingness to participate in any activities that involve singing.

Training can play a vital role in a child's musical development as well as offering a personally enriching experience. Kodaly believed that the human voice was the most immediately available instrument and therefore the best way to approach and appreciate music. The objectives in his pedagogy are twofold: "to aid in the well-balanced social and artistic development of the child, and to produce the musically literate adult-literate in the fullest sense of being able to look at a musical score and "think" sound, to read and write music as easily as words."²⁷

The basis of the Kodaly music training programme is sol-fa, which involves the hand signs that he adopted from John Curwen in the nineteenth century. Kodaly believed in first teaching the movable *do* until students begin to learn pitch notation i.e. traditional clefs and letter names. Young children have a limited singing range, and the advantage of the movable *do* is that it allows the teacher to change the pitch of a song or melody to accommodate the young voices. Sol-fa is a very effective means of teaching pitch in particular, as it combines the visual with the aural. Erzsébet Szönyi believes that acquisition of a good ear is only a matter of intelligent training. In Hungary children are engaged in routine daily singing. The results have shown that children who entered a music primary school with minimal singing ability or an unmusical ear acquire a keen sense of pitch, as well as a good singing ability in a period of only one to two months. "If the melodic interval relations of relative sol-fa are once learnt methodically from memory, and at a significantly early age, aural insecurity is automatically eliminated."²⁸

Carl E. Seashore wrote: "sense of pitch depends upon the structure of the ear...no amount of training or maturing can improve the pitch acuity of the ear. However, training and maturing... can greatly increase the functional scope of these capacities."²⁹ Roger Buckton and Stuart Manins make the point that the ability to perceive rhythms and pitch is usually fully developed by the age of seven. "Indeed hearing acuity begins to decline as part of the aging process from about age six."³⁰ The training process is thus a crucial element in the child's musical development.

In New Zealand, many primary and intermediate schools do not employ specialist music teachers, and the Kodaly method does require teachers who are trained in this pedagogy. In a music education study made in 1997 of nine Auckland schools, seven out of eleven generalist teachers were familiar with Kodaly methodology and aspects of it were used in their teaching. The other four generalist teachers in the study had never heard of Kodaly.³¹

Kodaly was particularly concerned with the kind of songs that children should be exposed to in their music programmes. He believed that children should be made culturally aware of their cultural heritage through learning folksongs of their language and culture. The lyrics of these songs should correspond to their age group and mentality. Kodaly's focus on child developmental characteristics with a careful structure of sequential learning make it an ideal musical training programme. However it is this researcher's belief that aspects of the Kodaly method probably work best in a European setting since that society is homogenous and there is an established cultural tradition that people can draw from. Kodaly's insistence on authentic folk music is a problem in New Zealand. The Maori and Pacific Islanders have a rich heritage of traditional music that is intricately tied to their culture, but the New Zealand population as a whole contains representatives of many different cultures.

Childrens' singing can be developed in many ways: control, tone, vocal range, vocal dynamics and expressive quality. The singing experience should become an integral part of every child's musical awareness. If singing can be perceived as an enjoyable and fun activity in which children can express their emotions, it stimulates their imagination, and offers positive reinforcement as it allows them the opportunity to excel. The wider implications of the enabling of self-growth and self-knowledge are seen in the development not only of aesthetic awareness, but also of the self-confidence which comes through opportunities for musically talented students to perform in public "to inspire, encourage, and entertain their peers." ³²

An example of the positive effects of such training was relayed to this researcher by a music educator in Auckland who described her experience with a young child named David. David was aged seven when he met his music teacher. He was a child of average intelligence who came from a family with no interest in music. He had therefore never been exposed to hearing anyone singing, or even attempted to sing himself. At the start of each school day the class register was taken in the form of a singing game in which the teacher would sing each child's name as a minor third interval: "Samuel are you here?" The child would imitate this interval with his sung response: "Yes I'm here." David however, refused to even try to sing. He told his teacher that he "could not hear the sounds."

During music education classes the children were given many opportunities to sing as a group. At first, David showed little enthusiasm or interest in any class singing and he often behaved aggressively during these sessions. The teacher did not try to force him to participate, but she noticed David responded well to the actions of these songs. She wanted to encourage him as much as possible, so she decided to begin each music class by focussing on movement and actions to songs that she herself would sing. Next she divided the class into two groups, with one group singing and the other group doing the actions. Finally the whole class would sing and move together. This became a regular "game" which everyone seemed to enjoy. She was aware that David's attitude began to change over a period of a few weeks. He started to join in the class singing and one day he actually sang his response to the morning register. The whole class applauded while David was actually unaware of what he had done! He then went on to become one of the most enthusiastic singers in the class.

This case is an example of the effects of both training and enculturation. It seems that three key elements were present that offered David the nurturing environment in which to experience musical growth as well as increased self-esteem.

- In terms of enculturation, an important element was David's constant exposure to the sounds of his peers singing and perhaps even more importantly, their enjoyment while engaging in this activity.
- Secondly with regard to training, he had the opportunity to use his vocal mechanism for the first time in his young life. As part of the training process he was also developing a musical ear through pitch perception, and he was learning new songs which were helping him with his vocabulary.
- Thirdly tribute must be paid to the teacher for her patient understanding of David's obvious frustration with an activity that he had never been exposed to before. She helped to bring about a potentially life-changing situation for this child – he discovered the joy of singing and importantly, a growth in self-confidence.

A documented example of how training and culture can play an important role in the formative years is found in Roger Buckton's vocal survey of over 1,000 children aged six that he conducted in Auckland in 1983. His results revealed that "Maori and Pacific Island children sang significantly more accurately than European children... It may be concluded that enculturation processes of Polynesians support in-tune singing to such an extent that practically all can sing in tune by the age of six."³³ In the case of the European children, only those classes that had training in singing in tune with a teacher, were of a comparable level of accuracy with the Polynesians.

The onus of responsibility thus falls on the teachers to train children in the art of singing. As singing is such a natural physical process of expression which is achievable in every child who has the capacity to hear, it is vital that this training occurs as soon as the child is of school going age. Paul Michel analysed the development of 441 highly musically gifted children. He concluded that: "The optimal achievement, i.e. the particularly fast and comprehensive development of basic musical abilities, the 'sensitive' or 'optimal' phase, lies in the 5th-6th year of life, so that here the possibility for the rapid training of vocal or hearing abilities should be used."³⁴

If we wish to ensure a future generation of people in New Zealand who create, recreate and appreciate music in the form of song, we do need to establish an effective training programme in the schools. Too many students did not fare well in the NEMP singing tests. Singing is a natural and ancient tradition that needs to be upheld. Arnold Bentley offers a final comment on this point: "The voice is the most intimately controlled, and well used, the most beautiful of musical instruments... If all our other instruments were taken away there could still be music."³⁵

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CHAPTER THREE

A DISCUSSION OF THE SINGING PROCESS AND MEANS OF EVALUTION

“Singing is a response that involves the two most essential factors in music – pitch and note-lengths...singing inevitably involves listening.”¹ Arnold Bentley

A discussion of some of the technicalities involved in the singing process

Singing is an integral part of many cultures and as a means of self-expression as we have seen. It is important to understand the processes involved in singing and the technicalities involved. Many students in primary and intermediate schools have opportunities to sing during school music classes, and occasionally in assemblies. However, as Arnold Bentley concluded, some students still “do not sing recognisably at the same pitch as their ‘normal’ singing fellows, or who cannot sing a well-known tune sufficiently accurately for it to be recognisable by the listener.”²

Students who cannot sing in tune may experience one or more of the following difficulties:

- Coping with an uncomfortable tessitura.
- Poor control of the vocal mechanism.
- A problem with tonal direction i.e. an inability to distinguish between low and high.
- Poor tonal memory.
- Poor intonation. A child may have a problem singing at the right pitch, even though he or she might be able to differentiate between low and high.
- Emotional or psychological blocks.
- A physical defect such as partial deafness, adenoids or definite speech deficiencies.⁸

1. Singing at the Primary level

Buckton and Manins write: “By the age of seven the ability to perceive rhythms and pitch is usually fully developed.”³ However the authors note that considerable individual differences are often evident. “While most children should be singing in tune... there will be many who need special assistance.”⁴ Welch, Sergeant and White comment that “approximately 35% of 7-year-olds in Western cultures sing out of tune.”⁵

While some children may experience difficulties with pitch when singing alone, Roger Buckton notes that “some children can sing in tune with the assistance of others around them... Others may be limited by vocal range or the nature of the melody of a particular song.”⁶ The question of vocal range is identified by Janet Mills who writes: “Children learn to sing in tune by singing in their comfortable range, and develop a wider vocal range by gradually extending it.”⁷ Edwin Gordon identifies another problem: “Tessituras which continually cross voice breaks encourage students to sing out of tune.”⁸

Assuming a child is not afflicted with hearing loss, or any other physical deficiencies, an inability to sing in tune may be the degree to which the child is able to perceive pitch and then

interpret it with the vocal mechanism. Perception is defined by Glenn and Turrentine as “an act comprised of apprehension and comprehension. In other words, it is the ability to receive an external impression and, then to give, interpret, or understand the meaning of the external impression.”⁹ Children who score well on tests that involve differentiating pitches played on a musical instrument, may not necessarily be able to reproduce those pitches through singing. The act of singing requires a co-ordination of muscles in the throat, that need to be exercised in order to be able to produce an intoned sound at different pitches. If a child is not used to singing, he or she finds it difficult to render the auditory sensation of what the ear hears into a physical sound.

In Marvin Greenberg’s view continued out-of-tune singing is tied in with self-concept. “People develop their self-concepts in music from the kinds of experiences they have had in dealing with music.”¹⁰ He gives an example of a negative statement that a child may have received about his or her singing: “Sing softer, you’re spoiling the singing of the others.”¹¹ The writer believes that “people learn that they are able, not from failure but from success. To feel acceptance one must experience acceptance... there is an ever-flowing impact between the self and the continuum of experiences involved in the process of learning music at school... underachievement in music, including the lack of ability to sing in tune, is in part a function of the individual’s self-concept.”¹²

Another important consideration in ability to sing in tune is described by Edwin Gordon. “The early studies of Drexler and Williams demonstrated that a sense of tonality is fundamental to singing in tune and to remembering tunes... children could recall a series of pitches based on a tonal centre but not a series that did not imply a recognisable tonality.”¹³ Arnold Bentley suggests that children go through three developmental stages in response to a melody:¹⁴

1. Rhythmic coalescence.
2. Grasp of the tonal configuration, more approximate than exact.
3. Coincidence in pitch when the exact tonal configuration is sung at the pitch of the stimulus tune.

Bentley believes that the majority of children readily and spontaneously respond at a fairly early stage to rhythmic pattern, which is helped by the rhythm of the words. The other two stages he identifies are closely associated and pitch is common to both. He has observed that children seem to be able to sing in unison less spontaneously than they are able to join in a unified rhythmic response. Thus unison singing seems to occur at a later stage and is related to pitch ability. Bentley’s findings are in accord with Stern’s research. “Stern thought that rhythm makes a special impression on young children because, unlike melody, it can be grasped and copied by all sensory and motor organs.”¹⁵ However Wing believed that “the first aspect to develop in the case of many children is melodic shape.”¹⁶ Based on his observations of children participating in spontaneous play and music and movement at school, Wing concluded that they do frequently sing in tune, but do not usually display a rhythmic response by walking or skipping in time with the music.

In light of these different research findings proffered by Bentley, Stern and Wing, it would seem that the teacher’s task in helping young children to develop their melodic and rhythmic ability, is to afford them frequent opportunities to hear singing and to sing themselves while also employing as much rhythmic activity as possible. More importantly, Roger Buckton writes:

“There have been recommendations that effective teaching in early childhood could eliminate the need for later remedial work.”¹⁷

Another factor to consider in singing ability is the physical development of the young child. Some children develop physically sooner than others. Inability to sing properly might stem from lack of physical development. Glenn and Turrentine write: “Music skills, such as learning to perform on a musical instrument, rhythmic action, and singing, are related to the general physical-motor development of the physique... The child’s physical and social environment apparently exerts considerable influence on the extensity of the motor skill development.”¹⁸ Glenn and Turrentine cite the research conducted by Theresa D. Jones on childhood motor development. She concluded that “minimum performance of motor skills is dependent upon an appropriate degree of neuromuscular maturation, however, the development of the skill into a graceful, coordinated performance is dependent upon continued practice.”¹⁹

The music educator thus has to be cognizant of the physical readiness of young children. Most children experience the same sequence of development. “Almost all of the research indicates that a common age at which various functions typically emerge is fairly predictable. The individual differences occur in the rate of development rather than in the sequence of development.”²⁰

Thus Glenn and Turrentine argue that it can be detrimental for the music educator to teach music skills to children before they are ready both physically and psychologically. Bad habits and negative attitudes may result, which will be difficult to eradicate as the child gets older.

2. Singing at the Intermediate level

As the human person matures, the voice range naturally extends upward and downward. The problem though is that many children no longer have the desire to sing once they reach puberty. Charlotte P. Mizener highlights this attitudinal change in a journal article: “the incidence of participation in choirs and choral music classes is relatively small at the secondary school level compared to participation in elementary school.”²¹ There seem to be various factors that promote a negative attitude to singing among older children. “Researchers have described how attitudes toward music are related to grade level, gender, classroom music activities, parental involvement, out-of-school experiences and self-concept and self-esteem.”²²

Tied in with ‘self-concept’ and ‘self-esteem’ is the physical development of older children which effects their vocal mechanisms. These changes effect boys and their singing voices far more drastically than girls. In girls’ voices there is a notable lessening of muscular power in the vocal organs, that often results in a breathy sound with little tonal quality. When boys’ voice change, they often find it difficult to maintain one kind of register when either speaking or singing as the vocal chords will be growing more quickly than the muscles controlling them.

Controversy still exists among music educators regarding the wisdom of allowing adolescents to sing through this time of physical change. Richard DeYoung writes: “Proponents of either side of this controversial question can present examples in support of their opposite views. The weight of the majority, however, seems to lean to the side of the educators who have demonstrated over and over that both boys and girls can sing safely through adolescence.”²³ Brocklehurst comments: “It is recognised that singing for boys with changing voices, provided that it is not too vigorous, can help to ease the transition from the boy’s voice to the adult voice.”²⁴ The critical issue is competent guidance of these young voices. Boys should be encouraged to sing at their most comfortable pitch, which might vary considerably from day to day. Higher

notes in girls' voices are particularly affected by the changes in their vocal mechanisms. Thus girls should avoid singing in their upper regions of the voice to obviate the possibility of vocal strain.

Above all, students should think of singing as an enjoyable and fun activity as it is such a personal means of self-expression. A positive response to singing should engender a greater desire to want to participate in singing activities, which in turn will help to develop students' musicality and minimise any difficulties students might experience in singing.

The means of evaluation

The first attempts at evaluating human abilities were developed towards the end of the nineteenth century. In early psychological experiments it soon became apparent that rigorous control of conditions was of paramount importance. It was concluded that results attained by the subject could be significantly influenced by various factors, such as wording of instructions. "It thus became obvious that experiments with all subjects should be conducted under standardized conditions."²⁵

In evaluating musicality, assessing a child's potential or assessing a child's level of achievement can assist the teacher as well as the parents to guide that child in an appropriate way. For example a child may be advised to join the school choir, on the basis of a reasonable ability to sing. However, a child who cannot pitch correctly may be experiencing difficulty with vocal control, it might be a retentive problem, or simply that the child is not interested in singing. "Valid objective measures of pitch discrimination and tonal memory can supply information which will help in finding solutions to these and similar problems."²⁶ Carl E. Seashore wrote: "Educational guidance in music should be based upon measurement – the measurements of specific musical talents."²⁷

Arnold Bentley maintains that teachers can make valuable subjective assessments of their students, but these assessments are "inevitably restricted to a teacher's experience with a comparatively limited number of pupils."²⁸ In order to make an objective assessment of students' musical ability, it is necessary to devise tests that might be useful to other music educators. The most suitable tests will depend on the musical level of the subjects, their cultural backgrounds and their age.

In administering any kinds of musical tests there are practical factors that should be considered. The following is a partial list of William Whybrew's recommendations:²⁹

- The medium of employing the sounds involved. Equipment used for testing should be of satisfactory quality and in a good operating condition.
- The attitude of the tester to his or her subjects. The tester should be able to relate well to the subjects and be able to put them at their ease.
- The type of physical facilities being used. Is the room likely to be located near any distracting noises?
- The physical and mental condition of the subjects. If any subjects appear to be suffering from some kind of temporary affliction such as a cold, or emotional disturbance, this should be noted as it might affect the reliability of the results.

- The suitability of the test for the subjects on which it is being used. There may be too many difficult items that students don't understand or those that require guesswork on the part of the subjects.

Some teachers believe musical aptitude tests should not be used as the sole criterion for selecting candidates for a course of musical study, as often the results attained on the test are given too great weight. Therefore, many teachers dismiss the tests as a waste of time. Whybrew points out that there are also those teachers who believe that all students who have the inclination for musical study should be given an equal opportunity without going through a selection process.

However aptitude tests can be a means of making purposeful decisions regarding an individual's needs and abilities. Edwin Gordon's *Musical Aptitude Profile* lists several reasons for the development of his test battery. This list identifies a wide spectrum of possible outcomes that are useful for an objective aid in evaluating musical aptitude, and they are included here in abridged form:³⁰

- To encourage musically talented students to participate in music performance organisations, such as school choirs.
- To adapt music instruction to meet the individual needs and abilities of students. All students possess at least some musical talent which may be developed. Few students score equally high or low on all of the seven basic musical aptitude factors represented in the *Musical Aptitude Profile*, therefore students should receive instruction emphasising different methods and techniques to compensate for their specific deficiencies or to enhance their special musical aptitudes.
- To formulate educational plans in music. A student may be guided to choose music as an avocation as a result of his/her standing on the *Musical Aptitude Profile* and past achievement in music.
- To evaluate the musical aptitude of groups of students. The musical potential of different performance groups in a school may be evaluated by music directors and school supervisors. Based on this information, decisions can be made for adequately providing for these different performance groups.
- To provide parents with objective information. A teacher's judgement concerning a child's musical potential may be more acceptable to a parent if substantiated by objective scores on the *Musical Aptitude Profile*.

Gordon writes that aptitude tests are to a certain extent a measure of achievement.¹⁷ "An aptitude test may be distinguished from an achievement test only to the extent that the generalised function of aptitude is relatively maximised and specifically taught course-content material is relatively minimised."³¹ However, if assessments are conducted solely on the basis of achievement, the results obtained would be useful in evaluating the students' level of attainment. For example, a junior school seeking recruits for a choir that frequently enter competitions and participate in festivals, or a Cathedral Choir who regularly perform masses and other sacred music in religious services. Such a choir would of necessity be made up of children who possess a degree of musicality, that is certain qualities necessary for good singing such as an ability to sing in tune, and a good sense of rhythm. An achievement test administered to children interested in joining these choirs, would enable the music director to make suitable choices. Any

child who did not measure up to the required standard set by the music director would not be admitted.

Achievement tests are also used widely by tertiary institutions which often have a limited quota for performance students. Candidates are required to audition in order for the authorities to make appropriate choices. Shuter-Dyson points out: "A danger inherent in any achievement test is that the teacher may come to assume that an average score indicates not only what the pupil *has* achieved but what he *should* score."³²

1. Group-testing of Musical Ability

Group-tests have certain advantages over individual tests:

- Many more students can be tested in a limited time.
- Conclusions may be drawn based upon a much larger sample of the population, consequently population trends can be inferred.
- The instructions, examples and the actual test material are the same for all subjects on whatever occasion they are administered.
- The answers are objective, and not dependent upon a marker's subjective assessment as was the case with the NEMP tests.

However there are disadvantages to group-testing:

- The most obvious is that the subjects have to respond to the test in written form. Audible responses are not permitted as they would interfere with the test proceedings and could influence the responses of others in the room.
- Some students may not understand the instructions, either because they are unclear or there is a language problem. This would pertain particularly in a multicultural society such as New Zealand. English is not the first language for many people in this country. Therefore, if tests are conducted in English it is important that the subjects clearly understand all the instructions before proceeding.
- Shuter-Dyson points out another disadvantage: "They usually have a large number of multiple choice answers into which chance factors may enter."³³
- Students who are not old enough or mature enough may not cope well for several reasons: They may not be able to write sufficiently well to give appropriate responses on the answer sheets; they may not be able to concentrate for the duration of the test; they must be able to work in silence. Bentley is of the opinion that most children are able to cope with these conditions by the age of seven years, but generally group tests cannot be measured successfully prior to this age.³⁴

2. Individual tests

In Shuter-Dyson's view individual tests are usually more reliable since the instructor can clarify any instructions which might appear confusing or vague to the child. Individual tests are also the only way to evaluate performance progress of singers. The disadvantage of individual tests is that they are more time consuming and they may only represent a small sample of a population. Perhaps the chief disadvantage though is that the child may feel vulnerable as the sole candidate

in a test situation. Consequently the child may not respond well, and the results will be affected accordingly.

For the purposes of the NEMP singing tasks, it seemed that individual evaluations were the most appropriate. However, Roger Buckton describes a singing test he devised in which the whole class participated, but with the use of individual microphones distributed in groups of ten, it was possible to record individual's voices. The teacher who normally taught singing, was asked to choose some songs 'which the children sing the best.' "Thus, while the whole class was singing, recordings were made of each child's contribution, and, by using each channel of a stereo recorder, five verses of a song were sufficient to obtain recordings for the first 10 children. This procedure was repeated with a change of song, until recordings were obtained for each of the children in the class."³⁵ The results were later analysed by the writer according to seven categories he devised ranging from 1 "invalid – no sound, indicating that the child was not singing, or a possible defect in recording" to 7 "sung consistently with a high level of vocal accuracy."³⁶

3. The role of pitch and melodic memory in musical ability tests

There are two specific musical components which should be discussed that have a direct bearing on singing ability, viz. pitch and melodic memory. John Booth Davies writes that a sense of pitch is generally agreed to be a central component in musical ability. When he conducted a questionnaire survey of musicians on the staff of four leading music colleges, Davies found that a good pitch sense was rated the most important attribute. Consequently there is a widespread use of some type of pitch test in most test batteries.³⁷ It is usual in test batteries for pitch abilities to be tested in similar ways, mostly by asking subjects to make judgements about the pitch of two tones that are heard consecutively. The tones are either the same or different or the second tone is higher or lower than the first. Those tones that have large pitch differences make discrimination easier, but some tones are presented with very small pitch differences of less than a semitone, such as the tests of Seashore and Bentley, and these are far more difficult to detect. "Teplov has pointed out that change of pitch is also accompanied by a subjective change in timbre and in loudness, so that there are several cues to pitch change other than simple pitch *per se*. He also presents evidence to the effect that the ability to detect simple pitch change is so elementary that it does not correlate highly with other 'musically meaningful' tasks."³⁸

Davies points out that the other most frequently used item for testing musical ability is that of tonal or melodic memory. Usually the subject is asked to listen to two versions of a short melody and to judge whether they are the same or different. Davies distinguishes between these types of tests: (a) There are differences in the pitch of notes between the two versions, and (b) there may be differences such as rhythm, key, phrasing or loudness. In the (a) type of tests, Davies cites Teplov who has distinguished between two components in an 'ear for melody:' the ability to recognise and reproduce the intervals between tones correctly, and the melodic contour of a tune, or the direction of the pitch changes. Teplov maintains that the ability to remember the melodic contour often occurs "before there is accurate recognition or recall of the precise intervallic distances involved."³⁹ In the tests devised by Bentley and Wing, there are only pitch alterations between tones and no changes in melodic contour.

Davies suggests types of tests that could thus be utilised for pitch discrimination. The following list is an abridged version:

1. The version to be recognised is identical in every melodic respect to the standard.
2. The version to be recognised is transposed into a different key, but is still the same tune.
3. The version to be recognised merely has the same pattern of 'ups' and 'downs' as the standard i.e. the melodic contour is preserved, but not absolute or relative pitch differences.
4. The version to be recognised differs in every important melodic respect from the standard.

Numbers 1 and 4 should be obvious to all subjects, while numbers 2 and 3 may not be that easy to identify. Davies concludes that a different approach might be adopted towards melodic memory tests "which does not place all the emphasis upon a change of a single note, and which might more precisely indicate those aspects of a tune which a subject is able or unable to deal with, namely, relative pitch differences, absolute pitch differences, and melodic contour."⁴⁰

In memory tests that involve the differences between two versions of a tune with regard to elements other than pitch change (b) Davies cites tests devised by Drake and Kwalwasser. Both test authors use items which differ in several dimensions, so that they are in effect measuring several abilities and not just one. Test scores on tests such as these "must be regarded as a compound measure within which several different abilities are intermingled. In other words, the 'ability to spot a change, and to describe it' is dependent upon the nature of the change."⁴¹

4. Other types of testing

Tests are sometimes devised specifically for research purposes. Two examples that pertain particularly to singing skills are tests constructed by Eunice Boardman and those conducted by Graham Welch, Desmond C. Sergeant and Peta J. White. These tests focus on young children's ability to sing in tune. Boardman was concerned with vocal accuracy and the effect of training on preschool children. The tests were administered individually to subjects ranging in age between kindergarten and second-grade who were divided into two groups: (a) those receiving special training in vocal accuracy (b) those receiving no specialised training. Boardman's test consisted of twenty melodic fragments sung three times by a woman on a recording. The child then had to sing her rendition which was recorded and later scored on a seven point scale for vocal accuracy. Boardman's results led her to conclude that preschool training may increase the normal development of vocal accuracy, but will not noticeably affect it in any other way.⁴²

The test devised by Welch, Sergeant and White was concerned with assessing a variety of pitch matching tasks in a longitudinal study of a sample of children aged five, six and seven. This study took place during each year of their first three years in school. The tests consisted of pitch glides, pitch patterns and single pitches as well as two sample songs, which were assessed for vocal pitch accuracy by a team of judges. "The results suggest that (a) vocal pitch accuracy is task specific, (b) there is a greater homogeneity in vocal pitch matching abilities between girls and boys than previously reported and (c) it is only at the age of 7 years that the previously reported sex difference in favour of girls emerges, and this is only in relation to the sample song material."⁴³

Another type of test that is currently in vogue is the criterion referenced test which is designed to measure a student's acquisition of skills in particular areas. Thus distinct criteria are laid down. Examples of these types of test are the ACER and University of Melbourne Kit and the NEMP music task assessments. The ACER and University of Melbourne Kit was designed to measure

skills in seven areas: pitch discrimination, discrimination in the length of sounds, volume discrimination, tone colour discrimination, patterns recognition, identification of instruments and instrumental groups, and knowledge of musical signs and symbols. In the pitch discrimination test some of the conventional pitch test questions are utilised. For example those which ask subjects to distinguish between sounds that are higher or lower or stay the same. However the test also employs the use of diagrams on some of the pitch questions. Based on the sounds they hear, subjects have to indicate which diagram correctly depicts pitch movement. The visual symbols offer another dimension to the pure auditory skill required to distinguish sounds. It is arguable though whether this enhances a subject's ability to make a correct judgement since the test is no longer one-dimensional. Someone who has an inability to conceive shapes may score very badly on this test.

The NEMP assessments involved twenty-five music tasks using three different approaches: one-to-one interview settings, where students used materials and visual information; team tasks in which groups of children worked together; and stations tasks where students worked independently on tasks that involved listening to recorded music. Student responses on station tasks were indicated with paper and pencil. The music tasks have a central theme of 'making and understanding music' through three basic aspects of music: creating, recreating and appreciating music. Within the framework of recreating music are the two singing tasks that are the focus of this thesis. Both require the abilities of pitch and melodic memory referred to earlier. The results of these tests will be discussed in detail in the following chapter.

Conclusion

Good guidance is an essential aspect of music education. In order to facilitate a child's musical potential or to monitor progress, evaluations play a vital role. In fact the need to evaluate is very much in evidence in many different areas of music. Frequently musicians involved with competitions or auditions have to make judgements which involve evaluating and measuring. Music teachers can also find evaluations helpful in gauging their own effectiveness in the kind of teaching methods and materials used; on an aesthetic level, we all evaluate music as a listening experience either consciously or unconsciously. Based on our internal assessment of music that we hear, we may respond positively in different ways. We might go to a music store to purchase a CD of that music; we may try and imitate the music through singing or playing an instrument, or we may want to dance to the music. We might also respond negatively by wanting to turn off the sound of that music. All these responses are based on our own personal evaluations of how we feel about that music.

However, most evaluations in music are concerned with assessing a student's musical abilities. Tests attempt to provide information that is important for the musical development of the child. While standard musical aptitude tests offer some perspectives about a child's musical ability, it is questionable whether they provide adequate information. Graça Mota highlights this inadequacy in a journal article. She conducted research in the musical development of a group of 100 children from the beginning of schooling until the end of the third grade in three different schools in Portugal over a period of three years. Mota studied the relationship between the children's results on a standardised test of musical aptitude - Gordon's Primary Measures of Music Audiation -and their performances on three specific music tasks: singing a song, reproducing a short tune, and keeping meter in instrumental play. All children were

administered two types of tests (a) the Gordon tests and (b) a set of specially devised individual musical tasks. “The hypothesis was that musical aptitude tests serve only limited purposes and cannot reflect the variety of manifestations that children’s musical behaviour can take.”⁴⁴ Mota’s results confirmed her hypothesis. “Although it is certain that they [standardised tests of musical aptitude] provide information about some specific musical skills it also seems obvious that other important parts of human musicality remain untapped by this kind of testing.”⁴⁵

Objective assessments will always be difficult to administer in evaluating musical ability since Psychologists and Music Educators still wrestle with the problem of terminology. The word ‘musical’ is an elusive one to define. Perhaps the fairest kinds of tests are those that are used in conjunction with a Music teacher’s individual assessment of a child’s musical ability. As a final comment on the subject: “We must always guard against the pertinent taunt that the examiner may not be measuring the ability of the subject, but rather his own inability to give a fair test.”⁴⁶

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CHAPTER FOUR

ANALYSIS OF SINGING TASKS IN NEMP

“Evaluation is integral in living and learning.”¹ Gordon Bentley

This chapter focuses on an analytical discussion of the two singing tasks that were administered as part of the National Educational Monitoring Project (NEMP) in 1996, namely “Sing Song” and “Vocal Sizzle.” The musical phrases of these tasks can be found in the Appendix. The Educational Assessment Research Unit (EARU) chose 187 videos of students who participated in these tasks for further analysis. This represents a sample of approximately 10% of the original data gathered in these tests. Six videos could not be used in this analysis for the following reasons:

- Two videos did not have the tasks “Sing Song” and “Vocal Sizzle” recorded on the videos.
- A teacher did not follow the instructions correctly in the task “Sing Song”, and thus the data was considered to be invalid on four of the videos at the year 8 level.

While the videos were reviewed, the students’ individual responses to each phrase or song were all noted, and other observations pertinent to this analysis were recorded. Following the reviewing process two databases were compiled to represent the two tasks. Each student’s responses were entered as separate records, to allow for the process of analysis.

TABLE 1

Breakdown of total numbers in this sample

	<u>SING SONG</u>			<u>VOCAL SIZZLE</u>			
	Male	Female	Pakeha	Male	Female	Pakeha	
Yr. 4 (n = 54)	31	23	41	Yr. 4 (n = 44)	20	24	33
Yr. 8 (n = 38)	17	21	33	Yr. 8 (n = 45)	20	25	37

The three main areas of focus for the analysis are:

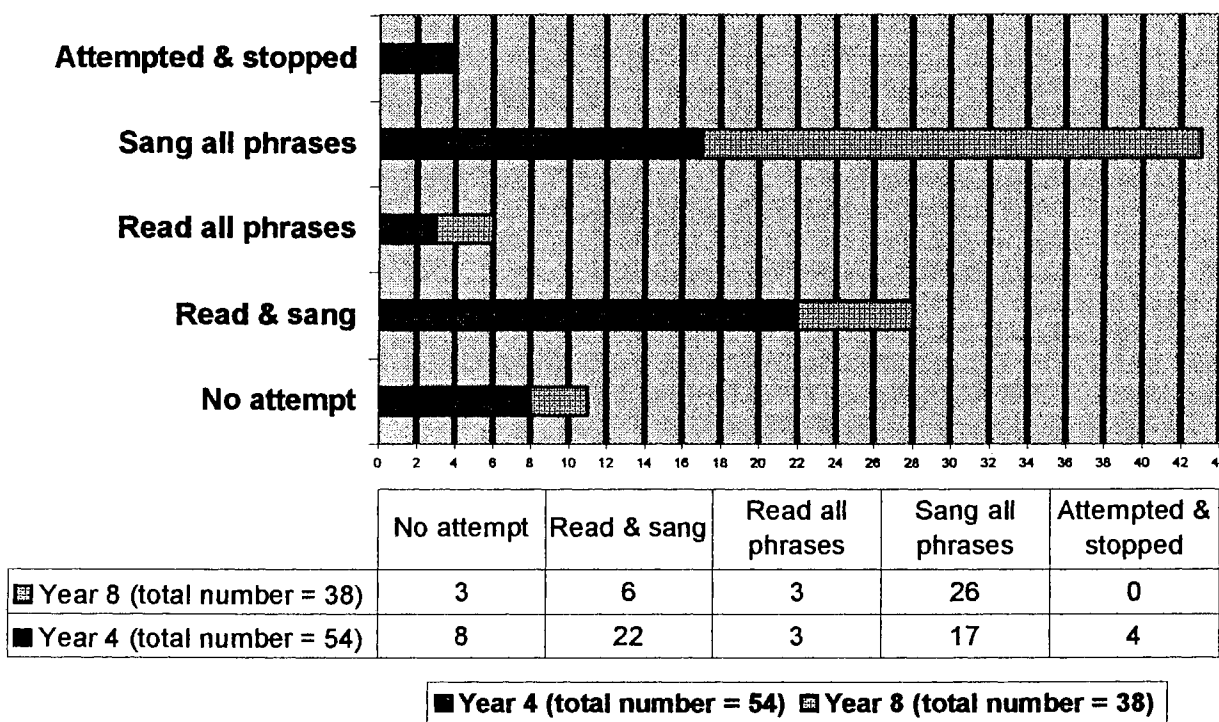
1. A study of relatively inaccurate intonation
2. Coping with an uncomfortable pitch level
3. Pitching the first note

At the outset it should be noted that the task “Vocal Sizzle” elicited more correct responses among the students at both the year 4 and year 8 levels than did the task “Sing Song.” Out of a total of 89 students who participated in “Vocal Sizzle,” five at the year 4 level and two from year 8 sang all the phrases correctly, while two year 4 and three year 8 students had almost all the

phrases correct with slight intonation problems. In comparison none of the 96 students who participated in “Sing Song” were able to sing all the songs correctly, while there were only two students (one from each year level) who almost sang all the phrases correctly, except for minor intonation problems.

It is significant that only one student (at the year 8 level) did not attempt “Vocal Sizzle.” In comparison, “Sing Song” was not attempted by eight year 4 students and three year 8 students. A total of five year 4 students (two participating in the “Vocal Sizzle” task and three in the “Sing Song” task) chose not to continue a task after attempting at least one or more phrases. There were also examples in “Sing Song” of four year 4 students and seven year 8 students who chose to read the words rather than attempt to sing, while twenty-two year 4 and three year 8 students alternated between singing some of the phrases and reading the others. The following chart indicates the students’ responses to the task “Sing Song.”

CHART 1
Students' responses to the task "Sing Song"



The major difference between the two tasks was the use of words in “Sing Song.” Many students appeared to be self-conscious during this task. The words heightened the complexity of the task for two reasons:

1. The words made “Sing Song” more like a tangible singing experience and for this reason it may have been intimidating for some students. Students who weren’t used to singing, and

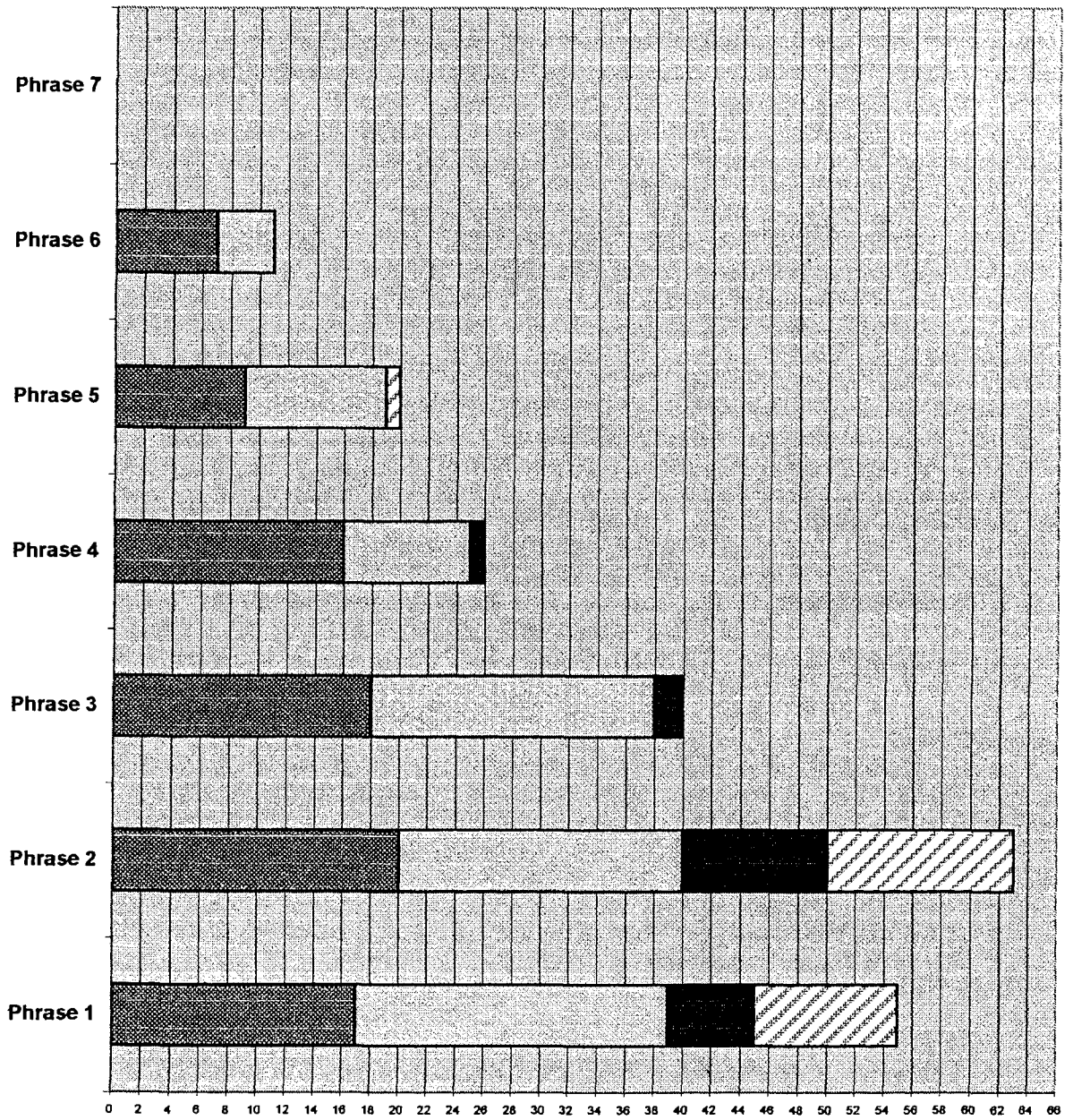
particularly singing solo, may have found the “Sing Song” exercise daunting. This possibly accounts for the fact that 20% of year 4 students and 15% of year 8 students made no attempt to sing. In contrast 98% of the students attempted to sing in the “Vocal Sizzle” task. The “doo” sound makes the voice sound more like a musical instrument and less like a real singing exercise. “Vocal Sizzle” was therefore a much simpler and less threatening task to students.

2. A common difficulty experienced by the students was in pronouncing words such as “Sligo” and “Belfast.” Ten year 4 students and three year 8 students were affected by this. There may have been more with reading difficulties, had it not been for the intervention of Teacher Administrator’s who offered reading assistance to some students.

The other differences between the tasks were that the melodic phrases were much longer in “Sing Song” and there was also an extra phrase (phrase 7) included in this task. In “Sing Song,” students had to contend with not only remembering the longer melodies, but also reading the words and fitting the words to the melody. The following chart shows the number of accurate responses per phrase in both tasks.

CHART 2

The number of student responses per phrase in both tasks



	Phrase 1	Phrase 2	Phrase 3	Phrase 4	Phrase 5	Phrase 6	Phrase 7
■ Year 8 S.S. (n= 38)	10	13	0	0	1	0	0
■ Year 4 S.S. (n= 54)	6	10	2	1	0	0	0
□ Year 8 V.S. (n = 45)	22	20	20	9	10	4	
▨ Year 4 V.S. (n = 44)	17	20	18	16	9	7	

▨ Year 4 V.S. (n = 44) □ Year 8 V.S. (n = 45) ■ Year 4 S.S. (n= 54) ▩ Year 8 S.S.(n= 38)

Since the phrases and songs progressed from simple intervals to more complex ones, it was evident that the more difficult the phrases became, the less students were able to render the successive phrases accurately. It is also apparent from this chart that "Sing Song" was a much more complex task, as there were no accurate responses to phrases 6 and 7.

A further analysis was made between the difference between male and female responses to the phrases in both tasks. In "Vocal Sizzle" more female students sang correct responses than male. This finding is consistent with the findings reported in the Assessment Results Manual for 1996² Studies of gender differences have also revealed that "girls are consistently being rated as more competent "in-tune" singers than boys (Trollinger, 1994; Welch & Murao, 1994). Recent research studies published in Ireland continued to support these summative findings and there is an ongoing consensus that the proportion of boy to girl out-of-tune singers is 2 or 3:1 for any given age group."³ However there was an exception noted in "Sing Song" at the year 4 level, with more correct male responses, while at the year 8 level there were more correct responses recorded from females.

The numbers of students from other cultures numbered 20% at year 4, and 24% at year 8 in the task "Vocal Sizzle," while in "Sing Song" there were 24 % and 18% at year 4 and year 8 respectively. Two students who participated in "Vocal Sizzle" sang all the phrases accurately (one at year 4 and one at year 8). "Sing Song" caused reading difficulties for five of the students (four at year 4 and one at year 8), and two year 8 students did not attempt this task. These findings are in accordance with the Assessment Results Manual for 1996, which states that non-Maori students scored higher than Maori students in these tasks as "embarrassment and language difficulties may have differentially affected Maori students."⁴

External influences on students' responses

In the preceding chapter it was noted that various criteria needed to be taken into account in any kind of testing situation. In the case of the singing tasks administered by NEMP the following observations were made which may have had a bearing on the students' responses:

1. The video camera

It was observed during both tasks that some students appeared to be self-conscious during the process. Since all the students were aware that they were being recorded by a video camera this factor may have affected some of their responses. This was particularly noticeable for those students who were not keen to sing, but nevertheless attempted the activity.

2. Extraneous noise

Students' ability to listen was an essential component in the NEMP singing tasks. Listening involves concentration and the student's ability to hear the voice on the monitor accurately was a critical part of being able to echo sing the same melody. A factor that may have influenced some of the results of the tasks was extraneous noise. In the one on one testing, there were mostly two students in a room at the same time participating in different tests. Noise emanated from either the sound of the NEMP instruction video being played for another student in the room, or by a student performing a musical task such as playing the keyboard or singing. In three cases

disturbing noises could be heard coming from construction works outside the room. In the task “Vocal Sizzle” noise was an issue during seven year 4 and eight year 8 tasks, while noise featured during three year 4 and nine year 8 “Sing Song” tasks.

It was evident that several students were conscious of the extraneous noises, and indeed sometimes the teaching video was almost inaudible. Some students requested for the volume to be adjusted on the instruction video, and occasionally a student was observed giving a distracted glance towards the area from where the noise emanated. It is questionable whether student’s responses can therefore be accurately assessed under these conditions.

3. The role of the Teacher/Administrator (T/A)

Another factor for consideration in the overall analysis is the T/A’s ability to convey information to the student. This was particularly evident during the task “Sing Song.” As was stated at the beginning of this chapter, four year 8 videos could not be included in this analysis, because one T/A insisted that four students should sing with the child Matthew on the instruction video, while he repeated the song a second time. The intention of the task was for the student to be able to recall the song unaided. As these four students did not perform the task alone, their responses are considered to be invalid for the purposes of this analysis.

In another example a year 4 student performed the first two songs without hesitation and there were no intonation problems, although both songs were pitched a third below the actual pitch. The T/A then suggested that the student could stop at any time if he wished, and he immediately elected to stop the activity. Had the T/A not intervened the student might have continued. There was also an example of a T/A who intervened before the student attempted to sing the first phrase. The T/A asked the student whether he could sing the phrase and the response was that he could not. The activity was then stopped without any attempt by the T/A to try to engender further interest.

By contrast other T/As who clearly had unwilling students continued with the activity until it was obvious that the student was not going to attempt to sing. In these insistences the activity usually ended after the fourth song. Two other T/As made an effort to try and persuade the student to at least try the activity. One suggested that the student might want to listen to the songs and that she could join in if she wanted to. The student chose not to participate and after the fourth song the activity was stopped. However another student was persuaded to continue by the T/A’s ability to make her feel at ease. She sang three of the songs with recognizable pitches, two were read and two were rendered in a half-sung, half-spoken manner. Both these T/As displayed a lot of patience and a real desire to want to help the students with this activity.

One particular T/A appeared to be unhelpful with her four students. The following points were observed in her interactions with these students:

- She made no attempt to stop disturbing extraneous noise that was evident on one video. The student who was affected by this noise did not respond to the first four songs on the instruction video and the activity was stopped.
- Three students who attempted the activity, sang each song twice without intervention from the T/A.

- One student seemed to have a particularly difficult interaction with this T/A. Apart from the fact that the student also sang each song twice, there were three other points that were observed:
 - (i) The keyboard that was used in the previous activity was not removed and nor was it pushed to one side. The instrument was clearly an obstacle for the student, as it was in her way as she tried to read the words of the songs on the sheet given to her.
 - (ii) The student experienced difficulty with the words of the fourth song “Granddad Murphy comes from Belfast.” She tried unsuccessfully to correct herself without assistance from the T/A. Eventually the T/A asked the student whether she wished to continue, and the student replied that she did. During this exchange the instruction video was not stopped. The student then attempted the fourth song yet again, while the fifth song was being sung on the instruction video. The result was that the student did not hear the fifth song, and she resorted to reading the words.
 - (iii) During her rendition of the sixth song, the student was distracted by the T/A shuffling papers.

There were other instances when the T/A proved to be a real asset during the “Sing Song” task. Three T/A’s helped eight year 4 students by ensuring they could read the words of each song before they heard it being sung on the instruction video. They also assisted the students by pointing to the words on the song sheet while the students sang their renditions. This demonstrated care on the part of the T/A’s, that resulted in an adequate performance of the tasks by the students.

In direct contrast there were two T/A’s who made no attempt to help their year 4 students (they each had two of these younger students) when they experienced problems with the words. However the question arises whether the T/A’s role was that of a facilitator, or simply to impart instructions. T/A’s who assisted students also played a part in affecting the results of the singing tasks.

After reviewing these videos, it is apparent that in these particular tasks, the T/A’s ability to communicate effectively with the student is of paramount importance. It is evident that the T/A plays a vital role in two ways:

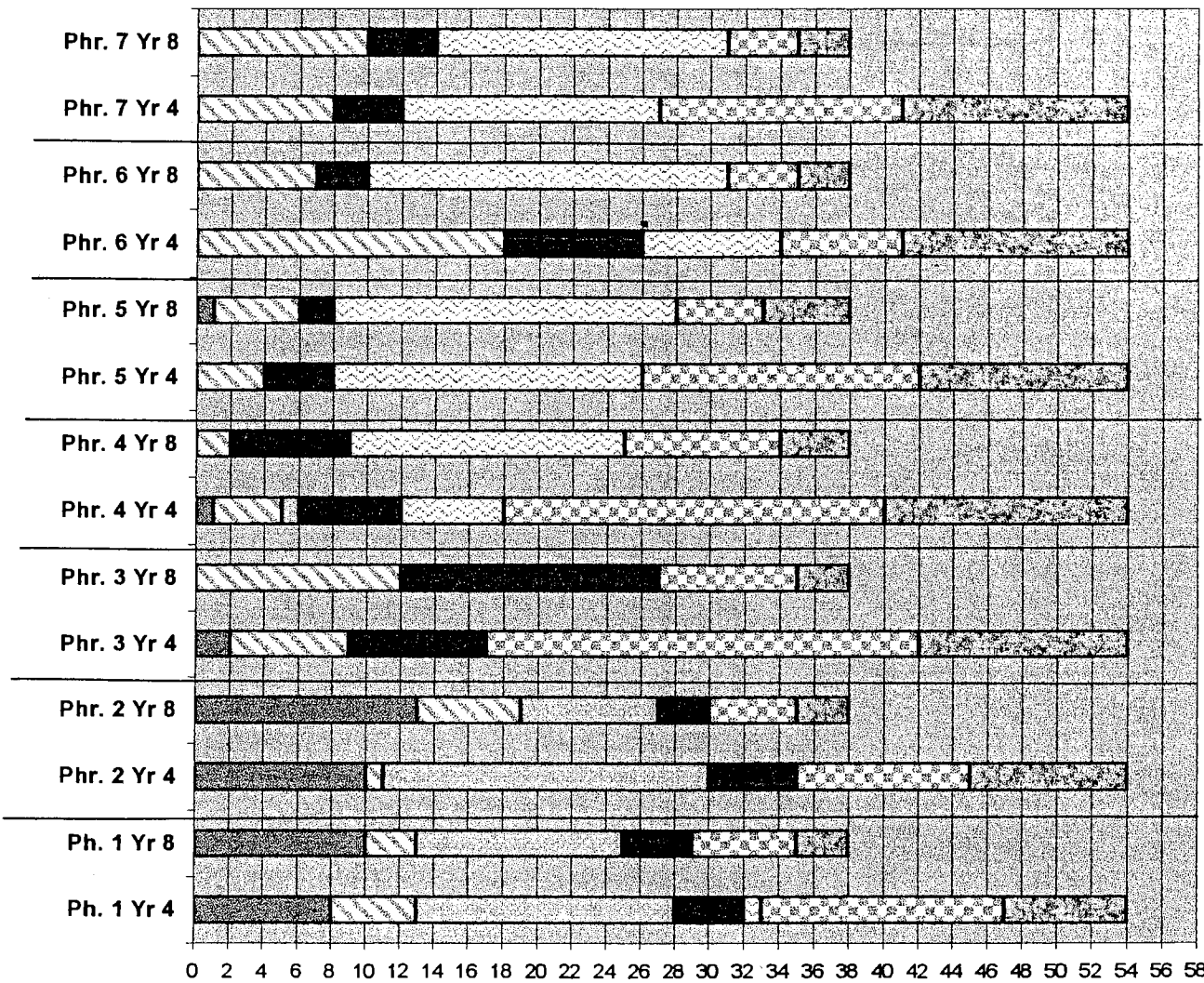
1. Ability to convey accurate information concerning the test so that the student understands exactly what the test entails.
2. Desire to help the student feel at ease by being sensitive to the student’s needs.

A study of relatively inaccurate intonation

For the purposes of this analysis, the following chart (chart 3) shows a breakdown of students' responses to each phrase in the task "Sing Song."

'Intonation' refers to one or two notes in a phrase that are sung either flat or sharp, while the first note was usually correctly pitched. 'Pitch and intonation' refers to a phrase that was sung at a different tessitura in which the student also experienced intonation difficulties. 'Tessitura' refers to an accurate rendition of the phrase but sung at a different pitch than the original. 'Creative tune' refers to a rendition of a phrase that has different intervals from the original, and there are no intonation problems.

CHART 3
Students' responses to each phrase in the task "Sing Song"



	Ph. 1 Yr 4	Ph. 1 Yr 8	Phr. 2 Yr 4	Phr. 2 Yr 8	Phr. 3 Yr 4	Phr. 3 Yr 8	Phr. 4 Yr 4	Phr. 4 Yr 8	Phr. 5 Yr 4	Phr. 5 Yr 8	Phr. 6 Yr 4	Phr. 6 Yr 8	Phr. 7 Yr 4	Phr. 7 Yr 8
■ No attempt	7	3	9	3	12	3	14	4	12	5	13	3	13	3
▣ Read all phrases	14	6	10	5	25	8	22	9	16	5	7	4	14	4
▣ Creative tune	1	0	0	0	0	0	6	16	18	20	8	21	15	17
■ Pitch & intonation	4	4	5	3	8	15	6	7	4	2	8	3	4	4
▣ Tessitura	15	12	19	8	0	0	1	0	0	0	0	0	0	0
▣ Intonation	5	3	1	6	7	12	4	2	4	5	18	7	8	10
▣ Correct	8	10	10	13	2	0	1	0	0	1	0	0	0	0

▣ Correct	▣ Intonation	▣ Tessitura	■ Pitch & intonation
▣ Creative tune	▣ Read all phrases	▣ No attempt	

'Sing Song'

1. *"Sticky glue everywhere"*

In the first phrase, very few students experienced intonation problems, with only one or two notes slightly incorrect in the phrase. The most common fault in this song was pitching the first note, causing students to sing the song in a different tessitura but with the correct intervals. There were also a high proportion of students who read the phrases or did not attempt them at the year 4 level.

2. *"For goodness sake, I got the hippy hippy shake"*

Intonation was not an issue in this phrase for the majority of students at both year levels. Many students were able to render the phrase with correct intervals but in a different tessitura. Once again a high proportion of year 4 students read the phrases or did not attempt them.

3. *"They told him don't you ever come around here"*

In the third phrase intonation was an issue with year 8 students. All the twenty-seven students who attempted to sing this phrase experienced difficulties with intonation. The interval of the second created the biggest problem. The majority of students were confused by the number of times the first note beginning on an F was repeated. Sixteen year 8 students and eight year 4 students repeated the first note more than three times, and in most of these instances the first note was pitched incorrectly. The other common error was to repeat the F# E pattern too many times.

It is significant that at the year 4 level only seventeen of the forty-four students attempted to sing this phrase.

4. *"Grandad Murphy comes from Belfast"*

As was stated at the beginning of this chapter, many students experienced difficulty with the words in the fourth song. This may account for the fact that at the year 4 level, only eighteen students attempted to sing this phrase, while twenty-two of the students preferred to read it and fourteen made no attempt. Three of the four bars of this song require students to sing intervals of a third. Many students were able to accomplish this, but they changed the tune. Hence the high number of students at both year levels listed under 'creative tune' in chart 3.

It should be noted that one student at the year 8 level sang the phrase correctly except for the very last note when she sang a D instead of an E.

5. *"One a pecker, two a pecker"*

Very few students experienced intonation difficulties with this phrase. Almost all the students who attempted to sing the phrase left out one or both notes on the words 'bright' and 'fine.' Two students at the year eight level and one at the year 4 level sang the rest of the phrase accurately until this point. The second interval did not cause difficulty in this song, as was the finding in the third song. However many students sang their own version of the tune at both year levels.

6. *“Hey crocodile”*

It was evident that most students knew the sixth song, as a typical comment made by students was: “we sing this in class.” This accounts for the fact that so many students at both year levels attempted this song. There were more year 4 students who attempted this phrase than any of the other phrases in the task “Sing Song.” However many students experienced intonation difficulties at the year 4 level, particularly on the second syllable of the word “crocodile,” on which students sang a G instead of an F#. A total of twelve students sang the phrase accurately apart from one note (nine at the year 4 level and three at the year 8 level). In addition there were another ten students (seven year 4 students and three year 8 students) who also sang these same notes incorrectly and experienced slight intonation problems with one or two other notes in the phrase.

7. *“Somewhere over the rainbow”*

This phrase was also known by the majority of year 8 students. One student commented that she sings it at home. Once again a common error experienced by ten students was to sing the last two notes incorrectly as a B and an A instead of an A and a G (nine year 8 students and one year 4 student).

At the year 4 level, half of the students either read the phrase or did not attempt it, while the majority of the other half sang their own version of the tune. At both year levels many students sang the contour of the song correctly, but the biggest difficulty for them was the octave interval. Students mostly sang intervals of a fourth, fifth or sixth instead of attempting the octave.

Vocal Sizzle

Chart 4, which follows this analysis, gives a breakdown of students’ responses to each individual phrase. As with chart 3, ‘intonation’ refers to one or two notes in a phrase that are sung either flat or sharp, while the first note was usually correctly pitched. ‘Pitch and intonation’ refers to a phrase sung at a different tessitura in which the student also experienced intonation difficulties. ‘Tessitura’ refers to an accurate rendition of the phrase but sung at a different pitch than the original. ‘Creative tune’ refers to a rendition of a phrase that has different intervals from the original, and there are no intonation problems.

Phrase one

The first phrase of this task shared a common element with the first phrase in “Sing Song,” which is that the majority of students were unable to pitch the first note correctly. In “Vocal Sizzle” the resultant phrase was mostly sung correctly, but in a different tessitura. (See chart 4). Generally intonation problems were not very evident in this phrase.

It should also be noted that more year 8 students sang this phrase correctly than any of the other phrases in “Vocal Sizzle.” (Twenty-three correct responses out of a total of forty-five students).

Phrase two

There were more correct responses to this phrase at the year 4 level than any of the other phrases in this task. (Twenty out of a total of forty-four students).

A common intonation problem for students was to sing an interval of a third instead of a second. Eleven year 4 students and five year 8 students made this error, singing D F D instead of F G F. Many students also sang their own version of this tune.

Phrase three

The common difficulty experienced by students at both year levels was an inability to pitch the first note. This resulted in many students being able to sing the correct intervals but in a different tessitura. More year 4 students had slight intonation problems than those at the year 8 level.

Phrase four

Chart 4 reveals that more students experienced intonation problems in the fourth phrase than in any other in "Vocal Sizzle." For the majority of students at both year levels, the interval of the fifth (from a Bb to an F) created the biggest difficulty. Nine year 4 students and seven year 8 students started on the correct note (Bb) but were subsequently unable to sing the correct interval. Intervals of a third or a fourth were the most commonly sung.

It should be noted that more year 4 students sang this phrase correctly than students at the year 8 level. However the increasing complexity of intervals is apparent from phrase four, as progressively less students were able to sing the phrases correctly.

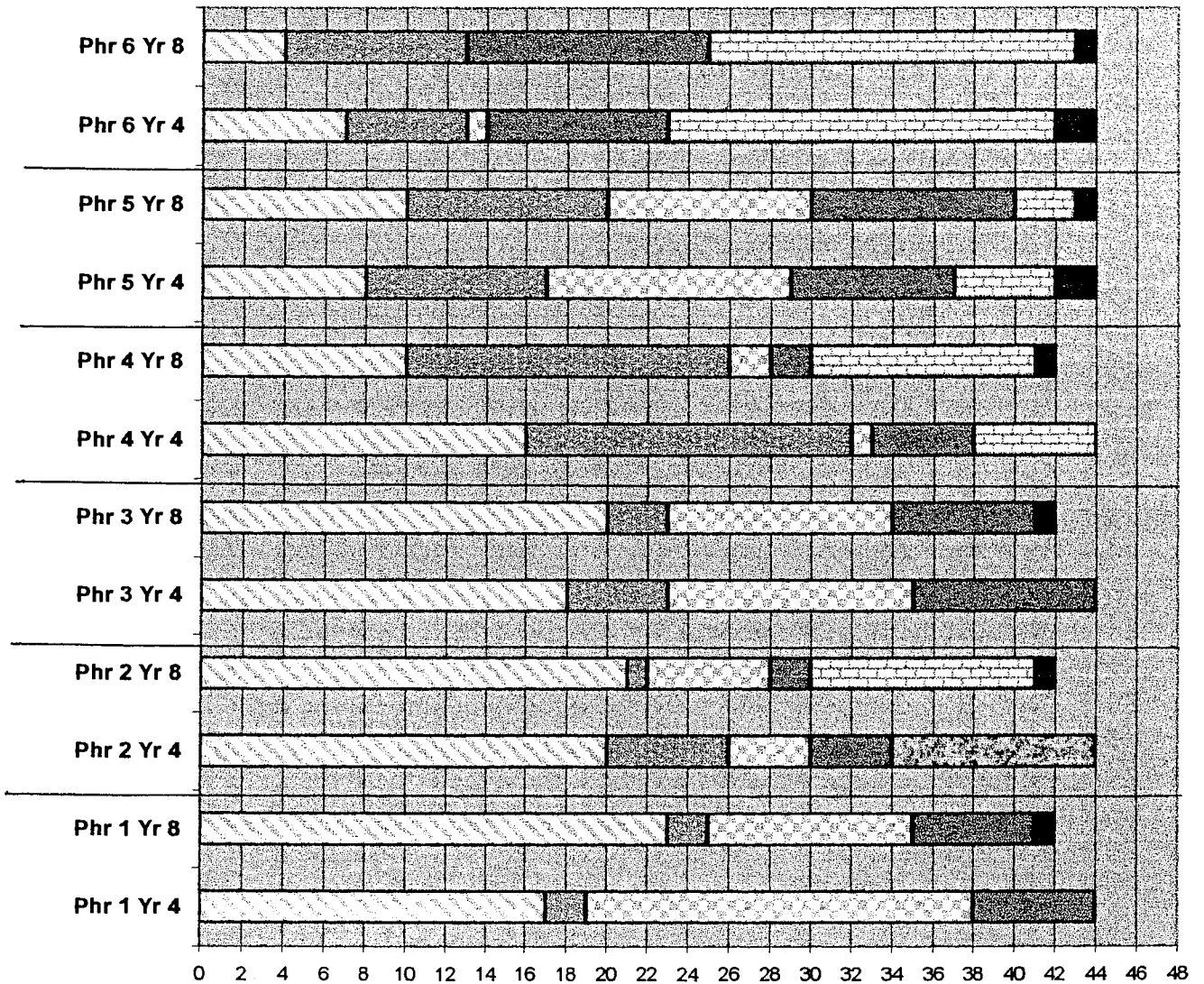
Phrase five

In phrase 5, intonation was the biggest difficulty experienced by students who mostly were unable to sing the interval of the fourth (from G to C). This affected 40 % of year 4 students and 42% at the year 8 level. The higher tessitura was also an issue, with the result that many students sang the phrase in a much lower tessitura.

Phrase six

The tessitura was once again an issue for students in the sixth phrase. Table 4 reveals that many students pitched the first note accurately, but they experienced intonation problems with other notes in the phrase. Many students were unable to pitch the octave interval correctly (D to D') and they mostly sang a fourth or fifth interval instead which affected the entire tune. Consequently many students sang their own version of the tune.

CHART 4
Students' responses to each phrase in the task
"Vocal Sizzle"



	Phr 1 Yr 4	Phr 1 Yr 8	Phr 2 Yr 4	Phr 2 Yr 8	Phr 3 Yr 4	Phr 3 Yr 8	Phr 4 Yr 4	Phr 4 Yr 8	Phr 5 Yr 4	Phr 5 Yr 8	Phr 6 Yr 4	Phr 6 Yr 8
■ No attempt	0	1	0	1	0	1	0	1	2	1	2	1
▨ Creative tune	0	0	10	11	0	0	6	11	5	3	19	18
▩ Pitch & intonation	6	6	4	2	9	7	5	2	8	10	9	12
▧ Tessitura	19	10	4	6	12	11	1	2	12	10	1	0
■ Intonation	2	2	6	1	5	3	16	16	9	10	6	9
■ Correct	17	23	20	21	18	20	16	10	8	10	7	4

Correct
 Intonation
 Tessitura
 Pitch & intonation
 Creative tune
 No attempt

Ability to pitch the first note

Many students had difficulty in pitching the first note, and consequently the rest of the phrase was often pitched in a different tessitura. This is reflected in table 2, which indicates how many students were able to pitch the first note, followed by figures showing how many students were able to sing the whole phrase accurately.

In the task “Sing Song” there were more year 8 students able to pitch the first note accurately than the year 4 group. Older students pitched the first note correctly in six out of seven phrases. However a total of less than 50% of the year 8 students were able to pitch the first note accurately.

In the task “Vocal Sizzle” there were more year 4 students who pitched the first note accurately (four out of six phrases). There were also a higher percentage of students who were able to pitch the first note than in the task “Sing Song.” It is possible that the words were a factor that mitigated against the younger students in “Sing Song,” whereas this was not an issue in “Vocal Sizzle.”

TABLE 2

Numbers of students who pitched the first note accurately and those who subsequently sang the rest of the phrase correctly

	<u>SING SONG</u>		<u>VOCAL SIZZLE</u>	
	YEAR 4 (n = 54)	YEAR 8 (n = 38)	YEAR 4 (n = 44)	YEAR 8 (n = 45)
<u>Phrase 1</u>				
1 st note accurate	11	12	18	23
Phrase accurate	6	8	17	23
<u>Phrase 2</u>				
1 st note accurate	12	18	23	21
Phrase accurate	10	11	20	21
<u>Phrase 3</u>				
1 st note accurate	7	11	25	23
Phrase accurate	2	0	18	20
<u>Phrase 4</u>				
1 st note accurate	4	6	26	15
Phrase accurate	1	0	16	9
<u>Phrase 5</u>				
1 st note accurate	9	14	15	17
Phrase accurate	0	1	9	10
<u>Phrase 6</u>				
1 st note accurate	19	8	26	20
Phrase accurate	0	0	7	4
<u>Phrase 7</u>				
1 st note accurate	14	18	N/A	N/A
Phrase accurate	0	0	N/A	N/A

“Sing Song”

1. *“Sticky glue everywhere”*

Most students sang correct intervals, but the majority started the first note on an E instead of an F. As the phrase ended on a D, this might have affected students’ ability to find the correct starting pitch, an interval of a third higher.

2. *“For goodness sake, I got the hippy hippy shake”*

Table 4 reveals that more year 8 students pitched the first note correctly in the second song than in any other of the singing exercises in both tasks. Five students (three at year 4 and 2 at year 8) pitched the first note a tone above, by singing an A. Four year 4 students and six year 8 students pitched the first note on an E, a third below the actual pitch. Since the phrase ended on an E,

these students may have been influenced by that pitch. It was common for students who began on an E to sing the entire phrase a third below the actual pitch. However, two year 8 students began the first note on an E and then sang the rest of the phrase in the correct tessitura.

3. *“They told him don’t you ever come around here”*

Only seven year 4 students and eleven year 8 students were able to pitch the first note accurately (an F#). The most common starting pitches were on an E, F and a C.

4. *“Grandad Murphy comes from Belfast”*

In this phrase, pitching the first note created more difficulty for students at both year levels than any other phrase. As the song ended on an E, the majority of students pitched the first note on an E instead of an F#.

Twelve students (five year 4 students and seven year 8 students) sang the same pattern at the start of this song: E G G G. Nine year 4 students and seven year 8 students pitched the first note more than a third below the correct pitch, while one year 4 student pitched the first note on a D and sang the rest of the phrase correctly.

5. *“One a pecker, two a pecker”*

There were 16% of year 4 students and 36% year 8 students who were able to pitch the first note accurately. A common starting pitch was an E, a third below the starting pitch. Eight year 4 students and five year 8 students sang this note, while five students pitched the first note on an F (three year 4 students and two year 8 students).

It is possible that the combination of the length of this song together with the complex rhythm affected students’ ability not only to pitch the first note, but also to perform the song with any degree of accuracy.

6. *“Hey crocodile”*

Many more year 4 students pitched the first note accurately than year 8 students (nineteen and eight respectively). The most likely explanation for this is that the tessitura was too high for the older students. (The starting pitch was a C’). Five year 8 students pitched the first note on a B, while sixteen started the first note at an interval of a third or more below the actual pitch.

Since many of the year 4 students were familiar with this phrase, the starting pitch would have been a note which they were accustomed to singing.

7. *“Somewhere over the rainbow”*

Among those students who attempted to sing this phrase, more than half at both year levels were able to pitch the first note correctly. There are two possible reasons for this:

- This song was familiar to many students and they were accustomed to either singing it themselves or hearing it being sung.

- The first note was pitched on a D, which is well within the range of the voices of most students at both these year levels.

“Vocal Sizzle”

More students at both year levels were able to pitch the first note correctly in this task than in the task “Sing Song.”

Phrase one

In the first phrase, 51% of year 8 students and 40% of year 4 students were able to pitch the first note accurately. Twelve year 4 students and four year 8 students pitched the first note on a D, an interval of a third below the starting note. Since the phrase ended on a D, it is possible that this confounded their sense of pitch. Nine students pitched the first note on a C (four at the year 4 level and five at the year 8 level). However most students who started at the wrong pitch were able to sing a correct interval of a third.

Phrase two

Since phrase two began and ended on an F, it should have posed no difficulty for students to pitch the first note. However 52% year 4 students and 46% year 8 students were able to pitch the first note accurately. Eight students at the year 4 level and four at the year 8 level pitched the first note on a D, a third below the starting pitch.

Phrase three

More than half of the students were able to pitch the first note in this phrase. However since the phrase ended on an E, this affected seven year four students and two year 8 students who pitched the first note on an E. Another common starting note chosen by 9 students was an F (four year 4 and five year 8 students).

Phrase four

Many more year 4 students than year 8 students were able to pitch the first note. (Twenty-six and fifteen respectively). Five year 8 students began on a B instead of a Bb, while other common first notes that students sang were a C and an A. Twelve students sang the C (seven year 4 and five year 8 students) and eight sang the A (two year 4 and six year 8 students).

Phrase five

The first and last notes of this phrase were both pitched on a G, which should have made it easy for students to pitch the first note. However more students had difficulty with the first note in this phrase than any other in this task. Many students sang an F instead of a G (ten year 4 and eight year 8 students). Another common starting pitch was an E, which was sung by seven year 4 and three year 8 students.

Phrase six

There were more students at the year 4 level who pitched the first note correctly. (Twenty-six year 4 students and twenty year 8 students). It is possible that the last note of the phrase (an A) influenced some of the students' ability to pitch the first note. At the year 8 level, six students started on a G, and six on an A. Most of the other students pitched the first note closer to the D starting note.

Coping with an uncomfortable pitch

For the purposes of analysis, in charts 3 and 4 'tessitura' referred to a correct rendition of the tune, but at a different pitch. However as had already been discussed, many students found it difficult to pitch the first note accurately, which resulted in an entire phrase being rendered in a different tessitura. In almost all of these cases, the tessitura chosen by the students was below the correct pitch rather than above. Students who also experienced intonation problems in their comfortable pitch range, were categorised under the heading 'pitch and intonation' on the charts. Students who created their own version of a phrase were categorised under the heading 'creative tune.'

Thus when we analyse students' comfortable pitch range, we need to take into account the three categories that appear on the charts, which are: 'tessitura,' 'pitch and intonation,' and 'creative tune.' Table 3 shows a composite of these figures together with numbers of students who did not attempt to sing each phrase (these figures are a combination of the categories 'no attempt' and 'read all phrases'). The two sets of figures that appear for each phrase give an indication as to how many students attempted to sing the phrases. It will be noted that in the task "Sing Song" the second set of figures are particularly significant as they highlight once again the degree of difficulty of the task compared to "Vocal Sizzle."

TABLE 3

Number of students who pitched phrases in a different tessitura and numbers of students who did not attempt to sing the phrases

	<u>SING SONG</u>		<u>VOCAL SIZZLE</u>	
	YEAR 4 (n = 54)	YEAR 8 (n = 38)	YEAR 4 (n = 44)	YEAR 8 (n = 45)
<u>Phrase 1</u>				
<i>Tessitura</i>	20	16	25	16
<i>No attempt</i>	21	9	0	1
<u>Phrase 2</u>				
<i>Tessitura</i>	22	8	18	19
<i>No attempt</i>	19	8	0	1
<u>Phrase 3</u>				
<i>Tessitura</i>	8	15	21	18
<i>No attempt</i>	37	11	0	1
<u>Phrase 4</u>				
<i>Tessitura</i>	13	23	12	15
<i>No attempt</i>	36	13	0	1
<u>Phrase 5</u>				
<i>Tessitura</i>	22	22	25	23
<i>No attempt</i>	28	10	2	1
<u>Phrase 6</u>				
<i>Tessitura</i>	16	24	29	30
<i>No attempt</i>	20	7	2	1
<u>Phrase 7</u>				
<i>Tessitura</i>	19	21	N/A	N/A
<i>No attempt</i>	27	7		

The table reveals that in many of the phrases which students attempted to sing, tessitura was an issue. In both tasks the most difficult phrases for all students to sing were those that encompassed the notes C' and D,' that is, phrases six and seven in "Sing Song," and phrases five and six in "Vocal Sizzle."

In the task "Vocal Sizzle" students at both year levels had the least difficulty with phrase four. Since this was the lowest pitched phrase in this task, it is possible that students generally found this to be the most comfortable singing range encompassing the notes Bb to G.

In the task "Sing Song," more students at the year 8 level had difficulties with the tessitura in phrase six than any of the other phrases. It is of interest that fewer year 8 students experienced tessitura problems in phrase seven, despite the fact that this phrase had an even higher note to negotiate. It is possible that the starting note influenced the students' perception of the tessitura. In phrase six the first note begins on a G, whereas in phrase seven, the starting note is on a D on a much lower pitch.

A number of male students at the year 8 level had deep singing voices. There were eleven who participated in the “Sing Song” task and five in the “Vocal Sizzle” task. All of these male students experienced intonation and pitch difficulties, except for one who was able to render five of the six phrases accurately in “Vocal Sizzle.” It is possible that these male students might have fared better had they had an adult male voice as a model. The Assessment Results Manual for 1996 states: “the use of a treble singer as a model proved difficult for some year 8 boys with deep voices.”⁵ However it may also be the case that these male students with deep voices were still in the process of finding their singing voices. This issue is discussed in chapter three.

Summary

“Sing Song” was generally a far more complex task for students than “Vocal Sizzle.” This was particularly evident at the year 4 level with the high numbers of students who made no attempt to sing the phrases. Among those students who did attempt to sing, only a few were able to sing the first two phrases accurately. Phrases three, four and five were sung correctly by only one or two students each, while none of the students were able to sing phrases six and seven correctly.

In contrast “Vocal Sizzle” was attempted by all the students except for one at the year 8 level who did not sing any of the phrases, and two at the year 4 level who did not sing phrases five and six. This task also elicited many accurate renditions, particularly in the first three phrases.

In the task “Vocal Sizzle” more than 50% of the year 4 students were able to pitch the first note in four of the six phrases (phrases two, three, four and six) while the year 8 students fared less well. The majority of these older students were unable to pitch the first note accurately, with the exceptions of phrases one and three, in which 56% managed to sing correct pitches. In contrast the majority of students at both year levels experienced difficulty in pitching the first note in the task “Sing Song.” In both tasks if students were unable to pitch the first note correctly, this often resulted in the entire phrase being sung accurately at a different tessitura. This was particularly noticeable in the first two phrases of “Sing Song” and in phrase one of “Vocal Sizzle.”

In both tasks, students may have felt intimidated by having to sing which possibly accounted for why many students sang the first phrases in their own comfortable range of their voices, at pitches lower than the originals. In phrase two of “Sing Song,” there were many more year 4 students who sang the phrase accurately at a lower pitch. Since so few of these students were able to pitch the first note accurately in this phrase, it resulted in renditions at a lower pitch. The fact that so many of these students were still able to sing correct intervals at the lower pitch, indicates that the phrase was relatively simple in structure.

Students experienced minor intonation difficulties when they were able to sing a phrase in the correct tessitura. The only exceptions noted were the following: (1) phrase four in the task “Vocal Sizzle” in which students at both year levels experienced difficulties and (2) in “Sing Song,” phrase three at the year 8 level and phrase six at the year 4 level.

Generally “Vocal Sizzle” gave many more students opportunities to demonstrate their vocal abilities as well as test their abilities to remember the tunes. As a means of evaluating the students’ level of achievement, this proved to be a far more effective task than “Sing Song.”

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5. *Music Assessment Results 1996*, p.21.

CHAPTER FIVE

CONCLUSION

The Assessment Results Manual for 1996 stated that “tasks are designed to assess what students are able to do, and are not restricted to gauging their abilities against stated curriculum goals for their class level.”¹ In the singing tasks, it was apparent that “Vocal Sizzle” allowed students to demonstrate “what they are able to do” far more than “Sing Song.” By restricting the responses to a vocalised vowel in “Vocal Sizzle,” this allowed the students to concentrate on remembering the tunes of each phrase. The phrases were also fairly simple in structure without complex rhythms. On the other hand “Sing Song” demanded reading skills as well as vocal abilities, and very few students were successfully able to marry the two. So many students resorted to reading phrases that the question arises as to what the task “Sing Song” was really trying to assess. An ability to read, to retain a tune, or ability to sing correct pitches? It was such a complex task that it possibly did not provide a good reflection of students’ abilities. Perhaps if the same students had been asked to participate in both tasks, the results may have revealed a more accurate picture of students’ abilities.

The majority of students in this sample were comfortable about singing in the “Vocal Sizzle” task since they all participated in the exercises except for one student at the year 8 level. However quite a different picture emerged in the “Sing Song” task. Students’ responses were gauged according to how many attempted to sing four or more phrases. The figures reveal only 55% at the year 4 level and 78% at the year 8 level. Among those students who attempted to sing, in both tasks, it was cause for concern that so many experienced difficulties with the tessitura of phrases. The results revealed that the number of accurate responses per phrase on both tasks was less than 50%, except for phrase one in “Vocal Sizzle” at the year 8 level, which had a 54% response. As has already been discussed in the previous chapter, many students were able to give an accurate rendition of a phrase at a lower tessitura. The starting pitch was often a third below the actual pitch which leads one to conclude that the most comfortable singing range for many of the students was from about an A below middle C to an octave above.

The Assessment Results Manual for 1996 published the overall results of questions in the music survey. In response to the question regarding how often singing is done in music at school, the majority of students at both year levels reported “sometimes” out of a choice of four categories. (42% at year 4 and 43% at year 8).² It is possible that if students were given more opportunities to sing at school, there might be a higher incidence of accurate renditions of phrases. Horner, quoting the research of Wolner and Pyle (1933) and others “reported that vocal instruction... resulted in considerable and rather immediate improvement in aural and vocal pitch discrimination.”³

The Ministry of Education Handbook for Music in New Zealand states that “until the 1950s, school music consisted almost entirely of singing. Massed singing in extended assemblies was the main component in many school music programmes.”⁴ Arnold Bentley writes: “One unfortunate result of the advent, in the last fifty years, of recorded music and classroom instruments is the relative neglect of singing.”⁵ While Bentley’s statement describes the music education programmes in English schools, the same situation pertains in New Zealand. Currently many schools have singing assemblies once a week or once a fortnight (in a survey

conducted in 1997 by this researcher in seven primary and two intermediate schools in Auckland, singing assemblies were held once a week in six primary schools, once a fortnight in the seventh primary school, and once a fortnight in the intermediate schools). More regular opportunities to sing in assembly might be beneficial to many students in helping them to improve their vocal abilities.

In the NEMP survey, students were asked how much they enjoyed singing at school out of a choice of four responses. At the year 4 level, 44% and 39% responded respectively to the most positive and second most positive options while at the year 8 level, 31% and 43% responded respectively to these same two options.⁶ It is evident that students at the year 8 level are less positive about singing than the younger students. This is in accordance with many studies that have been conducted pertaining to students' attitude to music. (See chapter three).

However many students enjoy music-making activities. The Ministry of Education Handbook states: "The social aspect of practical music-making is...significant. Young people like being part of an active performing group. Their motivation will be high when there are regular and frequent opportunities to meet with friends in a programme which is challenging and interesting, with a function which they understand and believe in."⁷ Perhaps the key words in this statement are "challenging and interesting," particularly at the year 8 level when many students are affected by the onset of puberty and issues such as self-esteem become significant.

Some schools have choirs which regularly perform in concerts or participate in festivals, while other schools have Barber Shop Quartets or cultural groups which meet regularly. Students need to be encouraged to sing in existing choral groups or possibly even start their own vocal group singing contemporary songs, or composing their own songs and performing them. A stimulating music-making group might motivate students to want to sing as often as possible. Chapter two discusses the importance of singing and the need for it in many communities.

Recommendations

NEMP has launched an ambitious programme of student assessment. The fact that so many schools agreed to participate is testament to the care in which the programme was implemented.

1. The singing tasks

1. If a task with words such as "Sing Song" is to be included in the next year of assessment, it might help students if they were given an opportunity to become more familiar with the words during the course of the assessment. Two methods are suggested:
 - (a) The student reads the words of each phrase aloud prior to the rendition of that phrase on the instruction video. If there are any pronunciation difficulties the T/A can be of assistance.
 - (b) The T/A reads the words first for the student, as was observed during some of the videos in this sample. This is particularly helpful for those students who have already been identified as problem readers.

The first method is preferable as it allows the student to be self-sufficient. Possibly both methods could be adopted depending on the T/A's prior assessment of the student's reading ability.

2. If words are to be included in any phrases, students' cultural backgrounds need to be considered, particularly as New Zealand is a multicultural society. Many students had difficulty with words such as 'Belfast' and 'Sligo Bay.' It would have been more appropriate to use names of places in New Zealand.
3. If both tasks are to be included in the next assessment year, students should be given the opportunity to participate in both. This would provide a more realistic picture of their vocal abilities as there would be a means of comparison between the two tasks.
4. Since a number of students had a difficulty with the treble voice as a model on the instruction video, a female adult singer might be a more appropriate model. The reason is that an adult voice has a more developed tone than a boy's treble sound. It may be easier for students to match their own vocal sound with the fuller tone of an adult singer.
5. Most singing activities at school are conducted with groups of students, or an entire class. Students are seldom asked to sing solo. The singing tasks may have been intimidating to many students and this may have affected their performance ability. In chapter three there was discussion about Roger Buckton's 1983 study "Six a song of six year olds" in which recordings were made of individual students' singing ability in a group singing class with the use of ten microphones. If the NEMP wish to assess students' vocal ability, Roger Buckton's method is possibly the fairest means as the students would be in a non-threatening environment surrounded by their peers.
6. If the NEMP want to only assess students' vocal ability, it would be more beneficial for students to sing phrases that are familiar to them. This would obviate the students' having to also remember a tune, which may be an added burden in an assessment situation.
7. In the video sample, some boys at the intermediate level had deep voices, which affected their ability to sing in certain tessituras. It might be more appropriate to choose boys to participate in singing tasks, whose voices have not yet changed.

2. The role of the Teacher/Administrator (T/A)

At the start of the preceding chapter, the role of the T/A was discussed in relation to the video sample. It was evident that particularly in the task "Sing Song," the T/A played a key role in a number of ways. The T/A needed to assume the role of facilitator and instructor and demonstrate a sensitivity to the student beyond the normal requirement of the other tasks. It is recommended that the T/A's are made aware of the special circumstances of this task, and that they adapt their interactions with the student accordingly. It is also recommended that the T/A be thoroughly versed in the nature of the instructions prior to the commencement of the activity.

3. Extraneous noise

A criticism already stated in the previous chapter was that extraneous noise was a feature during some of the singing tasks. It is recommended that in the future, separate rooms are used for the assessments, particularly for activities that require sound such as music tasks.

Concluding Remarks

The majority of students examined by the researcher at the year 4 and year 8 levels who were able to sing in tune, but often in a lower tessitura than the original. Students may have experienced some of the difficulties which were described in chapter three. It is also unknown whether the students were used to singing solo, and this has to be borne in mind, or indeed whether they were used to doing any singing because of a lack of opportunities during assemblies or school music classes.

Michael Ellsworth commented: "The voice is still a bit of a Cinderella. I believe it is still the least worked on area of personal development. So fixated has society become with keyboards, computers and the necessary skills to operate them that voice has suffered. It is no wonder that we get so many upper chest breathers. People have forgotten how to use their voice from the centre which promotes health and well being."⁸ While this statement is concerned primarily with the speaking voice, there was discussion in chapter two about the importance of developing the vocal mechanism for both speaking and singing, as the one affects the other. The technical world that we inhabit may be a significant fact why vocal development is no longer viewed as important. This may account for the lack of more regular singing opportunities in the schools.

Chapter two highlighted the many areas in which singing features as an integral part of people's lives. When students are helped to see singing as an enjoyable and fun activity, a positive response to singing could engender a greater desire to want to participate in singing activities, leading to developing students' musical ability.

Evaluations are the means to assess a student's progress and level of achievement. The NEMP criterion reference tests were a useful way of examining the national patterns of achievement in New Zealand.

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APPENDIX
NEMP SINGING TASKS

SING SONG
VOCAL SIZZLE

7. Some-where o-ver the rain-bow, way up high



VOCAL SIZZLE

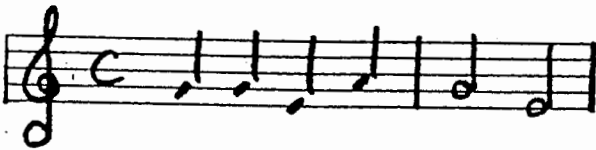
PHRASE 1



PHRASE 2



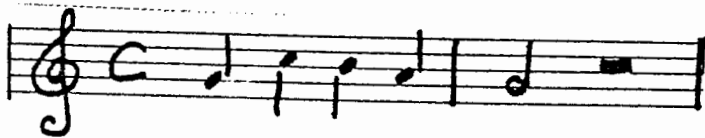
PHRASE 3



PHRASE 4



PHRASE 5



PHRASE 6

