

Different or Disabled?

Music Therapy with a Learning Impaired Child

Richard Thompson, BA, DipMusTh, RMT
Music Therapist

Caloundra and Sundale nursing homes, Nambour, Qld.

Abstract:

The focus of this paper is to report on a six-month programme of Music Therapy with a child with a history of learning and social difficulties. Such children are commonly classified as Learning Disabled. Learning Disability is not without controversy over its definition and theories of aetiology and remediation. Music therapists have drawn on different theoretical models of learning disorders and have incorporated those treatment approaches into music therapy techniques. The creative improvisation method used here has not yet been widely reported, yet the author found it to be an effective way to address the child's attentional, cognitive and emotional difficulties. Improvements in academic performance may have derived from achievements in music, although further research would better substantiate such a link. It seemed likely however that a significant improvement in classroom participation resulted from failure anxiety being successfully dealt with in therapy. Music offers a cogent means of addressing the interrelated dimensions of perception, cognition and self which are problematic for individuals with learning impairments.

Introduction

Children and adolescents may fail to make normal academic progress for many reasons. According to a recent document (Court et al, 1990) between 10 and 16 percent of the school age population in Australia will do so because of significant impairments in developmental and academic skills. Such impairments or disorders have been known as dyslexia, perceptual handicap, hyperactivity, minimal brain dysfunction and others.

In recent years, particularly in the United States, these terms have come to be subsumed under the generic concept of Learning Disabilities, a 'condition' which has legal status and implies a right to appropriate remedial services.

Although the definition of Learning Disabilities has generated much debate and controversy the following definition has come close to achieving consensus:

Learning Difficulties can be defined as a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning, or mathematical abilities. These disorders are intrinsic to the individual, presumed to be due to central nervous system dysfunction, and may occur across the life span. Problems in self-regulatory behaviours, social perception, and social interaction may exist with Learning Disabilities but do not by themselves constitute a Learning Disability. Although Learning Disabilities may occur concomitantly with other handicapping conditions (eg. sensory impairment, mental retardation, serious emotional disturbance) or with extrinsic influences (eg. cultural differences, insufficient or inappropriate instruction), they are not the result of those conditions or influences (Hammill, 1990, p. 77).

It is a definition primarily by exclusion, but an attempt to recognise the peculiar difficulties of individuals with learning impairments. Such individuals can have normal intellectual aptitude and can be acutely aware of their quite specific difficulties in comparison to their normally achieving peers, (Stein, 1987). As a field of research, it unifies the fields of neurological medicine, psychology and education.

A survey of the literature reveals several widely acknowledged characteristics of the emerging field of Learning Disabilities. To summarise the main points from Gfeller (1984):

1. No one aetiological basis for Learning Disabilities has been discovered. Learning Disabilities can be present with or without a number of other commonly associated factors eg. clumsiness, hyperactivity, emotional disorders, brain damage, allergies and stress factors.
2. There is no definitive profile of a Learning Disabled child, the only common factor being academic failure. Some children may be better than others at developing compensating strengths for areas of specific weakness (Levine, 1987).
3. The concept of Learning Disabilities is historical and has generated competing theories on the nature and treatment of learning disorders, reflecting the complex interrelated origins of academic failure. The three models which have gained most acceptance are neuro-developmental, behavioural and cognitive in orientation.
 - (a) The *underlying processes* model derives from the observation that many individuals who have primary learning disorders present with neuro-developmental difficulties in perceptual, motor and cognitive-linguistic functioning (Tumbull and Ellis Robinson, 1990). The basis for higher academic skills depends on the integrity of these skills and functions, and it is hypothesized that any dysfunction contributes to learning disabilities. Therapy involves identifying and treating the deficient or dysfunctional skills through appropriate remedial activities.
 - (b) *Behavioural* theory, changed the focus from treating underlying, non observable processes to identifying and targeting for change observable behavioural patterns which were incompatible with the requirements for learning: 'off task' or inattentive behaviour.
 - (c) *Cognitive* theory, developed more recently, focuses on identifying and changing learning strategies which are dysfunctional or inefficient. Thus the student is encouraged to be actively involved in identifying and changing his or her way of learning, of apprehending or conceptualizing the world. The student is helped to utilize skills they may not have thought they had – eg. memory.

A factor underlying the development of competing theories has been the inability of each to consistently generalize improvements in therapy to actual gains in academic performance; for example improved perceptual motor performance or increased 'on task' behaviour do not always result in corresponding improvements in academic performance. Other writers (Roth Smith, 1986; Levine, 1987; Poplin, 1988) have emphasized the need to look beyond the reductionist disability perspective to a more wholistic, ecological paradigm of intervention. This includes the question, how can we help students to live with their disabilities, to develop compensating talents and skills which may be overlooked in the effort to remediate the disability? This, of course, is not to deny the special needs of students with learning disorders, but that they need not be labelled as disabled.

Music Therapy in Learning Disabilities

Pirtle and Seaton (1973) found that an experimental group of neurologically handicapped youngsters who received intensive instruction in musical concepts, showed a greater acquisition of language concepts than a control group who received equivalent but non musical instruction. 'This research indicates that there may be a direct and beneficial relationship between musical growth and growth in associated language'. (p. 300)

Many writers, (Turnbull and Ellis Robinson, 1990; Reynolds, 1983(a); Reynolds, 1983(b); Thompson 1981; Tomat 1978) have reported the benefit of musical activities whose objectives include motor co-ordination, listening and attending skills, sequential visual recall, decision making, language skills etc.

Although more research would clarify the relationship between musical growth and improved academic performance, it is clear that music offers an experimental matrix for organising and integrating sensory, perceptual, cognitive and motor functions. Gfeller (1984) has noted how music therapists have assimilated components of the three theoretical models above, into musical behavioural goals. To summarise, the emphasis may be to:

1. enhance sensory – perceptual – motor skills by teaching instrumental or movement activities, (underlying processes model)
2. reinforce 'on task' behaviour by using contingent music, or through breaking down a musical task into smaller learnable component parts, to assist learning. (Behavioural model)
3. build learning strategies into musical activities. (Cognitive Theory)

Little has been reported of the use of improvisation or the creative approach in this field. Some writers have stressed the importance of the artistic or creative dimension for students with learning impairments. Levine (1987 ch. 3) notes that while some students fail in linguistic analytical sequential tasks, they can have strengths in wholistic visual simultaneous processes which can be developed as artistic talent. Turnbull and Ellis Robinson (1990) have found that improvised creative involvement in musical activities encourages purposeful and enjoyable interactions which in themselves enhance the development of body image, perception, decision making and control. The quality of the child's involvement or non involvement may also have diagnostic implications which can be explored by the teacher/therapist.

Nordoff and Robbins (1977) demonstrated the clinical potential of music used creatively with intellectually and emotionally disabled children. The therapist seeks to give form to make musical sense out of the child's spontaneous and often apparently chaotic rhythmical and vocal responses to the music improvised for them. The creative and clinical processes are inseparable: The individuality of the child in the 'here-and-now' is sought out and reflected in musical idiom to arouse attention and relatedness to the therapist. The therapist '(through) the experiences of form and order, from the minute to the extensive' (p. 2) seeks to develop the child's initial responses into a *musically* freer and more coherent interplay, awakening in the child an expressive freedom and intelligence not previously possible. By drawing out of the child, *as he/she is*, an expressive or creative intelligence, 'the functions of recognition, perception and memory; intelligence, purposefulness (and) confidence come spontaneously into expression as the child becomes deeply personally involved'. (p. 2)

Nordoff and Robbins developed a working concept of the 'Music Child' to account for the *possibility* of such deep personal integration that can be effected through music.

'The term denotes an organisation of receptive, cognitive and expressive capabilities that can become central to the organisation of the personality insofar as a child can be stimulated to use these capabilities with a significant extent of self involvement' (p. 1).

The concept of the 'Music Child' should be equally applicable to the needs of the learning impaired individual. For intellectually and emotionally disabled children, isolated by their condition, its significance has been seen to lie in the domain of personality

development and social integration (Nordoff and Robbins, 1985, p. 16). With a learning disordered individual, the 'Music Child' within becomes significant as a potential unity of sensory, perceptual and motor functioning. The elements of melody and rhythm experienced as *form* and *order* will become especially important in engaging and fostering the creative intelligence of such a 'Music Child'. The therapist can seek to address attentional, sequential and memory dysfunction by gradually leading the individual into experiencing and creating musical structure of increasing complexity with the therapist. Undoubtedly no less important in this process will be the nurturing of self confidence and a healthy self image through mastery of the materials in therapy. The therapist's music, encouragement and providing of successful experiences for the child or adolescent will be essential to this end.

The Child

By the time David (not his real name) was referred to music therapy, he had a history of academic and social difficulties indicating a primary learning disorder with associated developmental problems.

At age 3 his parents separated; his father was diagnosed as schizophrenic and had also had delayed speech development.

Although no early developmental anomalies were reported, David's entry into primary school at age 5 was delayed for a year as it was felt that he was not ready for this step.

By 6-7 years it was apparent to the school that David was going to be delayed in reading and writing skills and his classroom fidgeting and inattentiveness were first treated as a conduct disorder. However a private therapist suggested that David's behaviour may be secondary to perceptual-motor difficulties.

At 8 years David was reassessed by the guidance officer and found to have made no progress in academic performance (despite a psychological assessment that David was not intellectually handicapped). He was then referred for assessment by a multidisciplinary assessment team at a Brisbane Hospital. An occupational therapy report indicated that David had a complex array of difficulties with vestibular function, motor planning, visual perception and with his self esteem.

David attended occupational therapy for a year. He was assessed again, aged 9 years, and was found to be exhibiting normal functioning in motor proficiency and visual perception skills, although difficulties were still evident in sequential memory tasks. Music therapy was recommended as David often sang his answer during his assessment!

A school assessment a month later indicated that improvements in therapy had not generalized to the classroom except that David was less aggressive towards other classmates. David was found to have significant problems in:

1. writing and spelling, suggesting both motoric and perceptual deficits
2. attentional and organisational skills in classwork activities and social interactions
3. self image

Music Therapy

On the basis of the last occupational therapy report, the aims of the initial sessions were to investigate:

1. attention span and skills
2. memory, especially visual sequential
3. self image

It is well documented (Stein, 1987; Roth Smith 1985; Levine, 1987) that students with learning disorders can develop depression and anxiety by constant exposure to failure situations. Inattentiveness, fidgeting, flights of thought and hyperactive or aggressive behaviours are examples of dysfunctional coping strategies in such children. These can become secondary features in a vicious cycle further compounding the child's classroom and social difficulties.

The Aims of Therapy

The aims of the Music Therapy programme were to provide activities to improve the above mentioned three areas of clinical investigation, through successful experiences.

Therapeutic Rationale

The therapist decided to use an improvisation format initially, and later introduce structured exercises and composed music when it was felt that David could cope with a challenge. Starting with free music making was felt to have the following benefits:

1. It would introduce music making in an enjoyable, non threatening manner and give David an opportunity to make initiatives which the therapist musically could accept and support. It was important to start off with non failure experiences to generate motivation and commitment.
2. It would afford the therapist some insight into David's strengths and weaknesses in action: the emotional quality of his playing, his rhythmic security or lack of it, his ability or not to follow the therapist's initiative, or to initiate ideas himself.

The long term objective of improvisation was to lead David into working with the demands of form and structure and so to stimulate his attention skills, and aural and visual sequential memory. From the improvised music together, the therapist hoped to develop some structured improvisation exercises to make a bridge between purely spontaneous music making and learning melodic rhythmic sequences of composed music. In Structured improvisation the aim was to encourage David to experiment with simple ostinati using varying combinations of instruments, meters and, if possible, rhythmic patterns and to stay with it while the therapist improvised an accompaniment.

The data recorded came from the first six months of therapy from January to June 1989 during which the most obvious developments occurred for David in music. Sessions were held once a week for half an hour in the music room of the occupational therapy department.

The Sessions

Each session was audiotaped and weekly notes made from these. No formal assessment tool was used to evaluate David's behavioural and musical responses. These were evaluated in the light of the overall aims of therapy and of the objectives of a particular session. From the initial sessions the essential qualities of David's improvisation were noted; during the middle and later sessions his progress in structured exercises and his ability to deal with these challenges were assessed.

David was shown a metalophone, drum and cymbal beside the piano and was asked to make music with the therapist.

During the first sessions David engrossed himself playing the metalophone which had been arranged in a pentatonic scale. David showed that he could follow changes in tempo and dynamics, and sometimes anticipate a coming cadence. The character of his playing was at this stage essentially passive or reactive, rather than the active initiating which developed later.

During the free improvisation the therapist began to deliberately structure phrases so that a particular beat was accented; David responded by using a cymbal crash to emphasize it also (Appendix A). He was however unable to do this consistently even at slow or medium tempi, but enjoyed the experience of anticipating and providing an accent when he was able to. This inconsistency remained even when the therapist began to verbally 'cue' David to anticipate the cymbal crash by saying '. . . and crash'. David would often interrupt the interaction to digress, chat or make a new suggestion to try out, but would just as quickly drift off into another 'idea', failing to carry it through.

This somewhat unstable and kaleidoscopic tendency appeared to be characteristic of David's musical and conversational interactions, that is, not working through an idea but moving quickly from one to another without a connecting link. This appeared to be a type of spontaneous creativity, but one which lacked direction and continuity. The therapist felt it mainly to be a coping strategy to control his environment, but also an indication of a creativity that needed to be recognised and nurtured. After several sessions David took the step of setting himself a sequential task of playing a drum beat, two metalophone bars and a cymbal crash in (4/4) time to improvised music. The therapist encouraged him to stay with it and master it.

At that point the session made a natural transition from free to structured improvisation. Making mistakes, however, began to appear as a major anxiety issue for David. He had to be assured that making mistakes was perfectly acceptable and normal as an inevitable part of learning, and that the therapist didn't mind how many he made in order to master the exercise.

Being asked to repeat a pattern aroused anxiety because (1) it challenged his attention skills and (2) produced a right/wrong potential failure situation. It was not clear to what extent the anxiety contributed to the lapses of attention which at first were very frequent. Over the ensuing weeks David was encouraged to vary the order of the instruments to match to rhythmic patterns improvised by the therapist. The improvisations were designed to enhance the form or the instrumental sequence (Appendix B). At first the therapist gave a verbal cue in order to help David put the cymbal crash, or drum beat etc, in the correct beat. This was gradually withdrawn to where David could rely on the musical cue alone, but not without some struggle over mistakes.

David's preoccupation with his mistakes began to decrease over the weeks and if a mistake was made, the agreed format, which was to stop and return to the beginning of the sequence, would be carried out without grimacing, head slapping and self recrimination. Although his confidence was still vulnerable, he began to enjoy tackling the simple instrumental sequence exercises. Until this point David had not been asked to strictly coordinate his beating, using an arm for a particular instrument as it would have overtaxed his attention. However, a simple ostinato to the tune 'The more we are together' provided a challenging variation on the activities to that point. Here he had to play two notes on the metalophone with his right hand to an alternating two note pattern played with his left hand (Appendix C). After several sessions of struggling with this, concentrating on his part without becoming distracted by the piano accompaniment, he managed to play it with only few hesitations. His confidence from this point began to increase.

David was then introduced to composed music which entailed his learning much larger sequences of notes on the metalophone. Previously this would have placed unrealistic demands on David's attention span, memory and ability to cope with mistakes; the pieces were chosen for their melodic brightness and clarity of form, enabling him to memorise his part more easily. The pieces were *The Kerry Dance* (therapist's arrange-

ment), *Oh When The Saints* (therapist's arrangement) and *Forget Me Not* and *Heather* from 'a Garden of Bell Flowers' (Herbert Levine), all involving the memorising of between 15 to 25 bars note patterns. Playing these joyful and elegant pieces together with the therapist was healing for David's self esteem. David wanted the pieces recorded and he played them in front of his class.

By June, David's commitment to his music had all but replaced the nervous digressions and non sequiturs. He was keen to learn more pieces, and could, on a good day, play several with few hesitations. At this time David was reassessed by occupational therapy. The Gardener test of visual perceptual skills showed a significant improvement, his scores now in the 58% percentile compared with 18% in the previous assessment. His scores were still below average for immediate, short and long term auditory and visual memory, although visual recall was consistently better than auditory recall. Self concept ratings (Piers-Harris) were improved on the previous assessment.

In July, David's teacher's report noted a significant improvement in self confidence stemming from his 'extraordinary improvement in reading ability, word recognition, comprehension and reading'. There had been much reduction in hesitancy and a greater willingness to 'have a go' in class. An ongoing improvement was noted in his peer relationships.

Discussion

It is impossible in this case to objectively estimate the degree to which music facilitated David's classroom improvements. It must be remembered that the music therapy sessions were but one part of a multidisciplinary effort. It can be noted however that both school and parents expressed surprise at his noticeable progress in the months following commencement of music therapy.

David clearly enjoyed coming to music and learned to accept the challenges it brought to him. His reduced sensitivity to mistakes and the willingness to persevere despite them seemed to carry over into his classroom attitude. The question of whether the improvements in David's writing skills can be attributed to his musical growth, particularly in visual sequencing, must remain unanswered until future research can substantiate the likelihood of this, or not.

A full multidisciplinary assessment of David, conducted in September 1989 concluded that David's learning impairments related to neurodevelopmental deficiencies indicative of minimal neurological dysfunction. In spite of significant gains in fine motor skills, David's writing skills were underdeveloped due to poor tone and specific visual perception and visual motor performance difficulties. Short term memory and specific cognitive-linguistic weakness would significantly affect his performance in group learning and social context.

One of the most important questions raised in this study is the role of anxiety and to what extent it compounds the difficulties of a child with a learning disorder, such as David. If one can offset the vicious cycle, generate successful, self discovery experiences instead of failure, to what extent will an academically impaired individual be more able to develop resources to compensate for constitutional weakness?

It is likely that music has the potential to amplify and accelerate the progress of therapy in other disciplines, ie. when music is put to physiotherapy exercises or to speech therapy etc. But it is in its own right a *creative* therapy; that is it acknowledges that creativity is not only an attribute of optimum health, but is also a way to develop personal potential if handled sensitively in therapy.

Music Therapy, as with other creative arts therapies, undoubtedly has an important role to play in the field of Learning Disabilities. Helping a learning impaired individual to find confidence and/or cognitive strengths to compensate for weaknesses, indeed to discover a creative self, may in some cases be the cutting edge for therapy, rather than solely concentrating on changing that which may not be changeable and must to some extent be lived with.

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Appendix A

Musical score for Appendix A. It consists of three staves. The top staff is for (DAVID) in treble clef, 4/4 time, with a key signature of one flat. The middle and bottom staves are for (THERAPIST) in grand staff (treble and bass clefs). The (THERAPIST) part features a piano accompaniment with dynamic markings *p* and *sfz*. Percussion parts for CYMBAL and DRUM are indicated with 'x' marks above the staff. The piece concludes with "etc."

Appendix B

Musical score for Appendix B. It consists of three staves. The top staff is for (DAVID) in treble clef, 4/4 time, with a key signature of one flat and a tempo marking of $J=50$. The middle and bottom staves are for (THERAPIST) in grand staff. The (THERAPIST) part features a piano accompaniment with dynamic markings *f* and *p*. Percussion parts for CYMBAL and DRUM are indicated with 'x' marks above the staff. The piece concludes with "etc."

Appendix C

Musical score for Appendix C. It consists of a single staff for (DAVID) in bass clef, 3/4 time, with a key signature of one flat. The piece is divided into sections for LH. (Left Hand) and RH. (Right Hand) playing. The piece concludes with "etc."