

THE PROBLEM

1.0 INTRODUCTION

Kanan (2001) has remarked that ‘mentally challenged’ is a generalized disorder, characterized by significantly impaired cognitive functioning and deficits in two or more adaptive behaviors with onset before the age of 18. It has historically been defined as an Intelligence Quotient score under 70. Once focused almost entirely on cognition, the definition now includes both components relating to mental functioning and one relating to individuals' functional skills in their environment. ‘Mentally challenged’ refers to a condition of subnormal intellectual and social development and to subnormal level of awareness and consciousness. Their intelligence ranks significantly below average and social functioning of such a person is less capable and independent than that of other people of the same age and cultural group. Caring for those children requires special care. The mental ability is measured by I.Q. - that is a personal score of an intelligence test. Average intelligence of people score from 90 to 190 on such a test. An IQ below 70 signifies one of depress of mental retardation which can be either mild, moderate, severe or profound. A child with mental retardation or developmental disabilities is often classified by the severity of his cognitive and adaptive abilities based on his IQ scores. Based on standard scores of intelligence tests, reflect the categories of the mental retardation given by American Association of mental retardation, the diagnostic and statistical manual of mental disorders–IV - TR, and the international classification of diseases, the types of mental retardation is given in table 1.

Table 1: Type of Mental Retardation

| S.No. | Type of Mental Retardation | I.Q. |
|-------|-------------------------------------|----------|
| 1. | Profound Mental Retardation | Below 20 |
| 2. | Severe Mental Retardation | 20-34 |
| 3. | Moderate Mental Retardation | 35-49 |
| 4. | Mild Mental Retardation | 50-69 |
| 5. | Borderline Intellectual Functioning | 70-84 |

They can make life or no progress in subjects such as reading, writing and arithmetic. Most of them require special schools or classes for them. Trainable mentally retarded can learn to care for themselves and to perform useful tasks at home or in special workshops. Severally retarded people have IQ of 20 to 34. They require training in legislative and getting along with others. Profoundly retarded people have IQ below 20 and are never advanced beyond the mental age of a baby or toddler. Many need constant care to survive. The mentally challenged children cannot be cured fully. But in the most cases a great deal can be done to help their intellectual and social development. Much of this treatment consists of appropriate education or training. It is the legal right of every school age child no matter how seriously retarded, to have the opportunity to learn to function to the best of his or her ability. There are thousands of agencies around the world that provide assistance for people with developmental disabilities. They include state-run, for-profit, and non-profit, privately run agencies. Within one agency there could be departments that include fully staffed residential homes, day rehabilitation programs that approximate schools, workshops wherein people with disabilities can obtain jobs, programs that assist people with developmental disabilities in obtaining jobs in the community, programmes that provide support for people with developmental disabilities who have their own apartments, programs that assist them with raising their children, and many more. There are also many agencies and programmes for parents of children with developmental disabilities. Beyond this there are specific programmes that people with developmental disabilities can take part in wherein they learn basic life skills. These "goals" may take a much longer amount of time for them to accomplish, but the ultimate goal is independence. This may be anything from independence in tooth brushing to an independent residence. People with developmental disabilities learn throughout their lives and can obtain many new skills even late in life with the help of their families, caregivers, clinicians and the people who coordinate the efforts of all of these people. Although there is no specific medication for mental retardation, many people with developmental disabilities have further medical complications and may take several medications. Music has been employed as a therapeutical tool for correction of various physical disorders and emotional turbances. Music and other art were frequently used as the therapeutical agent in ancient societies.

Dass and Sharma (2006) have remarked that ‘music is both an art and a science. It deals with the expression of one’s feeling and emotions through sound, melody and harmony. Music is bestowed upon mankind by nature for influencing the inner world (spiritual) and moral characters, it is the art of combining sounds for reproduction by voice or by various kinds of musical instruments in rhythmic, melodic and harmonic form to express thoughts or feelings. Music surrounds in every aspect of our life from birth to death and it is associated with it intimately. We hear music on the radio, TV, from our car and home music system and in internet. There is no doubt that music has a calming effect on mind and soul.

Music therapy is an interpersonal process in which the therapist uses music and all of its facets-physical, emotional, mental, social, aesthetic and spiritual-to help clients to improve or maintain their health. Music therapy has a long history dating back to ancient Orphic school in Greece. Pythagoras, Plato and Aristotle all were aware of the prophylactic and therapeutic effects of music. Even in old testament there is a mention that playing harp cured illness of King David. In ancient Egypt music was used to lessen the childbirth pain of women. In India the legend is that Thyagaraja the famous musician of South India brought a dead person back to life by singing the composition Naa Jeevan Dhara in raga Bihari. Browne (1729) a physician wrote the famous text *Medicina Musica* which described the use of music as medicine. Dr. Burnell has mentioned a manuscript named *raga chikitsa* in the collection of Saraswati Mahal Library in Tanjore which deals with the various ragas that can be used for curing various ailments. *Raga chikitsa*, an extinct Sanskrit treatise, as its name dealt with curative ragas and suggested specific ragas. With Specific therapeutic and mood enhancing characteristics suggested to be used in clinical settings are still more to be tested and validated (Varadalakshmi; 1948, Sairam, 2005). Sairam (2006) in his study on designing training methods for the mentally challenged children prescribed baseline rules for treatments as: (1) Beta music with rapid fire orchestral rhythms to activate participation and anger management, to gear up physiological activities and alertness of mind. (2) Alpha music without rhythms to induce relaxation and (3) Repeated rhythmic experience to regulate the wavering emotions and to bring regularity by his experimental observations during music therapy sessions with mentally retarded children.

Sundar (2006) has remarked that modified a version of raga chikitsa (treatment) approach and used Karnatik ragas for music therapy intervention. It took consideration of music preferences, listening pattern, the socioeconomic background and the level of exposure to classical music. The raga-based approach broadly involves application of music pieces with a specific emphasis on swara patterns, embellishments and appropriate rhythms. This approach being both melodic and rhythm depends on the intended music function and the therapeutic objective identified. Ragas with swaras having short or long intervals and different embellishments could be chosen with the appropriate slow, medium or fast tempo. The applications would vary for different music functions identified. (A) Audio analgesic, anxiolytic or sedative, (B) to be stimulating and energizing and (C) to be an active focus of attention etc. This music therapy is based on long empirical traditions but not proven by the conventional western experimental methods.

Ragas have a definite soothing effect on the mind as well as on the body. Repeated listening to the particular raga being chosen for a particular disease produces a network of sound vibration. The muscles, nerves and chakras of the affected part contract when one impulse is given and relaxes in between the impulses. Thus contraction reduces the blood flow and relaxation increases the flow from the neighboring area. This process is repeated again and again and the blood flow, energy flow also increases in that part enhancing the healing. It is postulated that energy from Universal Energy Field (UEF) gets transmitted to Human Energy Field (HEF) by the different tones of raga as it affects the Central Nervous System (CNS) through the process of hearing as auditory nerve is well connected with other areas of brain. Also music beats affects the heart beats and it has been found that music beats having 70-75 beats per minute equivalent to heart beat of 72/minute has a soothing effect. Whereas rhythms faster than heart beat excite and rejuvenate the body and mind. Indian classical music considers ragas as depicting specific moods. Music is considered the best tranquilizers in modern days of anxiety, and tension. Raga darbari is considered effective in easing tension and anxiety and it was composed by Tansen, the famous singer in the court of King Akbar to relieve his tension after hectic schedule of the daily court life. This raga belongs to Asavari that and is a complete raga containing all the seven notes. The seven notes were taken from various natural sounds of birds and animals.

Pandit Raghunath Seth's Raga Darabari (instrumental music) in a music therapy cassette named Tanav is especially composed of easing tension. Tambe (2005) it has been proved that Raga Bhupali and Todi give relief to patients with high blood pressure. Raga Ahirbhairav also helps to reduce blood pressure. Also Raga Malkauns and Raga Asavari help to cure blood pressure. For heart ailments Raga Chandrakauns is considered very helpful. Ragas Tilakkamod, Hansdhwani, Kalavati, Durga also help in easing tension. For insomnia Raga Bihag and Raga Bihar have good effects. It has been noted that Ragas are closely related to different parts of the day according to changes in nature and development of particular emotion, mood or sentiment in the human mind. Raga Bhairav is sung an hour before dawn, Raga Ramkali at dawn, Raga Vilavali at sunrise, Raga Sarang at noon, Raga Nata and Malava in the afternoons, Raga Gaudi in the evenings, Raga Kalyan at night, and Raga Kedara, Chandra and Bihag in the late night. Pal (2010) remarked that "Music therapy is usually conducted either early morning, evening or night. Music therapy sessions should be of one hour duration with two or three short sessions with brief breaks. One should avoid long music sessions in empty stomach. One of the subjects of research at the neurosciences institute is the study of music's relationship to language. There has been important links between the two domains in terms of structure and cognitive processing. This also challenges the traditional view that music is a neurally isolated brain function. Using magneto-encephalography (MEG), it has been explored the mechanism of selective auditory attention, the perceptual separation of sound sources by the nervous system and the interaction of stimulus driven versus internal cues in the brain's processing of rhythmic patterns. Admin (2009) has shown in his research that right side of the brain, which responds to creative arts including music. Different genres of music have different effects on mind. Rock music, which has a series of repetitive notes, many high and low pitches and dense tone figures, requires an immediate adjustment from the mind to understand the different frequencies. A concerto or a classical raga has a structure; it takes you to a point and brings you back. Pop or rock tunes last not more than few minutes, how much can you relax in that time. It is a kind of fleeting from one state of consciousness or emotion to another.

Music works through mind like some other alternate therapies. The chanting of certain mantras or choir chants create vibrations within vocal cords, which move deeper into the body. Mantras or chants are repeated monotonously (as mostly observed with Buddhist's monks or in Temples) helps the mind to achieve a sense of balance. A combination of sounds in Sanskrit mantras perhaps produces certain positive vibrations and elevates the mind to higher level of consciousness. It is known that meditation cleanses the system of its negative energies and vibrations and Music is powerful aid to meditation. Music therapy is used with individuals of all ages and with a variety of conditions, including: psychiatric disorders (depression, anxiety, attention and concentration problems, in some psychoses to deal with hallucination or hearing voices), medical problems (hypertension), physical handicaps, sensory impairments, developmental disabilities, substance abuse, communication disorders, interpersonal problems and aging. It is also used to: improve learning, build self-esteem, reduce stress, support physical exercise and facilitate a host of other health-related activities. Moratos (2008) in his study found that Music therapy was useful for patient who suffered from depression. In his study he used two type of music therapy- (1) Receptive and (2) Active. In Receptive music therapy- A person listens to music with and in Active music therapy- patient work together.

European Society of Cardiology Congress (2009) researchers showed that music therapy reduced blood pressure, heart rate and patient anxiety and had a significant effect on future events, such as re-infarction and sudden death, in acute coronary syndrome patients who underwent bypass (revascularization) operations. Mitrovic (2009) found that music therapy have positive effects on heart by decreasing sympathetic nervous activity. Also it was found that positive emotion aroused by happy and joyful music can have favorable effects on heart and vascular endothelium. They have studied for seven years with a total of 740 patients among those half of the patients received two sessions of music therapy for twelve months daily and the other half were not given music therapy. Those who listened to music had less anxiety, both systolic and diastolic pressure reduced and also the heart rate. They had fewer anginas, less heart failure, lower rate of re-infarction and lower rate of sudden death. Typically the classical music has been preferred but not all. At American heart Association (AHA- 2008 in New Orleans (USA), presented by Michael Miller, MD,

that “High cholesterol and high blood pressure are very important, but some lacking these risk factors develop significant heart disease, and they may be partly related to their response to stress”. It is known that mental stress can cause vasoconstriction and it was found that laughter has a beneficial effect on the endothelium.

Miller (2009) found that anxiety provoking music causes decrease in blood flow in the upper arm by 6%, enjoyable music increased the flow by 26%, a humorous video increased the blood flow by 19% and listening to relaxation tape increases the flow by 11%. They also believed that this happens due to endorphins or endorphin like compounds released from the brain that may have direct effect on the vasculature. This confirms the mind and body connection, but it is so difficult to quantify and needed further investigation. Music is a unique way of expressing feelings and thoughts. It is due to its incorporation with the assimilation of different aspects of tempo, laya and metre. Music in the oldest form of expression, older than language or art, begins with the voice and with our overwhelming need to reach out to others. In fact, music is far more than words, for words are abstract symbols which convey factual meaning. Music touches out feelings more deeply than most words and make as respond with our whole being, The combination of music and speech into single expression of song has unique power, conveying feeling of great elation or almost unbearable poignancy. On the bases of the above discussion it may be inferred that music has great bearing on human life. As such it may be of great help in developing various personality aspects of mentally challenged children – like their achievement, adjustment, creativity, level of consciousness, level of anxiety, attention regulation etc. Music may also work as a therapy for mentally challenged children.

2.0 EMERGENCE OF THE PROBLEM

Music listening and singing are wonderful experience. It is an art which involves both the performer and the listener. Both of them are important as far as the psychological effect is concerned. Schopenhauer (1883) acknowledged a connection between human feelings and music, which “restores to us all the emotions of our inmost nature, but entirely without presented as an analogue of the emotional life, is a copy or symbol of the will.”

Copland, Licht (1963), a fellow of New York Academy of Medicines, contributed a great deal to the results or research into music therapy wrote, “I am convinced, that

listeners are psychologically affected by such musical characteristic as mood, intensity, pitch and rhythm and this should provoke remembrance and association of thoughts more easily in a mental patient than methods using factual persuasions."Direct music participation appears to have a significant positive effect on the development of characteristic of creativity. Sokolov (1970) is of the view that chair singing which is also participation in chair or group singing creates the feeling of patriotism which increases the feeling of pride in one's motherland together with a sense of civic responsibility, collectivism and co-operation. Orff (1984) classical cases study on the improvement of a retarded girl through music therapy. Orff administered the Orff music therapy to Nicole a six years old girl, who was blind and very seriously retarded in development, as yet incapable of speech. But she could hear and recall melodies as was observed from her mimicry and spontaneous hand clapping. After about eight sessions of music therapy she could do it freely without support drawn up so to speak by the instrument in front of her and the tones she produced on it. This shows the impact of music on hearing and recall melodies of mentally challenged girl.

Nihira, Meyers & Mink (1983) described the relationship between home environment, friendly adjustment and the social competency of TMR and EMR children. The home environmental variables included parental behavior and attitude, psychosocial climate, demographic and structural characteristics of the families. The measures of family adjustment included the mentally challenged child's impact on the family and family's capacity to cope with mentally challenged. The child characteristics were described in terms of adaptive and maladaptive behavior, psychological and social adjustment and self concept measures. Canonical correlation analysis revealed conceptual and statistical linkage between home environment, family adjustment and the competency of mentally challenged children.

Given such effects music can have these arise research questions like; can music have effect on adjustment and academic achievement of mentally challenged children? Does it help to raise the level of consciousness of mentally challenged children? Researcher did not come across any study answering these question and hence researcher decided to shed scientifically credible light on this aspect with the justification as follow.

3.0 JUSTIFICATION OF THE PROBLEM

The arts poetry, music and architecture, painting and sculpture arouse an intense feeling and urge to experience and appreciate both the sensible and the super sensible objects and though at first their representatives are indirect in terms of the physical expression that they directly appeal to the depth of the experience or feeling and create aesthetic joy and beauty. Music is absolutely concerned with the problem of emotional content value and beauty. The philosophy of music like many other branches of knowledge, claims attention on intellectual grounds than on utilization grounds. Music helps in the physical, mental and emotional development of a child. Music has an ability to rejuvenate the person with new energy. Music is also used as a strategy to treat the psychosomatic illness. Different research has shown that in the 18th century the great Austrian musician “Mozart” music is especially effective in treating the mental diseases. Now in present time mentally challenged is a global concern. The impact of this may range from minor to major disturbances in human behavior, thought and performance. Mentally challenged children meet many obstacles and failures, thus experience feeling of frustration and dejection. They are subjected to maladjustment and deviate from their regular requirements. Hence there is a great need of special education programme. Music education in term of its potential for special education has been frequently used as a therapeutic agent. On the bases of all facts and need of special education for mentally challenged children researcher decided to conduct the present study.

4.0 STATEMENT OF THE PROBLEM

A Study of Effect of Music Enrichment Programme on Academic Achievement, Adjustment and Level of Consciousness of Mentally Challenged Children.

5.0 DEFINITION OF THE TERMS USED IN PROBLEM

5.1 Music Enrichment Programme

Music enrichment programme is the programme introduced to the mentally challenged children in order to enhance their achievement it includes different songs based on academics, adjustment and level of Consciousness. Those to be learned by the mentally challenged children.

5.2 Academic Achievement

The word academic achievement is related to the formal education particularly involving the study of book (Wolman, 1975). “Achievement” is accomplishment or success in bringing about a desired end (Wolman, 1975). But the term ‘academic achievement’ is highly controversial, for it has been used in narrow and broader senses in researcher without any attempt at specification. In general academic achievement denotes the marks of students on test designed to examine their academic progress. This approach is specific but narrow. In a broader sense “all changes in the academic level of the students is academic achievement. But it is difficult to assess, therefore-

A measure of knowledge gained in formal education is usually indicated by test scores, grade point and degrees. Singh (1997)

Operational Definition: For the present investigation the academic achievement means the aggregate marks obtained by mentally challenged students in the tests taken by their teachers in various subjects - fine motor skills, social skills, communication - English and Hindi recitation, cognitive skills, art and craft.

5.3. Adjustment

Adjustment is the process by which a living organism maintains a balance between its needs and the circumstances that influence the satisfaction of these needs. Boring, Langfeld & Weld (1962)

Operational Definition: For the present investigation, adjustment means the process by which mentally challenged children maintained a balance between their special needs and the circumstances that influence the satisfaction their needs.

5.4 Level of Consciousness

Consciousness is the sense of awareness, of knowing. It is our knowing that we know. The ideas that are held in mind are the bases of all consciousness. The nature of the ideas upon which consciousness is formed gives character to it. Consciousness is the knowledge realization of any idea, object or condition. It is the sum total of all ideas accumulated in and affecting man’s present being. It is the composite of ideas, thought, emotions, sensation and knowledge that makes up the conscious, subconscious, super conscious phases of mind.

Operational Definition: For the present investigation consciousness means the composite of ideas/thoughts/emotions/sensations and this knowledge of mentally challenged children.

5.5 Mentally challenged children

According to the American Society of Mental Deficiency (Herber 1961)-Mentally challenged children are with some of mental retardation to sub – average general intellectual functioning which originate during the development period and is associated with impairment is adaptive behaviors.

6.0 OBJECTIVE OF THE STUDY

The major objectives of the study were-

1. To develop music enrichment programme for the mentally challenged children.
2. To orient mentally challenged children of experimental group to the music enrichment programme.
3. To study the effect of music enrichment programme on academic achievement of mentally challenged children.
4. To study the effect of music enrichment programme on adjustment of mentally challenged children.
5. To study the effect of music enrichment programme on level of consciousness of mentally challenged children.

7.0 HYPOTHESES OF THE STUDY

1. There is no significant effect of music enrichment programme on academic achievement of mentally challenged children.
2. There is no significant effect of music enrichment programme on adjustment of mentally challenged children.
3. There is no significant effect of music enrichment programme on level of consciousness of mentally challenged children.

8.0 DELIMITATION OF THE STUDY

The present study was delimited to–

Mentally challenge school going children of Asha School Agra, Age group 5 to 15.

9.0 VARIABLES OF THE STUDY

1. Independent variable - Music enrichment programme.
2. Dependent variable - Academic achievement, adjustment and level of consciousness.

9.1 Control of Extraneous Variables

The extraneous variance is controlled by identification of effective caravels_ and using effective strategy of control. The subject relevant variables, situation relevant variables and sequence relevant variables as described by D’Amato (1970) have been controlled through various types of control techniques, as under:

Table 2: Control and Extraneous Variables

| EXTRANEOUS VARIABLES | TECHNIQUE OF CONTROL |
|---------------------------------------|----------------------|
| A. Subject Relevant Variable | |
| 1. Age | Constancy (5 to15) |
| 2. Sex | Randomization |
| 3. Caste | Randomization |
| 4. Religion | |
| 5. Occupation | |
| B. Situation Relevant Variable | |
| 1. Temperature | Constancy |
| 2. Humidity | Constancy |
| 3. Noise | Elimination |
| 4. Lightning level | Constancy |
| 5. Time of the study | Constancy |
| 6. Culture | Constancy |
| 7. Institutional difference | Constancy |
| 8. Socioeconomic status | Randomization |
| C. Sequence Relevant Variable | |
| 1. Practice | Elimination |
| 2. Fatigue | Elimination |
| 3. Monotony | Elimination |

10.0 METHODOLOGY OF THE STUDY

The method of the study can be stated in the following heads.

Design of the Study

Quasi experimental pre-test, post-test design was used.

Sample of the Study

A sample of 40 mentally challenged children (20 Experimental, 20 Control) of age group above 5 to below 15 were randomly selected.

Tools

The following tools were used by researcher in order to collect data:-

Academic performance scores of mentally challenged children were used for academic achievement. Self-constructed - adjustment scale for mentally challenged children was used for adjustment. Self-constructed - consciousness scale for mentally challenged children was used for consciousness.

Statistical Techniques

Statistical Mean, SD, Mann-Whitney U- test and graphical representation were used for the analysis of data.

11.0 SIGNIFICANCE OF THE STUDY

Mentally challenged children face an increased number of failure experiences compared to normal children; they may develop traits that work against their becoming independent. They often become overly wary of adults and develop a lower expectancy of success (that is, they do not expect to succeed at challenging tasks). At the same time, retarded children are more likely to become dependent on adult approval and to accept adult (as opposed to their own) solutions to difficult problems. A mentally challenged child in a family is usually a serious stress factor for the parents. It often requires a reorientation and reevaluation of family goals, responsibilities and relationships. In India, the majority of persons with mental retardation have traditionally been cared for by their families. In today's modern society this home-based care has resulted in many adverse consequences. Factors such as changes in the social system (e.g. breaking up of joint families) and the economic system (e.g. unemployment, inflation etc.) have contributed to the stress that parent of

mentally challenged children experience. The emotional and social stress that these parents undergo has been described by various investigators in the East and West. The result of present investigation may be of great significance for educational policy makers for modifying educational policies regarding education of mentally challenged children. The results may also be useful for the curriculum developers and school administrators in developing school programmes. Parents may also get insight in giving a proper therapy to their mentally challenged children. The teacher may use the results of the investigation for preparing their teaching-learning strategies which may be music based. Students may themselves be benefitted by the results of the investigation by giving adequate time to their different activities.