

REVIEW OF RELATED LITERATURE

2.0 INTRODUCTION

Man is the one who can take advantage of knowledge which has been preserved and accumulated through centuries. Practically all knowledge can be found in books and libraries. Every piece of ongoing research needs to be connected with the work already done, to attain an overall relevance and purpose. The present chapter dealt with the review of related literature which helped the researcher in order to establish a link between the researches already conducted and the present study. The review of related literature thus became a link between the research proposed and the studies already done. It was a body of text that aimed at reviewing the critical points of current knowledge on a topic. It brought the researcher up-to date with current literature on a topic and forms the basis for another goal. This was essential to make sure that the researcher was not repeating the work that someone had already done earlier. The review of related literature was characterized by logical flow of ideas, relevant references, appropriate referencing style, and proper use of terminology and unbiased and comprehensive view of the previous researches on the topic. It was important from the point of view of getting insight into hypotheses, tools, methodology, finding and explanations given for conclusions.

2.1 IMPORTANCE OF REVIEW OF RELATED LITERATURE

The researcher established link between the past and the present researches conducted in this area by reviewing related literature it helped the researcher to find out the work that was already done, what other researches had attempted to find out, which methods had been used and which problems remained to be unsolved. It showed whether the evidences that were already available solved the problem adequately. It provided ideas, theories, explanations, hypotheses and methods of research valuable in formulating and studying the problem. It helped in locating the comparative data useful in the interpretation of results. It prevented repetition of research. It helped in developing insight into the matter.

2.2 SOURCES OF REVIEW OF RELATED LITERATURE

In the present chapter an attempt was made to present all those researches which were related to the problem. The researcher referred various researches from different sources which are there in table 1.

Table 1: Sources of Review of Related Literature

S.No.	Sources	Content
1.	Current Index to Journal in Education	Titles, authors and journals citations of journal articles related to education with annotations where needed. Classification by subject and by authors.
2.	Research in Education	Abstracts of ongoing and completed researches in education
3.	Eric Microfiche Collection	Complete documents, the abstracts of which are in the research educational documents.
4.	Review of Educational Research	Unsolicited review in various topics.
5.	Encyclopedia of Educational Research	Summarizations and evaluations of researches in Education published at the end of decade.
6.	Dissertation Abstracts	Abstracts of doctoral dissertations in United States and in Canada.

2.3 RESEARCHES CARRIED OUT AT INTERNATIONAL LEVEL

2.3.1 Studies Related to Music and Mentally Challenged Children

Aryr (1987) studied effects of a music stimulus environment versus regular cafeteria environment during therapeutic feeding''. The feeding times for five severely handicapped children in a regular cafeteria environment and in a sound controlled environment were compared. Results showed that modifying sound environments with music ameliorated some of the difficulties of therapeutic feeding.

Barber (1973) discussed the effects of a music therapy programme with two groups of mentally handicapped children in his study on music therapy with retarded children. Behavior changes resulting from participation in music therapy included increased concentration, performance and self-control as well as improved speech and social graces.

Burnett (1983) studied the effects of rhythmic training on musical perception and motor skill development in 23 developmentally delayed children. Comparison of pre/post test scores on an inventory of observable musical behaviours and a survey of developmental and perceptual skills indicated significant increases for the experimental group in musical perception and motor skill development.

Effects of music listening on the performance of manual production tasks of 16 moderately developmentally delayed girls aged 12 to 21 was studied by **Cotter (1971)**. Three conditions were examined: (a) listening to continual music, (b) listening to music contingent to work produced and (c) no music listening. Results showed that work production was significantly increased during the conditions when music was available and that the rate of work production was increased when music was presented contingent upon work rate.

Davis, Wieseler and Hanzel, (1983) investigated the effects of contingent music and verbal cues on the frequency of rumination and out-of-seat behaviour of a profoundly developmentally delayed adult. Results found that the use of contingent was most effective in reducing incidents of rumination and in controlling out-of-seat behaviours. Generalization was also programmed to the subject's classroom setting.

Groeneweg, Celser, MacBeth & Vrbancic, (1988) investigated the effects of background music on the work behaviour of 12 moderately developmentally delayed adults in a vocational work/training environment. Results indicate that work production significantly increased under the music condition as compared to the no music condition and there was less non-work oriented behaviour when there was background music.

Humphrey (1980) studied the effects of choral music therapy sessions on auditory discrimination abilities of 15 developmentally delayed adolescents. Sessions involved melodic and rhythmic imitation, vocal production and auditory memory skills training. Results indicated that there was a significant difference in auditory

discrimination scores with the choral (experimental) group scoring higher than the control group who received no music training.

Miller (1974) investigated effects of selected music listening contingencies on arithmetic performance and music preference of educable mentally retarded children. The use of preferred music listening presented as a contingent reinforcer to increase arithmetic performance of developmentally delayed children was studied. Results indicate that the children receiving contingent music reinforcement achieved significantly higher arithmetic performance scores than those who did not receive contingent reinforcement.

Price (1978) studied the effect of selected musical experiences on receptive and expressive language in young developmentally delayed children. Treatment included activities that emphasized auditory discrimination, rhythm and movement. Positive results were also achieved in personal-social, fine motor-adaptive and gross motor development.

Strawbridge, Sisson and Hasselt (1987) evaluated the effectiveness of contingent-interrupted auditory stimulation (audio taped environmental sounds) in reducing the disruptive screaming and crying exhibited by a multi-handicapped 10-year-old female. Results demonstrated the efficacy of this method in decreasing disruptive vocalizations in the classroom.

Underhill and Harris (1974) studied the effect of contingent music on establishing imitation in behaviorally disturbed retarded children. Results showed that the mere presence of music did not produce an increase in responsive behaviours. However, when music was presented contingent upon correct responses elicited by the subjects, there was a significant increase in the percentage of desired behaviours in all subjects.

T. Wigram and Gold (2005) investigated the effect of music therapy for autistic spectrum disorder. Children and adolescents with autistic spectrum disorder (ASD) presenting with significant limitations in conventional forms of verbal and non-verbal communication were found to respond positively to music therapy intervention involving both active, improvisational methods and receptive music therapy approaches. Improvisational musical activity with therapeutic objectives and outcomes has been found to facilitate motivation, communication skills and social interaction, as well as sustaining and developing attention. The structure and

predictability found in music assist in reciprocal interaction, from which tolerance, flexibility and social engagement to build relationships emerge, relying on a systematic approach to promote appropriate and meaningful interpersonal responses. Published reports of the value and effectiveness of music therapy as an intervention for children with ASD range from controlled studies to clinical case study. Further documentation has emphasized the role music therapy plays in diagnostic and clinical assessment. Music therapy assessment can identify limitations and weaknesses in children, as well as strengths and potentials. Research evidence from a systematic review found two randomized controlled trials that examined short-term effects of structured music therapy intervention. Significant effects were found in these studies even with extremely small samples, and the findings are important because they demonstrate the potential of the medium of music for autistic children. Case series studies were identified that examined the effects of improvisational music therapy where communicative behavior, language development, emotional responsiveness, attention span and behavioural control improved over the course of an intervention of improvisational music therapy.

Belleth (1995) proposed to establish an optimum sequence of active and/or passive tasks to encourage desirable behavior in individuals with Down's Syndrome (DS) and dementia of the Alzheimer-type (DAT). In this study, four individuals with DS and DAT were presented five conditions of varying active and passive sequences. Results indicated a high and sustained level of desirable behaviours during alternating active and passive tasks. When developing and implementing new programs, caregivers and, in particular, music therapists must structure their programs to achieve the highest level of desirable behaviours for the duration of the session.

Velázquez (1991) described an experimental method for teaching piano is described through a case study of an eighteen-year-old girl with Down syndrome. The method, lasting twelve weeks with one to two sessions per week, utilized a modified reversal design and introduced four types of interventions to aid the subject in improving performance of finger exercises at the piano. The baseline condition consisted of a verbal cue to precede segments of an exercise and the treatment conditions were: (a) verbal cue with tactile cue condition, (b) verbal cue with visual/aural model condition, (c) sung cue condition, and (d) iconic/symbolic representation condition. The results indicated that the iconic/symbolic representation condition yielded the best

performance. The success of the experiment encouraged the subject to continue private lessons further developing independence at musical performance.

Lundqvist, Andersson and Viding (2009) proposed that vibroacoustic music is an effective treatment for individuals with developmental disorders and challenging behaviors. The study experimentally tested the effects of vibroacoustic music on self-injurious, stereotypical, and aggressive destructive behaviors in 20 individuals with autism spectrum disorders and developmental disabilities. The participants were randomized into two groups in a randomized controlled trial evaluation. The first group received 10–20 min sessions with vibroacoustic music treatment for 5 weeks. Then the second group received the same treatment during the next 5 weeks. Behavior was assessed using the Behavior Problems Inventory in all participants before the treatment, after the first group had completed their treatment, and again after the second group had completed their treatment. In order to evaluate each session, the accompanying assistants assessed behavior on different scales after each session. In addition, the sessions were videotaped and analyzed minute by minute for challenging behaviors. The results revealed that vibroacoustic music reduced self-injurious, stereotypic and aggressive destructive behaviors in the participants. In addition, the results indicated that the effect of vibroacoustic music was to some extent dependent on the participants' diagnosis. Implications for vibroacoustic music theory and practice are discussed.

Gold, Voracek and Wigram (2004) conducted a study with the objective to examine the overall efficacy of music therapy for children and adolescents with psychopathology, and to examine how the size of the effect of music therapy is influenced by the type of pathology, client's age, music therapy approach, and type of outcome. Eleven studies were included for analysis, which resulted in a total of 188 subjects for the meta-analysis. Effect sizes from these studies were combined, with weighting for sample size, and their distribution was examined. After exclusion of an extreme positive outlying value, the analysis revealed that music therapy has a medium to large positive effect ($ES = 0.61$) on clinically relevant outcomes that was statistically highly significant ($p < 0.001$) and statistically homogeneous. No evidence of a publication bias was identified. Effects tended to be greater for behavioural and developmental disorders than for emotional disorders; greater for eclectic, psychodynamic, and humanistic approaches than for behavioural models; and greater

for behavioural and developmental outcomes than for social skills and self-concept. Implications for clinical practice and research are discussed.

2.3.2 Studies Related to Music and Academic Achievement

Rashidi and Faham (2011) investigated the effect of classical music (Mozart Sonata) on the reading comprehension performance of two groups of Iranian students in an English Institute in Iran. The study compared two groups of Iranian English students (N = 60) over a period of three months: one was taught reading comprehension with a music background and the other with no music background whatsoever. The results of the study showed a significant difference between the performance of the group exposed to music and the performance of the other group not exposed to music. The group taught reading comprehension with a music background outperformed the other taught it with no music background.

Bieling (2011) examined whether exposure to one's preferred genre of music positively affected performance on reading comprehension and quantitative tasks. One-hundred and seventy participants, 121 females and 49 males, mean age of 20.95, were randomly assigned to a particular genre of music (rock, reggae, classical, rap, religious and country) or to their declared preferred genre, or in the case of the control group, to no music at all while completing reading comprehension and quantitative tasks. The results indicated that it was not music preference that affected the math or reading scores but the type of music to which participants listened

Minneapolis (2010) investigated the effects of five popular and classical background music listening styles on undergraduate students' math test scores. Students (n = 72) from a required university music appreciation class were exposed to three different listening situations over an established period of time while completing three parallel forms of a math placement test consisting of 16 questions. Students also completed a questionnaire seeking to determine their type of response to music. The students, mostly from rural communities, represented a cross section of the university community and none were music majors. Regression analysis found that the music had no statistically significant effect on the math test scores. This was further supported by a post-hoc questionnaire. This study lends support to previous research indicating that background music had no effect on performance in other academic learning areas.

Giomi and Eugenia (2004) studied the effects of three years of piano instruction based on a sample of 117 fourth-grade children attending public schools in Montreal. The children had never participated in formal music instruction, did not have a piano at home, and their annual family income was below \$40,000. Children in the experimental group (n = 63) received individual piano lessons weekly for three years and were given an acoustic piano at no cost to their families. Children in the control group (n = 54) did not participate in formal music instruction. Participants were administered tests of self-esteem, academic achievement, cognitive abilities, musical abilities, and motor proficiency at the beginning of the project and throughout the three years of piano instruction. The results indicated that piano instruction had a positive effect on children's self-esteem and school music marks but did not affect their academic achievement in math and language as measured by standardized tests and school report cards.

Kim (2003) in his study tested the positive effects of interactive music activity was conducted on children with Down's Syndrome. Two children 5 years of age were chosen from a full inclusion kindergarten school J in a district located in Incheon. The experiment was performed from October 13th through November 14th in 20 trials (4 times a week for 40 minutes each) of music therapy sessions utilizing the method of Multiple Baseline Across Behaviors for the five week duration. Linguistic abilities were determined through receptive language, expressive language and associative language by employing the Illinois Test of Psycholinguistic Abilities. During the music therapy sessions the language therapist was present to record linguistic ability scores for each experimental trial, and afterward a video clip of the experimental session was viewed with the music therapist. The music therapist assigned scores for each trial, and any discrepancies in the scores between the language and music therapists were eliminated. The results from these experimental sessions were used to determine the effect of interactive music activity on children diagnosed with Down's Syndrome.

The results from the study indicated that during the time of the interactive music activity intervention, there was a steady improvement in the linguistic abilities of receptive language, expressive language, and associative language in both children A and B. In the areas of verbal expression, manual expression, auditory association, and visual association, there were small differences in the children's' scores but this may

be explained by individual differences in intelligence or social maturity. These results show that interactive music activity is effective in improving the linguistic learning abilities of children with Down's Syndrome, and that this method may also be used for children with other types of disabilities.

Bryant and Shimmins (2003) conducted a study for increasing math achievement through the use of musical interventions including repeated exposure to Mozart classical music and School House Rock and introduction to teacher-made songs that introduce mathematical concepts in the music classroom. The students of the targeted second and fourth grade classes exhibited low levels of achievement according to local and national standards. Evidence for the existence of the problem included teacher-made pre-tests, parent questionnaires, and student questionnaires. Probable causes for low levels of student mathematical achievement were identified through a review of the literature and analysis of the setting and can be divided into student, home, school, teacher, and district influences. The following probable causes were cited: disabilities, classroom climate, motivation, problem behaviours, lack of homework support due to lack of math competency, home-based factors, lack of professional training and frequent staff turnover, and low contact time in the arts due to funding problems. The solution strategy involved a review of current educational literature with analysis of problem setting, resulting in exposure to music of Mozart, School House Rock, and teacher-made songs that prepared and motivated students while implementing mathematical concepts. Post intervention data indicated a significant increase in students' mathematics achievement in the targeted skills for both second and fourth grades, including students with disabilities. Motivation and classroom climate were also noted.

Barr, Roberts, Sheraden and Marie (2002) described a program for the improvement of listening skills in order to increase academic performance. The targeted population consisted of elementary students in a middle class community located in western Illinois. The problem of ineffective listening skills was documented through data revealing the number of students whose lowered academic performance may be due to a deficiency of listening skills. Analysis of probable cause data revealed that many students are unable to concentrate on auditory input, or to combine the processes needed for effective listening, are not exposed to formal instruction in listening skills, are lacking sufficient concept imagery skills and exhibit an absence of

internal motivation and the physical preparation necessary for effective listening. Faculty reported students' weaknesses in effective listening skills negatively impacted academic performance. Reviews of curricula content and instructional strategies revealed a lack of curricular value and time, insufficient quality instructional materials, and most importantly a deficiency in teacher preparedness. A review of solution strategies suggested by knowledgeable others, combined with an analysis of the problem setting, resulted in the selection of three major categories of intervention: the direct teaching of effective listening skills, student ownership of self-monitoring, and the positive effects of using music in the classroom. Based on the presentation and analysis of the data on the improvement of listening skills, the students showed a notable improvement in academic achievement. The listening skills learned during the 16 week intervention period appeared to have transferred to students' academic growth and progress across the curriculum, and to have had a positive impact on their social interaction.

Hallam, Price and Katsarou (2002) presented two studies that explored the effects of music perceived as calming and relaxing on arithmetic and memory performance tasks of 10 to 12 year old children. Reports that the calming music led to better performance on both tasks when compared with the non-music condition.

Anderson, Jeanette, McLaughlin, Ripp and Tuffs (2000) described a program to enhance spelling word retention through the use of background music. The targeted population consisted of elementary students in three middle class communities located in the south-western suburbs of Chicago. The problems for poor spelling retention were documented through data revealing the number of students needing an enhanced/alternative method of teaching spelling. Analysis of probable cause data supported the hypothesis that students are not as successful using traditional spelling methods. Review of student test scores, anecdotal records and observation checklists revealed that students could improve their spelling scores through modifying the learning environment. A review of solution strategies documented in research literature together with an analysis of the problem setting resulted in the selection of possible interventions. Teachers employed background music in order to promote higher student achievement in spelling. Post intervention data indicated an improvement in students' spelling word retention. Spelling test scores and report card

grades indicated a positive academic growth. Music enabled the students to concentrate, relax and revisualize spelling words.

Edenfield and Hughes (1991) investigated the singing ability of secondary students with Down syndrome. Self constructed instrument was developed to assess signing ability in five categories: articulation, melodic rhythm, melodic contour, steady beat, and pitch. A total of 22 students chosen from two center schools for students with exceptionality were tested individually and audio taped for subsequent assessment. Students in Group One (n = 13) were enrolled in a school that contained an established choral music education curriculum. Group Two students (n = 9) were enrolled in a school where no such curriculum existed. Composite group scores, as well as component scores on the singing assessment, were compared. Analysis of group mean scores revealed consistently higher scores for Group One students; however, the differences between Group One and Group Two scores were not found to be statistically significant. When IQ was correlated with component scores of the Singing Assessment, negatively low correlations were found. Implications for music therapists and educators interested in music achievement and aptitude of secondary students with Down syndrome and moderate mental retardation are discussed.

Stratford, Ching (1989) conducted a study in which physical responses to rhythmic stimuli and music, of different degrees of complexity were registered from 25 children with Down's syndrome and 25 other mentally handicapped children. Required performances were taught and then recorded on video-tape, after which they were assessed by experienced teacher/judges. Whilst there were no overall significant differences between the groups, important differences were detected between the children in different schools with attendant implications for differential treatment. Apart from an overall and general assessment of performance, analysis was made of demographic variables, for example, sex, intelligence, age and social development. It is concluded that specific teaching approaches can significantly effect the development of children with Down's syndrome in such creative aspects of curriculum as music, movement and dance.

Flowers (1984) sought to determine whether significant differences in musical perception exist between normal and Down's syndrome children, as indicated by their preferences for variables of pitch register (high, low), dynamic level (loud, soft) and rhythmic variety (rhythmic, non rhythmic). A group of 10 normal children and 10

Down's syndrome children and 10 Down's syndrome children participated in the study. Each group was evenly divided according to sex, and the median age of each was identical. An attempt was also made to pair subjects according to similarity in age, economic background, and family size. Results indicated no significant difference between boys and girls within the same group or between girls in the two groups. With range held constant, however, the normal children preferred music at the forte level, while the Down's syndrome children preferred music at the piano level, with a significant difference ($t = 2.47, p < 0.05$) between groups. A significant difference ($t = 2.58, p < 0.05$) was also found in normal boys' preference for a dynamic level of forte while range was held constant.

Stratford and Ching (1983) attempted to examine a sense of rhythm in relation of response to rhythmic stimuli in normal children and mentally handicapped children, particularly children with Down's syndrome. Ten Down's syndrome (average CA: 158 months, average MA: 43 months), ten other mentally handicapped children (average CA: 147 months, average MA: 44 months), and ten normal children (average CA: 50 months, average MA: 46 months) were required to listen to a rhythm and to shadow certain rhythms by tapping them out simultaneously with the stimuli. Three different rhythms of increasing complexity were used. After a practice session, responses were collected from subjects using a tapping device; these were recorded on a computer. Results obtained in all aspects of the tests were very similar in both normal and Down's syndrome groups. The other mentally handicapped children were considerably weaker than the two groups. It is suggested that at this level there is no difference between Down's syndrome and normal children of the same mental age in rhythmic discrimination. Differences lie between Down's syndrome and other mentally handicapped children and this comparison could account for the attribution to Down's syndrome children of a higher than normal level of musical skills.

2.3.3 Studies Related to Music and Adjustment

Kain (2009) examined whether interactive music therapy is an effective treatment for preinduction anxiety. Children undergoing outpatient surgery were randomized to 3 groups: interactive music therapy ($n = 51$), oral midazolam ($n = 34$) or control ($n = 38$). The primary outcome of the study was children's perioperative anxiety. It was found that children who received midazolam were significantly less anxious during the induction of anesthesia than children in the music therapy and control groups ($p =$

0.015 and $p = 0.005$, respectively). No difference was found in anxiety during the induction of anesthesia between children in the music therapy group and children in the control group. An analysis controlling for therapist revealed a significant therapist effect; i.e., children treated by one of the therapists were significantly less anxious than children in the other therapist group and the control group on separation to the operating room (OR) ($p < 0.05$) and on entrance to the OR ($p < 0.05$), but not on the introduction of the anesthesia mask ($p =$ not significant). Children in the midazolam group were the least anxious even after controlling for therapist effect ($p < 0.05$). It was concluded that music therapy may be helpful on separation and entrance to the OR, depending on the therapist. However, music therapy does not appear to relieve anxiety during the induction of anesthesia. Depending on the music therapist, interactive music therapy may relieve anxiety on separation and entrance to the operating room but appears less effective during the induction of anesthesia.

Many children and adults who undergo surgery experience significant anxiety in the pre operative holding area and during the induction of anesthesia. Both behavioral and pharmacological modalities are currently used to treat this perioperative anxiety. Recently, music has gained popularity as a part of complementary medical therapies directed at patients undergoing medical and surgical procedures. In fact, the American Music Therapy Association indicates that perioperative music can result in a reduction of anxiety and a positive change in mood. In general, the adult medical literature substantiates the relationship between music and the reduction of surgery-related anxiety, despite numerous methodological flaws. Music therapy has been described as an interactive relationship between the therapist and patient that is based on communication through music. Most reported studies of music therapy in the medical literature, however, describe interventions that consist of patients passively listening to music. It is interesting to note that results from a meta-analytic review appear to indicate that studies that use interactive music therapy, although significantly fewer in number, show higher overall effect sizes when compared with studies of taped-listening music therapy. This apparent superiority may result from the advantages of interactive music therapy as described by Barrera et al.: more personalized effect, greater relevance, and better potential for engagement of the patient. A recent issue of the *Journal of the American Medical Association* underscored the importance of introducing evidence-based medicine into the domain

of music therapy, reiterating a 1996 call to demonstrate that music therapy is effective and efficient. Previously we have used rigorous methodology, including a randomized controlled design, validated outcome measures, and high statistical power, to address the issue of decreased sensory stimuli in the operating room (OR) plus background classical music for children undergoing the induction of anesthesia. We demonstrated that such an intervention is indeed effective in reducing anxiety during the induction of anesthesia. This study is a randomized controlled trial that examines whether interactive music therapy is effective in reducing preoperative anxiety in children undergoing outpatient elective surgery.

Thaut, Gardiner, Holmberg, Horwitz, Kent, Andrews, Donelan (2008) conducted a study to examine the immediate effects of neurologic music therapy (NMT) on cognitive functioning and emotional adjustment with brain-injured persons. Four treatment sessions were held, during which participants were given a pre-test, participated in 30 min of NMT that focused on one aspect of rehabilitation (attention, memory, executive function, or emotional adjustment), which was followed by post-testing. Control participants engaged in a pre-test, 30 min of rest, and then a post-test. Treatment participants showed improvement in executive function and overall emotional adjustment, and lessening of depression, sensation seeking, and anxiety. Control participants improved in emotional adjustment and lessening of hostility, but showed decreases in measures of memory, positive affect, and sensation seeking.

Guo, Spinler, Amy, Williams, Megan (2009) studied on Music performance correlation and autonomic adjustment. Methods, systems and computer program products for music performance correlation and autonomic adjustment. Exemplary embodiments include a method for music performance correlation and autonomic adjustment, the method including providing a set of musical pieces during an activity having associated performance parameters, tracking the associated performance parameters during reception of the set of musical pieces, in response to an increase of the associated performance parameters, identifying a subset of musical pieces of the set of musical pieces, analyzing musical elements of the subset of musical pieces, generating a correlation between the performance parameters and the musical elements, selecting an additional subset of musical pieces having the musical elements of the subset of musical pieces and in response to a decrease of the associated performance parameters, providing at least one of the subset of musical pieces and the additional subset of musical pieces.

Lee, Sooyoung (2007) conducted a study with the purpose was to document the experiences of two Korean music students as they moved from their homes in Korea to create a musical life in the United States. The study closely followed their transition, with special attention as to how their relationship with music influenced their adjustment to a new culture. Each year a significant number of Korean music students leave their own country to study music in depth and to fulfill the dream of becoming professional musicians. Leaving behind all that is familiar and comfortable, the Korean students now face a totally new and sometimes confusing environment. The differences educationally, socially and culturally between United States and Korea are vast. This may lead to a lack of socialization for many Korean music students who are after already struggling with 'home-sickness' and feelings of alienation. For the purpose of this study, a qualitative case study method was applied; primary participants of this study were two graduate music students from Korea enrolled in a conservatory in New York metropolitan area. The data collection began with the first interview right after the school started and followed them throughout the academic year of 2004-2005. Data were analyzed to portray what best described these Korean music students and their adjustment to personal, academic and musical life in the United States. Music played a vital role in their adjustment process. Music was a source of salvation; when they shift their focus on music, their emotional state gradually became more stable and then they were able to experience positive learning experience and personal growth. Music influenced both product and process for the participants; good composition was the product that brought the composer's satisfaction and musical learning and musicality satisfied the cellist. They both found their inner voice and feelings to express their music and to reach a higher level of achievement and satisfaction. Studio teachers were the greatest influence for their adjustment because they spend one on one lesson for every week that the teachers were the closest contact with an American.

2.3.4 Studies Related to Music and Consciousness

Borgo and Goguen (2010) investigate the dynamics of freer forms of improvisation, focusing on the importance of transitional moments and the ways in which listeners (both audience and performers) attend to and process performances in qualitative ways. They illustrated these ideas with an analysis of a 1973 performance by Sam Rivers' trio with Cecil McBee on bass and Barry Altschul on drums ["Hues of

Melanin”]. Using insight from both nonlinear dynamics and the phenomenology of time, they highlight the various types of phase transitions that occur and their variable saliency for listeners as the improvisation unfolds.

Sakaric, Tomasevic, Rakovic, Jovonov, Radiojevic, Marko and Dejan (2009) studied on Electrocortical (EEG) correlates of music and states of consciousness. The study of the perception of music is a paramount example of multidisciplinary research. In spite of a lot of theoretical and experimental efforts to understand musical processing, attempts to localize musical abilities in particular brain regions were largely unsuccessful, save for the difference between musicians and non musicians, especially in hemispheric specialization and in EEG correctional dimensions. Having in mind that human emotional response to Music and art in general is limbic depend, this motivated us to address our question to a similar possible neurobiological origin of musicogenic altered states of Consciousness and its possible EEG correlates, ”resonantly” induced by deep spiritual music. For example, as in sound induced altered states of consciousness cultivated in some eastern Yogic practice. The musicogenic states of Consciousness are evaluated within a group of 6 adults, upon or alp, frequence of 4 types of spiritual music.

2.4. RESEARCHES CARRIED OUT AT NATIONAL LEVEL

2.4.1 Studies Related to Music and Mentally Challenged Children

Sharma (2008) examined the overall efficacy of music therapy for children and adolescents with psychopathology, and also examined how the size of the effect of music therapy is influenced by the type of pathology, client’s age, music therapy approach, and type of outcome. Eleven studies were included for analysis, which resulted in a total of 188 subjects for the meta-analysis. Effect sizes from these studies were combined, with weighting for sample size, and their distribution was examined. After exclusion of an extreme positive outlying value, the analysis revealed that music therapy has a medium to large positive effect ($ES \approx 0.61$) on clinically relevant outcomes that was statistically highly significant ($p < 0.001$) and statistically homogeneous. No evidence of a publication bias was identified. Effects tended to be greater for behavioral and developmental disorders than for emotional disorders; greater for eclectic, psychodynamic, and humanistic approaches than for behavioral

models; and greater for behavioral and developmental outcomes than for social skills and self-concept.

Sumathy (2006) in his case study of a Squamous Cell Carcinoma – Hypopharynx patient, attempted to find out if receptive music therapy could be combined with comprehensive counseling and providing health information as a cognitive behavioral intervention to address psychological distress and situational anxiety, which are common problems with cancer patients in a hospital environment. Baseline data was collected from the patient using Spielberg’s State-Trait Anxiety Inventory. Assessments were done for situational anxiety before, during and after the music and counseling interventions. Pre and Post-test composite anxiety scores were compared, which indicated the efficacy of the treatment. Though the primary endpoint of the study was state anxiety, the unique experiences of listening to music, which could be explained only by the patient listening to music and the self report made by the patient when analyzed reflected the spiritual dimensions of the music therapy sessions.

Nath (2005) experimented with a class of Mentally Challenged Children. While teaching Indian culture he taught them few ‘ Bhajans’ got repeated few mantras like “Om Namah Sivaya”, “Om Lokah Samastah Sukhino Bhavantu” means “May all the beings in all the world be happy” . These Mantras worked as a therapy and helped calming the Children whenever they start agitated.

2.4.2 Studies Related to Music and Academic Achievement

Sharma (2000) Enhanced learning of proportional math through music training and spatial-temporal training. In this study 237 second grade children used piano keyboard training and newly designed math software to demonstrate improvement in math skills. The group scored 27% higher on proportional math and fractions tests than children that used only the math software.

2.4.3 Studies Related to Music and Adjustment

Bala (2010) investigated that this study is to illustrate in this study how music therapy can be used to help successfully make adjustment of students in a classroom. Some students are may exhibit behaviors such as depression, withdrawal, anxiety, emotional liability, confusion and memory difficulties, by difficulty in adjustment in classroom. Music therapy helped them adjust to life and classroom by improving their quality of

life and enhancing their relationships with those around them. Thus, music therapy may facilitate a resident's adjustment to classroom.

Hema (2011) conducted the study with the objective to evaluate the immediate and long-term effects of music therapy for older people with dementia, specifically to test the premise that participation in music therapy groups effects significant positive changes in mood and cognition both immediately within sessions and later outside the sessions to impact behavior in the day care/residential care setting. The objective was to provide an evidence-based evaluation about the use of art therapy for older people with dementia. In order to isolate the impact of art therapy music therapy groups were compared with activity groups that do not have emotional expression as a central purpose.

2.4.4 Studies Related to Music and Consciousness

Chandra Sankara (2006) in his study explained Nada yoga: As Conscious vibration. Nada Yoga The Conscious Vibration Nada forms the basis for the emergence of the universe. The root word Nad is to vibrate and the vibrations are the manifestation of all pervading cosmic power. Every atom, molecule in the universe is in incessant vibrational activity and the interblending activities of these vibrations produce the vast diversity of the universe around us. We can classify these vibrations into three types (i) the inner casual movements that are expressed through bodies (ii) the vibrations that manifest on the astral, emotional and psychological levels (iii) the vibrations of intellectual level. Nada is the manifested sound form of the soundless sound, the Supreme Consciousness, where from emerges the Paranada that creates the universe. From Paranada the Nadanadisakti, the energy current of sound emerges and heard through the pulsing nerve system.

Sundar (2007) in his study integrated traditional Indian healing systems like Nadopasan, Ayurveda, Yoga, Raga Chikitsa and Nada Yoga into modern music therapy as a non medical modifier and protector of the impacts of disease and its treatment in clinical settings and the modified approaches and procedures that one can practice with reference to Indian context.

2.5 OVERVIEW OF THE CHAPTER

The review of studies reflected that a considerable amount of researches are conducted in areas of music (Burnnet, 1983; Cotter, 1971) academic achievement (Rashidi and Faham, 2011; Minneapolis, 2010), adjustment (Kain, 2009; Lee, Sooyoung, 2007) and consciousness (Borgo and Goguen, 2010; Sunder, 2007). After exploring the related literature it can be said that music plays a vital role in enhancing the academic achievement, adjustment and consciousness (Davis, 1983; Beling, 2011; Gou, 2009; Chandra Sankara, 2006). Most of the researches at international level had focused on music therapy (Barr, Roberts, Sheraden and Mrie, 2002). It can be visualized from the quoted studies that most of the researchers had chosen Academic Achievement and Adjustment as an important variables for their research work in different fields. But very limited studies have been carried out so far in the field of Effect of music enrichment programme. It is evident that studies related to effect of Music Enrichment Programme were rarely associated with the educational field. All three variables music enrichment programme, academic achievement and adjustment were not taken into account together in any of the study while these variables are highly correlated with each other. Therefore, the researcher felt the need to study the "Effect of Music Enrichment Programme on Academic Achievement, Adjustment of Mentally Challenged Programme". Hence the researcher decided to shed scientifically credible light on this aspect.

The review of related literature gave insight to the researcher for developing tools and methodology to be used for the study related to music, academic achievement, adjustment and consciousness. Review reflected that tools like case study (Velazquez, 1991), Questionnaire (Bryant and Shimminis, 2003), inventory (Burnett, 1983), checklist (Anderson, Jeanette, McLaughlin, Ripp and Tuffs, 2000) were used for studied related to music, academic achievement and adjustment. The methodology used in such studied were experimental method (Velazquez, 1991; Lundqvist, Adersson and Viding, 2009), survey method (Burnett, 1983). It enabled the researcher to select appropriate tools and techniques for the present study. The review of the literature helped the researcher in the next chapter which dealt the procedure of data.