

MUSIC: A MEANS OF MANAGING PROBLEM BEHAVIOUR

Dr. Sanjay Kumar¹, Dr. Mahesh Kumar Choudhary²

¹ Assistant Professor, Dr. Shakuntala Misra National, Rehabilitation University, Lucknow

² Assistant Professor, Dr. Shakuntala Misra National, Rehabilitation University, Lucknow



ABSTRACT

Music is an art form presented either in vocal or instrumental or as both sound. Background music played in the class is behavioural intervention that have been proved effective in reducing problem behavior. To examine the effect of pre recorded bhimpalasi raga using sehnai as background music in reducing selected target problem behaviour of students with intellectual disability. ABAB withdrawal design was used in this study. The current study provided background music during daily learning activities in the afternoon class (1.45- 2.45 PM). Two subjects were purposefully selected as sample having aggressive behaviour of hitting others in addition to many other challenging behaviours. Visual analysis of these two subjects suggested that background music using pre-recorded bhimpalasi raga of late ustad Bismillah Khan was effective in reducing hitting behaviours of both subjects. Result indicates that effectiveness of background music of bhimpalasi raga in managing problem varied case to case.

Keywords: Music, Bhimpalasi Raga, Sehnai, Special needs, Problem behaviour, Intellectual Disability, Hitting to other

Introduction

Students with intellectual disability often have skill deficit and exhibit problem behaviors. These problem behaviors may be due to poor solving skills, cognitive and communication deficits or due to poor problem solving skills. Teachers today are facing a crisis of students who are disrupting classroom instruction. These students are barely learning and are certainly not contributing to an environment conducive to learning. Thus, learning for these students, is a great challenge and for teachers, providing effective instruction is a great challenge too.

Students with intellectual disability frequently exhibit problems with attention, aggression, self –stimulation and motivation (Peshawaria et al 1992). Learning does not come so easily for them. The behaviours of these students can affect the entire classroom environment. If a few students monopolize the teacher's time daily behavioural, academic or emotional reasons, all students would suffer. Therefore, it is very important that more effective, meaningful strategies and intervention be utilized to reduce incidence of problem behavior and increase in skill behaviours.

More practices and intervention strategies have surfaced over the years, which have proven effective for them. One major thrust in recent years involves instruction using background music. Music has been known to boost self-esteem, encourage participation and enhance intelligence (Tomat & Krutzky, 1975). According to the American Music therapy Association (1999), music arouses attention and stir motivation so that one becomes more actively involved in other areas of educational setting. Studies have shown that music has positively influenced students with intellectual disability by reducing their problem behaviours (Ramachandran & Singh 2014, Mitra & Manogna 2024, Gul, Jameel & Mohsin 2019, Tak & Bunker 2023).

Lehmann & Seufert, 2017 defined background music as music that is played in the background in the classroom during the teaching process and the learners are intended to listen to this music but there is no relationship between music and the main task. It can be considered as an inexpensive strategy. There is growing body of research regarding role of background music in the education of people with disabilities. Some researcher found background music played in the classroom as an educational intervention that have been proven to have positive effect on student behavior modification. A study by Whitehead, 2017 that explored the effect of background music to increase in-seat behavior for students with disabilities. Three students with severe disability were purposefully selected in the study. A-B-A-B single subject design was used. Results demonstrated an increase in in-seat behavior across all sample. A similar study of Hallam & Price, 1998 which found a significant improvement in student behavior when background music was played. Moreover, it improves the degree of engagement in activities in a global way (Paul & Ramsey, 2000).

However, many studies exhibited disagreement with merits of background music (Buckley & Newchok, 2006, McCarty et al 1978). McCarty et al found no significant effect on behavior. Whereas Buckley & Newchok 2006 found increase in disruptive behavior exhibited by a boy with pervasive developmental disorder. In study made by Tounsi et al 2021 wherein Mozart background music was played in the class to examine the effect on engagement behavior of thirteen students with intellectual disability. Result showed Mozart music background did not influence student's engagement behavior

It is an ongoing controversy when discussing the effect of background music in learning. To validate the findings, either effective or not, the present study further examined the effect of using background music in behavior modification (increasing of desirable behavior and decrease of undesirable behavior) of students with intellectual disability.

Research Question

Does providing background music decrease target problem behaviours during learning activities for selected participants in the study?

Operational Definitions

Background music: It refers to pre-recorded Hindustani classical music (bhimpalasi raga using shehnai played by late Bismillah Khan) played during intervention.

Target problem behaviour: within the current investigation, targeted problem behavior refers to specific problem /challenging behaviour selected for intervention.

Intellectual Disability students: The term describes people with intellectual disability in the 11-14 years age group.

Research Design: In the current study, the effectiveness of background music in decreasing target problem behaviour was examined using an ABAB single subject research design.

Variables:

Dependent Variable: Managing target problem behaviour was the dependent variable.

Independent Variable: Examining the effect of background music was the study's independent variable.

Methodology

Setting & Subjects

This study was conducted in secondary classroom of special school for children with intellectual disability located at Lucknow. The secondary class has altogether seven students each with diagnosis of mild to moderate intellectual disability. Participant were selected on utilizing purposive sampling based on being students having/ exhibiting problem behaviours during instructional process. Class teacher help was sought for shortlisting of participants. Two students were selected as sample. Further, Behavioural Assessment Scale for Indian Children with Mental Retardation (BASIC-MR) was administered to assess problem behaviours of selected sample. Parental consent was sought for their willingness.

First subject, a twelve years and three months old boy named Suneel (name changed), had a moderate intellectual disability. He communicated in two-word level and could follow 2-step directions. On BASIC-MR Part B his total baseline score is of 68 out of 150. The subject-exhibited problem behaviours like hitting others, talking excessively, refusing to obey teacher's commands, not sitting at one place for required time, laugh inappropriately, makes loud noise when others are working or reading.

Subject 2, Mohit (name changed) was thirteen years and one-month old male child with moderate Intellectual Disability. He communicated vocally and could follow three- step directions. On BASIC-MR Part B his total baseline score is of 63 out of 150. Subject exhibited problem behaviours like shouting excessively, had difficulty remaining seated at all times, does not pay attention to what is said, hitting others and spitting at others. He frequently received 1:1 instruction for problem behavior management. The study was conducted in the afternoon session from 1.45 to 2.45 PM.

Tools

The investigator used following materials/tools for the investigation:

Behavioural Assessment Scale for Indian Children with Mental Retardation (BASIC-MR): Dr Reeta Peshawaria & Prof.S Venkatesan developed this scale for assessment of skill behaviour and problem behaviours of Indian children with intellectual disability. This scale is divided into two parts, Part A are used for assessing skill behaviour and part B are used for assessing problem behaviour. BASIC-MR Part A consist of 280 items grouped under seven domains like motor, activities of daily living, language, reading-writing, number-time, domestic-social and prevocational-money. The maximum possible score in each domain is 200 and maximum possible score in all seven domains is 1400. Part B has 75 item spread across seven domains such as violent and destructive behaviour, temper tantrums. The maximum possible score is 150.

General Data Sheet: It was prepared to collect general information related to subject name, age, severity level and associated condition Data sheets for collection of baseline & intervention data. Original CD of Hindustani classical music played by late Bismillah Khan on bhimpalasi raga using shehnai.

Procedure

The researcher observed the behaviours of both subjects' using behavioural assessment checklist (BASIC-MR) as students were working independently during their class periods and during group activity 30-40 minutes each day three days per week. Parental consent was sought before intervention. The target behaviours for study were selected based on assessment of problem behaviours and consent of class teacher and parents. It was ensured that selected sample have not had history of adverse reactions during activities where music had been played. Thereafter, it was mutually agreed to work on modification of hitting other behaviour of both subjects using background music.

Intervention Sessions

Two approaches were used in this study in four phases: instruction with background music and instruction without background music

Phase one (Instruction without music): Teachers instructed the students as usual and their normal classroom routines remained the same. This baseline phase continued for first two weeks (ten working days).

Phase two (Instruction with music): teachers introduced background music in third week. In this phase, normal class instruction as well as routine remained same. This intervention phase lasted for another three weeks (fifteen working days).

Phase three (Instruction without music): this withdrawal phase lasted for two weeks.

Phase four (Instruction with music): this re-intervention phase lasted for three weeks

Baseline procedure

The baseline data were collected initially for two weeks before intervention and two weeks after intervention for target behaviour selected. Similarly, intervention data were collected in 2nd and 4th phase. Stable baseline was obtained for occurrence of hitting behaviour for each of subjects. The number of times hitting behaviour occurs was recorded using event-recording sheet during baseline session. The data were collected from 1.45 pm to 2.45 pm daily on each working day for baseline and intervention sessions. During data, collection there was no interaction between teacher and researcher regarding aim of the study.

Results

Reliability: Inter-observer agreement for dependent variable was assessed 20% of the time during baseline and intervention. This helped ensure appropriate fidelity for this study. During each day of baseline data collection, the inter-raters alternated between which study participant they collected data on. This process was repeated during intervention phase too. Inter-rater data were collected and compared for 20% of all trials to ensure that inter-rater agreement of a minimum of 80% was obtained, a percentage adequate for educational research (Graham et al 2012). Inter rated agreement for this study was at 93%.

Validity: To ensure validity, both data collectors were trained to record hitting behaviour using frequency recording. Hitting others were operationally defined as subjects hitting other children in the classroom during class period of 1.45 to 3 PM.

Social Validity: Social validity was measured using a 5- point Likert type scale in which 1= strongly disagree and 5= strongly agree. The questionnaire assessed the likeability, willingness to implement and ability to decrease behavior.

Research Question: Does providing background music decrease target problem behaviours during learning activities for selected participants in the study?

Subject 1

The subject's average of **hitting** to other during the initial baseline (phase 1) was 18 times per day with a range of 14 to 21 times (mean 16). In the first intervention phase (phase 2), subject 1 had a mean hitting other behaviour of 13.2 times with a range of 10 to 18 times. Subject's trend in data from baseline phase one to intervention phase one was positive. With hitting other behaviour improving from eleven times at its lowest, to eighteen times after the first intervention stage. Stability during each phase was determined by utilizing the event recording sheets, and then the subject was moved in to second baseline (third phase) where background music was not provided. In this phase, data were again collected using event recording sheet, which continued for 10 days. Subject 1 average hitting other behaviour during the third phase was 10.6 times per day with a range of 12 to 9 times (mean 10.6). In the fourth phase, intervention with background music was again provided. In this phase subject, had a mean of hitting other behaviour of 8.8 times with a range of 7 to 12 times. Subjects down ward trend of hitting behaviour can be seen in the following figure- 1.

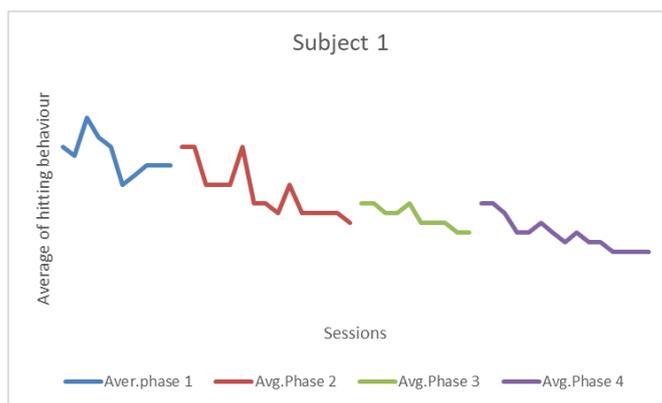


Figure-1. Average of hitting to other of subject 1

Subject 2

Subject 2 had an average behaviour of hitting others of 23 times and a range of 23 to 24 times during first phase of baseline. In intervention (second phase) subject had mean of hitting behaviour of 22.3 times and range of 21 to 24 times. In the third phase of baseline subject had average mean of hitting behaviour of 21.5 times with range of 20-24 times. In the last phase of intervention subject had an average of hitting behaviour of 14 times with range of occurrence of behaviour from 11 to 19 times. A downward trend was noted in subject -2 behaviour which can be seen in the figure 2

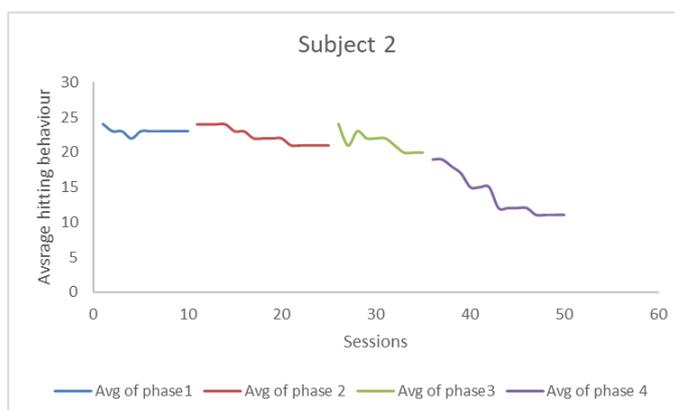


Figure-2. Average hitting to other of subject 2

Discussion

According to the visual analysis of the data in the graph, the result of the study suggest that background music was effective in reducing hitting behaviours of both subjects. A study done by Kumar, S. and Choudhary, M.K. (2025) on Indian classical music: a means of managing problem behavior among persons with intellectual disability. Similar to studies of Givens 2003, Chalmers et al 1999, Hallam & Price (1998), this study has shown a beneficial effect of background music on behaviour of participants. Study done by Choudhary, M. K. and Kumar, S. (2024). Music and Dance: A Means of Developing Numeracy Skills among Children with Special Needs. These studies indicate positive behaviour support by altering the learning environment of the learning. However, there are lack of research based on particular raga, but this research has yielded positive effect of music played by late Bismillah Khan on bhimpalasi raga using sehnai. One of the major limitations of study is that it included only two participants through purposive sampling. Further research should be undertaken to study its effectiveness in academic achievement of students with intellectual disability.

References

- Buckley, S.D. & Newchok, D.K. (2006). Analysis and treatment of problem behaviour evoked by music. *Journal of Applied Behaviour Analysis*. 39 (1), 141-144
doi: 10.1901/jaba.2006.120-04
- Chalmers, L., Olson, M., & Zurkowski, J. (1999). Music as a classroom tool. *Intervention in School and Clinic*, 35,43-45.
- Choudhary, M.K. and Kumar, S. (2024). Music and Dance: A Means of Developing Numeracy Skills among Children with Special Needs. *Swar Sindhu: A Peer Reviewed/ Refereed Journal*, Vol 12, Issue: 03, P-55-59.

- Givens, L., D. (2003). Using background music to reduce off-task behaviours of students with learning disabilities. Master dissertation. Rowan University. <https://rdw.rowan.edu/etd/1308>
- Gul, N., Jameel, H., & Mohsin, M.N. (2019). Effectiveness of background music on aggressive behaviour of intellectual disabled children. *Journal of Inclusive Education*, 3, 1, 49-61.
- Hallam, S., & Price, J. (1998). Research Section: can the use of background music improve behaviour and academic performance of children with emotional and behavioural difficulties? *British Journal of Special Education*, 25(2), 88-91. Doi:10.1111/1467-8527.t01-1-00063
- Kumar, S. and Choudhary, M.K. (2025). Indian Classical Music: A Means of Managing Problem Behavior among Persons with Intellectual Disability. *Swar Sindhu: A Peer Reviewed/ Refereed Journal*, Vol 13, Issue: 01, January-June-2025, P-397-402.
- Lehmann, J., & Seufert, T. (2017). The influence of background music on learning in the light of different theoretical perspectives and the role of working memory capacity. *Front Psychol*, 8, 1902. doi: 10.3389/fpsyg.2017.01902
- McCarty, B.C., McElfresh, C.T., Rice, S.V., & Wilson, S.J. (1978). The effect of contingent background music on inappropriate bus behaviour. *Journal of Music Therapy*, 15 (3), 150-156.
- Mitra, J., & Manogna, S. (2024). Effectiveness of vocal music on reducing odd behaviour among children with intellectual disabilities having ASD. *International Journal of Creative Research Thoughts*, 12, 3, h357-362.
- Paul, S., & Ramsey, D. (2000). Music therapy in physical medicine and rehabilitation. *Australian Occupational Therapy Journal*, 47(3), 111-118. doi: 10.1046/j.1440-1630.2000.00215.
- Peshawaria, R., & Venkatesan, S. (1992). Behavioural approach in teaching mentally retarded children. Secunderabad: National Institute for the Mentally Handicapped
- Ramachandran, R., & Singh, a., (2014). The effect of Hindustani classical instrumental music santore improving writing skills of students with learning disability. *International Journal of Humanities and Social Science Invention*, 3.6.55-60
- Tak, A., & Bunker, L.N., (2023). The effect of raga therapy on children with attention deficit hyperactive disorder. *Journal of Emerging Technologies and Innovative Research*, 10, 1, 1305-1310
- Tomat, J.H. & Krutzky, C.D. (1975). Learning through music for special children and their teachers. South Waterford, MA: Merriam-Eddy Co.
- Whitehead, A. (2017). Utilizing background music to increase in-seat behaviour for students with disabilities. Master dissertation. California state University. https://digitalcommons.csUMB.edu/caps_thes_all/107