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# Music as a Classroom Tool

LYNNE CHALMERS, MYRNA R. OLSON, AND JOYCE K. ZURKOWSKI



**This article describes a study of the effects of playing music in an elementary school lunchroom. Outcomes were generally positive, and the authors discuss the implications and suggest approaches for implementing use of music as a classroom tool.**

It is an accepted fact that music sets the mood for everything from movies to first dates. For example, music is used in restaurants to set the pace for eating, with classical music used to encourage slow-paced, luxurious dining and rock music to move diners through fast-food establishments. Similarly, rhythm and melody have been used as a force to entice shoppers to make purchases, to make walkers move slower or faster, and to help people to relax (Roter, 1981). In short, music has the power to arouse or relax, create a feeling of happiness or sadness, and even alter physiological states of heart rate and blood pressure (Giles, 1991).

As humans we have a physical response to music because our biologic being is a rhythmic entity. That is our breathing, our digestion, even our individual cells appear to have an intrinsic rhythmicity, as do our nervous system and brain (Purdy, 1994). Some researchers believe that music stimulates the brain at lower levels, especially the emotional brain, to help stabilize impulse control (Giles, 1991). Because it appears that music can influence human response in a variety of ways, it should not surprise us that music can influence many factors associated with school performance.

## MUSIC'S EFFECT ON PERFORMANCE AND SCHOOL BEHAVIOR

As early as 1952, Hall found that music played in study hall classes increased reading comprehension in adolescent students. Lindecker (1954) and Love (1953) piped music into residential center settings with disturbed youth and found that sedative music could prevent or calm intense situations. Alward and Rule (1960) applied a music therapy program with fifth and sixth graders with socially unacceptable behaviors to produce a similar quieting effect. Background music has also been shown to increase on-task performance of students in a variety of settings (Simpson, 1976).

Georgi Lozanov, a physician from Bulgaria known for his work in memory and learning, contended that humans utilize only 10% of their brain capacity and that through intense concentration training, accelerated learning rates can be achieved (Ostrander & Schroeder, 1979). The Lozanov method of "suggestology" combines background music with softly spoken information to create a relaxed yet concentrated state of mind conducive to absorbing information at a higher-than-average rate. Using an Americanized version of Lozanov's technique, the Suggestive-Accelerative Learning and Teaching (SALT) approach, Yellin (1982) reported impressive gains in oral and silent reading.

Not all studies have shown a high rate of success using music to modify performance or behavior. One study comparing three conditions (sedative music, stimulating

music, and no music) in a classroom with students with behavior disorders showed no significant decline in aggressive behaviors. However, a minimal increase in on-task behavior did occur (McIntyre, Cowell-Stookey, & Brulle, 1993). Another study attempted to directly modify the behavior of rowdy students on a school bus. When allowed to listen to music, students showed a willingness to stay in their seats and behave more appropriately; however, no significant, permanent behavioral change was reported (McCarty, McElfresh, Risce, & Wilson, 1978).

Type of music used has been found to have a differential impact on the academic and behavioral responses of students. For example, Giles (1991) found that first and second graders responded more positively to background music drawn from classic Disney films to calm down after a recess period than to other musical selections. More specifically, music played at 60 beats per minute (SB/M) has been shown to produce a state of relaxation in both children and adults. It is speculated that because the 60 beats approximates the ideal resting heart rate for the human body, a type of entrainment occurs that allows listeners to slow down their heart rate to match the musical beat. This slowed heart rate enhances relaxation and may actually promote focus and concentration as a by-product (Gunter, 1995). Lamb (1992) claimed that SB/M music reduced the heart rate of an unsettled child with cognitive disabilities and enabled the child to focus attention on the task at hand. An experimental application of SB/M by the authors successfully reduced the noise level and enhanced student attention in a college classroom.

Encouraged by the evidence that music has positively affected school factors across multiple decades and in a variety of settings, the present study was undertaken to determine if music can play a role in the simple day-to-day functioning of a school lunchroom.

## **CAN MUSIC SAVE THIS SCHOOL LUNCHROOM?**

Walking into an elementary school lunchroom to deliver a message to her son, one of the authors observed him resting his head on the table with his hands cupped over his ears. Thinking he was ill, she rushed over to see what was wrong. His reply was, "I'm just trying to block out the noise, Mom!" Indeed, it was noisy (it was later discovered that the decibel level was equivalent to that produced by a passing subway train). Four supervisors were circulating among the children dealing with a variety of misbehaviors including yelling, hitting, and throwing food.

The investigators decided to examine what effect music might have on the noise level in the lunchroom

and on the behaviors of children requiring intervention by supervisors. A hand-held decibel meter was used to record the noise level in the lunchroom during 20 lunch sessions, each lasting approximately 25 minutes. Noise level was recorded at 5-minute intervals, and a count was taken of the number of behavioral corrections occurring throughout the same time period. Baseline data were taken for five lunch periods to determine how noisy the lunchroom was and how many behavioral interventions were required.

Next, classical piano music at SB/M was played on a portable tape player in the center of the lunchroom for five lunch periods. The noise level and number of behavioral interventions continued to be recorded. A drop in both decibels of noise and number of behavioral interventions occurred. To determine the noise level and number of misbehaviors, a return to the no-music condition (baseline) was implemented for 3 days and, once again, the noise level checked with the decibel meter and the misbehaviors needing redirection counted. Music was then returned for 5 days; however, this time popular music with slow to moderate tempos taped by a local radio station was used. Again, data were collected for five lunch periods. A final return to the no-music baseline for 2 days ended the data collection.

Some interesting results were discovered. During each of the three no-music periods, the decibel level of noise in the lunchroom remained fairly stable. When classical music was played, the noise level dropped an average of 6 decibels or 7%. The decrease in noise while popular music played was slightly greater, showing a 10-decibel or 12% drop. In terms of behavioral interventions, during baseline an average of 20 were required, or approximately 1 per minute. During both the classical and the popular music phases of the study, the number of behavioral interventions dropped to an average of 7 per lunch period or approximately 1 every 3 minutes.

Although these drops in noise and need for behavioral intervention may seem small, the changes felt important to supervisors and students alike. Baseline noise levels were in the range of light traffic or factory noise, whereas intervention noise levels approached the range of conversational speech (White, 1975). More impressive than the reduction in noise level, however, was the drop in behavioral intervention required by lunchroom supervisors, lowering the occurrence of intervention by nearly 65%. This reduction in behavioral corrections may have had as much to do with the more relaxed state of the supervisors as with improved student behavior. It appeared that supervisors may have been more tolerant of minor infractions when music was being played than when it was not being played. When students were asked if they liked music in the lunchroom, 103 of 116 polled indicated that they did. Of those favoring music in the lunchroom, nearly all preferred the popular radio music over the classical piano music.

## HELPFUL HINTS

Below are 10 helpful hints to get you started using music in your school:

1. When selecting music for background or intervention purposes, try out a variety of different genres and tempos. SB/M music has shown the best results for creating an atmosphere of relaxation and calmness.

2. Make sure the music is calming and enjoyable to students. Let them have some ownership in the selection of music within the limits of your setting demands. Popular music may have a greater impact on appropriate student behavior than classical music.

3. Use a good sound system that matches the size and needs of your group. The sound must be loud enough for all students to hear while still remaining clear and undistorted. Appropriate systems may range from a stereo with speakers for a setting the size of a lunchroom, a boombox for classroom use, or individual headphones for one or two students.

4. Attempt to use music on a consistent basis. Once music has been introduced into their environment, students will realize and appreciate the effect of the music on their relaxation, focus, and concentration.

5. Try playing music as students enter the room. This can set the tone for the activities to come as well as establish mental and physical focus. Play soft background music when summarizing important concepts or when reading aloud to students. Encourage a visualization of the sequence of events.

6. Some studies have reported that background music tends to contribute to hyperactivity; so, use caution when selecting music for children who are easily distractible such as those with attention-deficit/hyperactivity disorder (Simpson, 1976).

7. Combine music with other relaxation techniques such as tensing and then relaxing specific parts of the body, breathing deeply through the nose and exhaling through the mouth, and monitoring breathing to create a deeper state of relaxation (Yellin, 1982).

8. While listening to SB/M music, focus on breathing. Have the students touch or lightly tap their wrist or neck to feel their pulse, attempting to let the rhythm match that of the musical beat.

9. Disney songs provide good mood music for younger students, who can identify with the tunes and feel familiar with the experience. Disney tunes can be calming (such as "When You Wish Upon a Star" from *Pinocchio* or "Candle on the Water" from *Pete's Dragon*), reassuring (such as "Give a Little Whistle" from *Snow White* or "Chim Chim Cher-ee" from *Mary Poppins*), or invigorating (such as "Zip-a-dee-doo-dah" from *Song of the South* or "Bibbi-di-Bobbidi-Boo" from *Cinderella*; see Giles, 1991).

10. Use background music throughout the school day to provide a pleasant beginning to the morning, an after-

noon lift from boredom, or stress reduction during difficult assignments (Giles, 1991). Be sure music does not become overly stimulating in the context of the classroom.

As this and other studies have shown, educators are increasingly realizing the benefits of using music in the classroom. From silent reading to creative writing and even math testing, music has been found to help students focus, reduce stress, enhance concentration, and improve behavior.

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In recognition of the critical role of research to current practice in and to the future of the field of special education, the Division for Research seeks nominations for the Distinguished Early Career Research Award. This award recognizes individuals who have made outstanding scientific contributions in special education, in basic or applied research, within the first 10 years following receipt of their doctoral degree. Nominations of individuals who received their doctoral degrees in 1990 or later are sought across all areas of special education and across all forms of research methodology. The award, cosponsored by the Donald D. Hammill Foundation, includes \$1000 to be presented at the 2000 CEC Annual Convention DR reception and an invited presentation at the 2001 CEC Convention. To submit a nomination for this award, provide the following:

1. A letter of nomination of 5 pages or less, addressing each of the following:
  - important theoretical contributions or critical research findings attributable to the nominee
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  - the extent to which the nominee has mentored students or others in research in special education
2. A complete and current curriculum vitae
3. Up to five representative reprints; the emphasis here is to be on primary research reports rather than books or chapters
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Submit five collated sets of these materials to Dr. Karen R. Harris, Co-Chair, DR Awards Committee, Dept. Of Special Education, 1308 Benjamin Building, University of Maryland, College Park, MD 20742, by October 21, 1999.

Self-nominations are welcome. Members of the award committee include Marty Kaufman, Barbara Keogh, Donald MacMillan, and Sam Odom.