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Kansas Kids: Singing Their Way to Literacy

by:

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As I walked through the vendor displays at the International Reading Association's Annual Convention, my attention wandered to a booth with singing. I love music and thought of my daughter, Sarah, who teaches music. For many years, we had discussed the connections between music and a well-rounded education, and I had watched her grow into an accomplished music teacher with the goal of connecting music to learning in all content areas. I just had to stop and see what this program had to offer.

What I found was TUNEin™ to READING (2011), a program that has students singing karaoke with claims the program could increase reading skills, even guaranteeing one year's growth in just nine weeks of time. After listening and watching the company representative sing a few tunes, plus trying it out myself, I was hooked!

The research conducted on the program (Biggs, Homan, Dedrick, Minick, Rasinski, 2008) and information listed in a report by the Florida Center for Reading Research (Wahl, 2007) interested me; I wondered if these claims might really be true. I knew there were other studies linking music to learning (Butzlaf, 2000; Gardiner, Fox & Knowles, 1996; Lamb & Gregory, 1993; Woulfe, 2001). In an article in *The Reading Teacher*, Smith (2000) discussed how music could help children improve speech and reading skills as they work with the sounds and patterns of language through song. Specifically, I believed music could play a role in improving fluency. "In a very obvious way, the inherent structure of music—with a feeling of pulse or beat—allows learners to experience fluency" (Bernstorff, Hansen & Stuber, 2007. p. 50).

I was also familiar with research that linked visual difficulties with academic progress (Maples, 2003; Learning, 2002). Programs that helped students improve visual tracking abilities in the Kansas Vision and Learning Project of the early 2000s appeared to have similar qualities to the concept of following lines of printed music in TUNEin™. Development of fluency had improved for students who participated in this project. In a recent study, Costley (2011) identified a connection between music and academic achievement. Might similar results be possible with TUNEin™? My reading specialist hunch told me this program could prove to be highly motivational since many children loved karaoke. Research conducted by Patricia Wolfe suggested that, "...information embedded in music or rhyme is much easier to recall than the same information in prose" (2001, p.165). TUNEin™ to READING might be the right method to get children to practice reading through repeated work with text in a way that would be both fun and beneficial. My daughter, Sarah Jones, joined me in my endeavor and together we mapped out a plan.

The Software

TUNEin™ to READING, a product of Electronic Learning Products, Inc. is a literacy software program designed to address vocabulary, comprehension and fluency skills. The program has been scientifically researched by an independent company who has collected four years of classroom research. It received The Wall Street Journal Technology Innovation of the Year Award in 2007 and is endorsed by Susan Homan and Timothy Rasinski, researchers and experts in the field of reading. The software program is sold to schools and homes for the improvement of reading and music skills. It uses a karaoke format with a large variety of music including sound, lyrics and musical notation. Children sing repetitively trying to match pitch, rhythm and words. Scores are assigned as each child competes with him or herself to gain a

better score with each additional performance. Children wear a headset and microphone that is connected to a computer, thus simulating a recording performance. More information about the program can be found at the product website, <http://www.tuneintoreading.com/TUNEin-To-Reading>.

The Project

The action research project began with some brainstorming and investigation. At the time, there was only one other known school using the program in Kansas. This school had seen positive results with middle school students and was interested in further research of the product. Funding for the initial purchase was sought from a private educational organization and a local school district provided matching funds in the form of technology and personnel. Excitement spread quickly and within a short time, the software had been purchased and a plan for implementation of the research was begun.

The target school was in a 5-A school district with six elementary schools. Only one school participated in this project, although hopes for a broader usage were discussed for the future. The primary researchers worked with the principal, music teacher, instructional coach and technology teacher to set up and implement the program. Two student research assistants volunteered time to assist with the project. Training on the product was conducted through a web conference, and ongoing support was given by the software company representatives. In the spring following training on the software, a pilot program was established with one third-grade class of children. Results from the pilot were positive and were used as a guide for establishing procedures for the actual study during the following year.

Best practice, focusing on implementation schedules that would provide effective and efficient learning capacities with the least amount of disruptions to the regular curricular routines, were discussed in the planning stage of the project. It was determined the most effective way to utilize this program was during the regularly scheduled music classroom time. Each of four third grade classes would spend approximately one 12-week block of their music classroom time on the software program with nine of those weeks spent actually singing. This allowed for other music instructional approaches during the year and did not take away from regular classroom instruction or intervention time. The program was treated as a *double dipping* approach with children getting an extra dose of literacy practice time during music class. The music teacher believed this approach to be a good use of her time as students would be working with pitch and rhythm matching on an individualized basis, as well as doing repeated readings from song lyrics and music notation. The children were each assigned a computer with a headset and microphone; time for each class session was scheduled in the computer lab.

The total number of students participating included 56 students, 26 males and 30 females. Seventy-five percent of the students were of Hispanic descent, 21% Caucasian and the other 4% were categorized as Asian/Island Pacific. This representation was similar to the school demographics. Three students were not included in the final data analysis as two discontinued attendance at the school and one was absent during the post-testing period of time.

The program was introduced to the children as a karaoke computer program where each child would perform, much like practicing for *American Idol*, a very popular television show. The music teacher spent one week demonstrating and talking about the program to build

motivation. This was highly effective and students were observed to be very excited to start singing. Following the introduction, a one-day practice session was given to review usage of the computer and prepare students for the format of the pre and post cloze/maze testing. A pre-test was given during the following two sessions. Although the pre-testing format was a bit awkward, requiring students to select and type words in a blank, the practice session did allow students to gain the technology skills needed to accurately complete the pre-test. The company later improved the activity to a drop and drag format.

Next, the students were trained on the instructional portion of the program while sitting at their own computer. After a few group practice songs, each child was able to move directly into the individualized folder of music assigned by the music teacher based on the pre-test scores. Children worked in the program for nine weeks with a projected software time of approximately 90 minutes per week consisting of two 40 minute sessions and one 20 minute session. Due to the time it took to move to the lab and log into the program, absences and unexpected events, the total amount of minutes spent in the program was less than expected. Additionally, the program appeared only to log time when students recorded singing, not time spent listening. The research goal was to get each student as close as possible to the 810 recommended total minutes on the program before taking the post-test. Although the total time recorded in the software fell short of this goal, the company representative determined the children demonstrated enough time for post-testing, including some of the best "time on task" scores she had seen. Extremely high time on task was also noted by all interviewed instructors and assistants.

At the completion of the 9-week singing time, post-tests were administered. Students followed up the post-testing with some whole class performances and group songs, just for fun. Each child was given a certificate of participation during a special recognition ceremony. As reported by the music teacher, "The students were disappointed that TUNEin™ was ending."

Results

Qualitative and quantitative assessment techniques were used in this mixed action research project. Results of the program were recorded in several formats, analyzed and triangulated. Interviews with the involved teachers, assistants and students were conducted throughout the program. Logs were kept by the music teacher with anecdotal notes and observations noted on individual student behaviors. Multiple types of scores were analyzed throughout the program. Any adjustments the music teacher made, such as adding songs to each child's file based on individual student progress, were noted. Also, each child's sessions were recorded and saved within the software program and within protected files. Other school records were available for comparison to the program results, although for this purpose only the pre and post assessments and observations associated directly with the TUNEin™ program are being discussed.

A correlation of pre and post-test scores was completed on 53 students using the cloze/maze assessment included in the program. According to this analysis, these two items were strongly correlated, $r(51) = .68, p < .0005$. The mean pre-test score, reported as a reading grade level, was 3.8 before using TUNEin™ and 5.9 at the completion of the program (after nine weeks of singing). To control for a practice effect, no practice with cloze testing was given following the pre-test or prior to the post-test. Of the 53 students measured, only 4 students

scored lower on the post-test and 3 of these were reading at a high level on the pre-test (above 6th grade reading level). These analyses demonstrate the majority of students in this setting made significant progress in their ability to complete a series of cloze/maze passages following the use of TUNEin™ to Reading.

Researchers filmed students in action and took observational and interview notes on a regular basis. At all observed settings, students hurried to get on the computer and immediately were busy singing. The room was often filled with smiling faces and voices that rang out loud and clear. A few students preferred singing the same songs over and over and were occasionally asked to choose another song. The instructors worried this might be too much repetition, but the results did not consistently support this concern. On the rare occasion when a student was off-task, the music teacher intervened and worked individually to get the student back on track.

Overall, some classroom teachers were unsure if they saw the progress related to this program, while others talked about hearing the students bring things they were learning into their classroom activities and discussions. The most mentioned, common observations noted were related to motivation and time on task. An overwhelming majority of students “loved” the program, as noted in their surveys at the end of the program and by the teachers’ observational notes. The music teacher noted how many students learned to better match pitch and understand notation based on practice with the software. In addition, one hundred percent of the students reported positive feelings about reading and/or singing following the program. During interviews with the third grade students following the program’s completion, students often asked for extra time with TUNEin™. The word also spread to other children in the school. Both the researchers and teachers were approached by children in other grades with a request to use this karaoke program. The music teacher expressed her affirmation of the program with these words in her final interview, “When is the excitement going to wear off? I kept wondering, but it never did!”

Promise, Implications and Challenges

TUNEin™ to Reading shows great promise as one tool that could be used in an integrated format where teachers work collaboratively to design and implement approaches that develop literacy and music skills simultaneously. The program can be used with one child, one class, one grade level, or implemented school-wide. Music teachers, classroom teachers, instructional coaches and tutors could benefit from access to this software as regular curriculum or as an intervention tool. A family literacy program might even use this program to address the needs of children and adults alike. It is a fun program that allows for practice of both music and literacy skills.

Several challenges were faced during this project. Attempts to complete the process were lengthier than projected. Research consistency was difficult in a classroom setting as many unpredictable situations, such as student absences and internet connectivity problems, occurred. It was hard to control for all variabilities as this was a busy authentic classroom setting. Still, a great deal of data was collected and notes were made about any situations that were unusual in the data collection process. Researchers limited reporting of findings to fully documented information that existed consistently and completely. Although the program is relatively reasonable in price, ongoing funding was not continued. The program was funded for

one and a half years with the intention of continuation; however, at the end of that time, the participating music teacher retired and the school was not comfortable moving the program along with a new teacher. Future continuance of the program is still being pursued.

One challenge faced at the beginning of the program was that of technology difficulties. Despite the company's efforts to assist school technology personnel, we faced some problems in the early set-up of the program, especially during the pilot. Most problems were ironed out for the actual research phase as newer computers were purchased, installed and properly set up. Technology difficulties must be worked out in advance of usage as the attention of the children could easily be lost with down time. The company was very helpful and responsive to *fixing glitches* found in the program. Our suggestion for schools utilizing the program would be to purchase additional licenses for faculty to train and experiment on before children are assigned to the program.

One final challenge to be faced by schools attempting such an implementation is that of consensus. The implementation of a new program such as this requires effort and enthusiastic adoption by all staff. We suggest finding some teachers who are excited about the program to *sell it* to other instructional personnel. It is very easy to see the value when you see the full research and demonstrations. Seeing and singing is believing!

Conclusion

In this setting, TUNEin™ to Reading was found to be a motivational integration of reading and music. It was highly valued by the participants and proven to be motivational and effective in the development of literacy skills. Although the actual music skill levels were not measured in this study, it appears they may also improve, providing other avenues for further research in the future. The researchers would encourage schools to take a look at this program or other similar music and literacy products that are available. We did not find the software price out of line with normal curricular costs; however, we do also recognize the financial situations of many districts at this time. For that reason, and because we highly value the integration of the arts with the regular classroom curriculum, we have included some additional cost-effective ideas to help teachers integrate music and literacy.

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Appendix A: Pictures



Appendix B: Sarah's Top 10

Sarah's Top 10 Tips for the Integration of Music and Literacy

The following list of tips has been designed to provide ideas for teachers who want to boost their own usage of integrated music and literacy. Find a friend, classroom or music teacher, share some ideas, and try out some of these tips in your own classroom. You may be surprised at how easy it is to give students that extra connection point to generate learning. You really do not have to be an expert in music or literacy to make a difference.

1. Put tricky concepts to music using familiar tunes or a rap beat. Have students help with the word order and composition to enhance memorization.
Example: Sing the days of the week to the tune of "Clementine".
2. Music composition assignments can and should mirror the 6 + 1 trait writing process. Use common vocabulary as well as music-specific vocabulary.
Example: Have students compose a piece of music in several drafts and break into smaller skills. Utilize the 6+1 trait writing process: Ideas = main idea in lyrics, Organization = organization within the melody and rhythm as well as organized ideas within the lyrics, Voice = writing lyrics that engage the reader, Word Choice = choosing unique words to keep reader's attention, Sentence Fluency = fluency within the lyrics as well as fluency within the melodic composition so that it flows in a logical way, Conventions = conventions within the musical notation as well as lyrics, Presentation = finished product is polished and easy for others to read and interpret.
3. Story songs can be taught and dissected to develop literacy skills. Incorporate elements of a story, retelling, and sequencing, just to name a few.
Example: Use "Frosty the Snowman" to discuss elements of a story and have students retell the story following listening/singing with the recording.
4. Use movement/music activities that cross the midline of the body to improve left-right orientation, thus improving reading and literacy skills.
Example: Make up a pattern to pass cups around a circle in a creative way (many of these have already been created by others- check online) to the steady beat, being sure to pass both directions in the circle. Using fast-paced, popular music usually makes this a well-loved activity.
5. Integrate syllabic divisions into rhythm lessons by breaking words apart into rhythm patterns. This improves both fluency and rhythmic understanding in music.
Example: Teach basic rhythm patterns and write on the board- use quarter notes and eighth notes. Have students think of words that can be broken into rhythmic patterns to match what is written on the board and split the words according to syllables. Create a short rap using words/rhythms created by students.
6. Use songs to enhance the understanding of rhyme and allow students the opportunity to create and recognize rhyme in a variety of mediums.
Example: Use the song "Down by the Bay" to sing a variety of rhymes and then allow students to create additional rhymes to add verses to the song.
7. Reinforce the steady beat through beanbag passing activities and instrumental accompaniments that will improve fluency in reading.
Example: Pass beanbags around a circle to the steady beat, utilizing a variety of patterns passing in many directions. (Many of these have already been created- see a music supply catalog such as *Music in Motion* to purchase a CD with accompanying beanbag activities.)
8. Use a variety of visual representations for teaching basic music reading skills to teach decoding skills and enhance language development and recognition across curricula.

- Example:* Use linear representations for melody before moving to actual pitches on a staff. Move next to pictorial representations for high, low and middle pitches and gradually instruct in pitches on the staff. By using a variety of symbols, students have an improved chance of understanding both the musical concepts and also basic language decoding skills.
9. Add musical elements when reading aloud. Add pitch, dynamics, tempo and phrasing. Enlist in the help of the general music teacher to define these elements, if needed.

Example: When reading aloud, be sure to model appropriate technique and implement activities that allow students to manipulate different elements of their reading skills, such as pitch and phrasing. Have students read a passage without any pitch variation or phrasing. The next time they read, have them manipulate one element and have a partner identify the element they manipulated. Use musical examples to demonstrate these elements if students need further clarification.
 10. Use music to set the stage for creative writing. A couple of great pieces to use: *Billy the Kid* or *Rodeo*, both written by Aaron Copland.

Example: Give each student a sheet of blank paper and instruct students that they will be writing according to what they hear. They can do this as an individual or a group; however, the group writing process is usually a bit more entertaining. Start the music and have students listen for a few seconds while thinking about the beginning of a story. They should begin a story on their paper, including only the first couple of sentences. Pause the music and allow students to pass their paper to the person on their right. They should read this paper, continue listening to the music, and add a couple of sentences to this story. Next, pause the music, pass the papers to the student on the right and repeat. Read the stories aloud when finished.