Assignment Three -

Observations on the Integration of

Instructional Technology in the Classroom

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**Abstract**

Technology in the classroom is becoming the new initiative in digital learning. The planning and designing of curriculum supported by technology is paramount to technology's core concepts. The focus of this article was to observe a music specialist using technology and how technology was to be measured in the classroom. The lesson was taught with technological standards infused into the curriculum. The already existing music curriculum was enhanced with SMART Board technology to streamline the implementation, execution, delivery, and assessment of student learning. The ensuing lesson followed the logical layout and sequence of a music lesson. In this particular lesson, technology replaced the music specialist lecture and music specialist demonstration. The end results demonstrated that students were highly engaged and enjoyed the rhythm instruction.

**Overview**

The introduction of SMART Board technology has provided various technological learning experiences for the music lab classroom. This South Florida elementary school district has recently implemented SMART Board technology in the music classroom to teach elementary students of kindergarten age through fifth grade the essential learnings of music. These essential learnings are derived from the Florida Common Core State Standards (CCSS, 2013). Effective music specialists design, implement, and assess learning experiences to engage students and improve learning. They utilize a "shared vision, empowered leaders, implementation planning, consistent and adequate funding to get the work accomplished" (ISTE.org/nets, 2009).

The purpose of this writer was to observe a music class engaged in using music technology. This writer confirmed the consent of a music specialist colleague and met with the music specialist a week prior to the lesson for pre-observation and discussion. The students to be observed in the observation were first graders. Their music time was allotted for 40 minutes once a week. This writer observed two classes of first graders for 40 minutes once a week for a total of two weeks. The International Society for Technology in Education (ISTE) Classroom Observation Tool (ICOT) was used as a measuring tool to evaluate the effectiveness of technology. It was used to measure whether the music specialist was effectively using the NETS standards for technology in the demonstrated lesson.

Using skilled personnel in an ongoing professional learning environment fosters highest student achievement. Social and ethical factors are legitimate issues that technology users must address. Music specialists need to "identify and use technology resources that affirm diversity, and promote safe and healthy use of technology where it is equitable for all students" (ISTE.org/nets, 2009).

**ISTE Classroom Observation Tool**

The observation took place in an elementary music room lab supported by a music specialist and recently acquired SMART Board equipment. The International

Society for Technology in Education designed the ICOT to record and evaluate observations of technology use in classrooms. The music specialist wrote the lesson plans from using a graphic organizer. The graphic organizer became the tool from which to teach the notebook software. The software was procured from funds obtained to purchase software for the music specialists who used SMART Board technology. The software was installed within two days on the music specialist's desktop. The observation was conducted in a 40-minute period, and twenty-two students participated at one observation. Observations with the ICOT included the SMART Board where students sat in front of it on the floor.

The music specialist greeted the students with the customary musical greeting of singing two pitches named so and mi in succession and sang the question, "are you here"? The students responded with the sentence, "yes, I am here". The focus is to match pitch. Students were observed in whole group instruction and completing individual work when called upon to come up to the SMART Board.

The ICOT tool measured and evaluated the date and time of the observation. It measured the level of lecturing the music specialist was engaged in, and the interactive direction showed that the dialogue was relative and coherent to the sequential delivery of the lesson. The music specialist's role was to facilitate and coach the lesson so students could reach independence with the SMART board skills.

At this point, the writer began to check off items on the technology ICOT checklist. Students were to work as a whole and as individuals. The setting was recorded along with the description of the room and student characteristics. Student groupings were observed and individual student work and whole class participation was observed. All technology standards were observed and evident on the ICOT except for the digital citizenship strand. Three-minute intervals highlighted resulted in students attaining a total of 18 minutes in using technology(NETS•T 2C). The music specialist used 12 minutes for learning technology (NETS•T 4C). A published software program of the SMART Board entitled Notebook 2011 was utilized to present music lessons to the students. A program called "Heart Chart" (Zentz, 2005) is an innovative software designed to teach rhythm values of quarter notes, half notes, eighth notes, rests, and other rhythmic patterns. The student views the board with pictures of hearts across in rows from left to right. A program for intermediate grades was illustrated. In this SMART Board technology from Notebook 2011, students must choose from a grid exactly which note value goes in a specific box. A half note is dragged at the top to cover the entire space. As a whole class, the students read the beats aloud. The program shows a grid of twenty-four squares with either a heart or a rest in each square. The music specialist initiates the children to begin reading from left to right and from top to bottom.

Another example of this technology is when a student is selected to come up and tap a heart or rest from a side bar and drag it over into a square. Now the pattern has been changed. The entire class reads the new pattern. Another engaging game begins with colorful moving "flies" on the screen and a student is selected to come up and swat the fly with a flyswatter. This movement reveals a pattern of quarter notes, eighth notes and rests in which the student begins to read and say the pattern. This game reinforces reading rhythms.

At the fourth-grade classes, students sat down in front of the SMART Board to learn rhythm values. A whole note of four beats was dragged to the top of the screen. A student was selected to pull from the grid a combination of beat values that would equal four beats. In this instance the students chose four quarter notes. In another instance, a student chose two half notes. The visual aspect of placing notes on the SMART Board by clicking and dragging is very engaging and mentally powerful for retention purposes. In another observation, assessment was being conducted using SMART Board technology. A test was designed after students played note games on the SMART Board to learn the notes on the staff. Clickers were distributed and the test was designed. Students entered in their class number and ID number and answered ten questions for the exam. The numbers were scored immediately. This gives the music specialist immediate feedback as to how students fared on the test.

**Music Class Observation**

The data supports the theory that SMART Boards help students to learn at a faster rate and to increase grade level proficiency. Increasing student exposure to SMART Boards has a significant impact on student achievement, especially in math and science. Students taught using a SMART Board had a higher rate of academic progress. Students are engaged and excited to learn on a SMART Board (www. gaston.k12.nc.us/, 2013). Best practices were evidenced and supported by the standard in which music specialists "exhibit knowledge, skills and work processes where fluency in technology occurs through transfer of current knowledge to new technologies" (NETS•T 1A). Under assessment and evaluation, the standard of applying multiple methods of evaluation to determine students' appropriate use of technology resources was employed (NETS•T 3A).

**Reflections**

Minor improvements could be made in the development of such advanced technology in the music classroom. This game could be color-coded in which the answer could appear that would reflect a particular class team. Another improvement might be to add a timer to the game in which the student had a specified number of minutes to drag the answer to the box. The games on the SMART Board run the gamut from reading rhythms to locating staff notation and to singing and matching melodies. This writer is almost not surprised at how well SMART Board technology would fare in the music classroom. Children love to play games, and making musical games where learning is the focus will engage students to participate, learn, and have fun. A plethora of good musical games will suffice for teaching all the elements of music, including melody, harmony, pitch, rhythm, tempo, and timbre. Standards and objectives are created to "facilitate and inspire student learning and creativity, design and develop digital age learning experiences and assessments, and model digital age work and learning" (ISTE. org/nets, 2009). Music specialists should "demonstrate a sound understanding of technology operations and concepts" (ISTE, 2009).

**Conclusion**

Effective music specialists design, implement and present engaging technology to maximize student learning. Using technology in the music classroom lab is no exception. Using music technology in the classroom maximizes student achievement and enhances learning. This is accomplished by using state-of-the-art software to produce maximum results with literacy skills. This literacy skills are the foundation of notation software. Notation software is readily utilized by music specialists who have a firm foundation of the technology in order to produce highest student achievement. Using lesson plans that align with technology standards to enhance literacy and music literacy is the foundation of music success with technology in the classroom. This technology will only be the beginning foundation of greater technology to come.

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