Bridging the Cultural Gap with Technology

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Abstract
This paper addresses how I applied theoretical perspectives of cognitive and motivational principles into my current teaching. For the purpose of this project, I chose to develop a multicultural lesson for second grade students, implementing these approaches in instruction to support an ideal learning environment and encourage optimal student potential. I wanted to incorporate technology as a way to connect students to information and as a motivational tool. The lesson involved whole group, small group, and individual instruction in the regular classroom and computer lab. Students worked in cooperative groups, utilizing select Internet websites, to complete a series of tasks about a chosen country. Participation in learning activities, product development, and delivery of oral presentation were assessed to demonstrate comprehension of material learned.
Introduction

My District has become more aware of the importance of multicultural understanding in the past year due to some unfortunate incidents among students and between several students and a staff member. There has been an emphasis on staff development and student awareness concerning issues of cultural diversity and acceptance. Although the staff and student awareness training may have been due to a racially motivated incident, the focus was on understanding and acceptance of all individuals. This topic reaffirmed the importance of discussing cultural diversity not only in terms of race and religion, but also in socioeconomic status. The latter, being one aspect, in which these students have limited experience.

The community and school district are comprised of a homogeneous population. School children come from mainly white, well-educated families, with an average income of $84,721, according to the District’s 2008-2009 financial report. These students have limited firsthand experience with other cultures acquiring information about them in school through videos and books or outside of school from interactions with their own families.

Besides the emphasis of exposing students to cultural differences in their own surroundings, the Ohio Academic Standards for second grade include indicators concerning cultural practices and products of people on different continents. The purpose of this paper is to examine cognitive and motivational strategies using technology to bridge this cultural gap. For this particular project, I have selected my own second grade class.
I chose this group of students because they represent the typical diversity of classrooms in the District and will need to describe cultural practices and products of people in other societies as one of their content standard requirements. The self-contained classroom consists of thirteen girls and twelve boys ranging in age from eight years two months to seven years five months. One student was born in Russia, four were born out of state and the rest were born in Ohio. English is the major language spoken in the home and at school. The majority of the children live with both married parents although we do have one set of parents separated; three divorced, one single grandparent guardian; and a married aunt and uncle guardian.

Academically, five students are reading below grade level; seven on grade level; and thirteen are above grade level. Three of the students are currently on Individualized Education Plans (I.E.P), two are classified as other health impaired, and two students receive speech and language services. Five of the students are diagnosed Attention Deficit Disorder (ADD) or Attention Deficit Hyperactive Disorder (ADHD) and are on medication. The class population varies in academic abilities from struggling to grasp concepts to high achieving. Motivational and attention level range from independent learners to requiring constant teacher intervention and academic modifications. All have had some computer experience and posses basic skills ranging from basic knowledge to being able to navigate, store, and retrieve files search the Internet, and produce documents using Microsoft Word, Microsoft PowerPoint, Paint, KidsPix, and Moodle.

With the diverse needs of the learners and limited textbook resources, especially on the student’s reading level, this paper will examine technology as an alternate method of acquiring information about different cultures and as a motivational tool to engage and
sustain learning. The challenging part of this project will be meeting the academic needs of all students concerning content and reading ability levels while keeping them engaged in the lesson.

Technology has proven to be a motivator with past class lessons and provided a means to differentiate reading, writing, and communication abilities. It expands the learner’s experiences beyond their immediate environment. Piaget and Vygotsky believed that students use these social experiences to understand the world (Snowman, McCown, and Biehler, 2009). Technology can be used to support Vygotsky’s ideas by linking the learner to, “(1) an expert peer or collaborative partner to support skills and strategies that can be internalized by the learner and (2) as a tool to link learners to more knowledgeable peers and experts” (Snowman et al., 2009). Therefore, technology will be implement in this lesson to support student learning and provide a motivational tool.

According to Snowman et al., (2009) “Piaget clearly believed that peer interactions do more to spur cognitive development than do interactions with adults” (p. 41). Applying Piaget’s theory of cognitive development, children at the second grade level are in the concrete operational stage of thinking and therefore would benefit from having experiences first hand to increase cognitive development about a topic (Snowman, 2009). In support of these theories, allowing this group of learners to personally communicate with classes in other countries through the Internet, will build cognitive development about children in other cultures. It will also give their learning a purpose. If the student feels the information that they will be learning is of value they are more likely to listen and stay engaged. Therefore, I will try to connect their learning to real life and make the activities authentic.
Snowman also states that according to several studies, “computer-based instruction increases students’ intrinsic motivation and performance” (p. 436). Keeping the student engaged to increase learning and complete activities is a factor with some of my students. Developing instruction that permits mixed ability cooperative learning groups to explore and discuss information can increase student learning by motivating and sustaining the learner in activities they enjoy. Cooperative learning has been linked to increasing motivation and positive attitudes towards completing work (Snowman et al., 2009). Keeping this in mind, I will need to plan my small groups that allow for higher-level readers with lower level readers. To keep students motivated throughout the unit and to allow for differentiation, I will plan whole class, small group, and individual activities.

Computer activities are also “intrinsically motivating because such programs and tasks give students a sense of confidence, personal responsibility, and control over their own learning” (Hewitt, 2002; Hickey et al., 2001; Moreno & Mayer, 2002, 2005 as cited in Snowman et al., 2009; p. 435). Students can demonstrate knowledge gained through our class activities independently, with a partner, or in a group. This strategy is reflective of Sternberg’s style of mental self-government theory where instruction and assessment is varied to engage all learning styles (Snowman, 2009). When planning assessment, I will provide a variety of activities to allow students the choice of media to demonstrate comprehension and how they wish to complete the work.

Keeping the background information of the students and theoretical perspectives of cognition and motivation in mind, I will need to carefully plan activities. The lessons need to motivate and keep students engaged in order to accomplish my instructional goal
of exposing students to cultural differences and help them describe practices and products of people in other societies.

I plan to utilize the computer lab and available technologies to impact student understanding of cultures and increase academic motivation using strategies based on these cognitive and motivational theories. The positive rapport I have established with my students will impact their motivation and performance to complete tasks to their best ability. When designing activities and planning lessons, I will need to keep in mind available technology and the students’ abilities, and make the expectations clear and obtainable in order to accomplish my instructional goal.

Analysis

Understanding general characteristics of children in my classroom helps guide my curriculum decisions to ensure that material, instructional strategies, and the learning environment is developmentally appropriate. According to Piaget’s stages of cognitive development, the students in this group are transitioning from the preoperational stage to the concrete operational stage. Snowman, McCown, and Biehler (2009) describe age-level behaviors for children according to physical, social, emotional, and cognitive categories. They depict second grade children as physically very active, fatiguing easily from mental and physical exertion, working on refining fine muscle control, having difficulty focusing on small print, and tending to become extreme in their physical activities. Socially, primary grade children are working on cooperative learning skills. Emotionally, students want to please their teacher. Cognitively, they understand that there is more than one way to solve problems and desire fact based explanations. Second graders are beginning to realize that they can control their thinking processes, but this age
requires more time to learn and therefore needs frequent breaks from cognitive demanding tasks (as described in Snowman et al., 2009). Analyzing the typical behaviors of this select group of learners directs how I approach instruction in the areas of cognition and motivation.

**Cognition**

To ensure that teaching facilitates meaningful activities that expand the students’ knowledge base and encourage self-directed learning, several cognitive theories to teaching were analyzed. The first was information-processing theory, which “focuses on how human beings interpret and mentally manipulate the information they encounter” (Snowman et al., 2009, p. 374). In support of this approach, I needed to communicate objectives clearly, present information in short, organized, and meaningful lessons. To do this, I modeled my expectations; provided structured activities in the form of a webquest, and repeated skills as needed. The students implemented a graphic organizer to categorize their research then used this information to develop a presentation using technology. “The ability to make these links is what makes learning in general, and school learning in particular, meaningful” (Snowman et al, 2009, p. 374). Therefore, I facilitate discussions, “teachable moments” to connect what the students were learning to their own personal experience when I could. The multicultural lesson also needed to be divided into smaller sequential tasks over a realistic time frame for second graders to lead to better retention of information into long-term memory (Snowman et al., 2009, p.377).

With twenty-seven computers, Smart Board, and LCD projector, the computer lab supported the environment necessary to optimize learning. Projecting computer images on the large screen provided equal viewing access for all students. The number of
computers allowed participation by the entire class. Computers “provide environments that allow for discoveries and insights” (Snowman et al, 2009, p. 384).

The second theory of cognition implemented was constructivism approach. Internet websites supported the constructivism theory by providing an opportunity for students to learn by discovering information about other cultures. Students are encouraged to become self-directed learners through webquest opportunities, rubrics to guided tasks, and choice of presentation projects. According to Erikson’s stages of psychosocial development, children at this age are intellectually curious. “If children at this stage are encouraged to make and do things well, helped to persevere, allowed to finish tasks, and praised for trying, industry results” (Snowman et al., 2009, p. 27).

Therefore this natural curiosity for learning supports the constructivist approach researched by Piaget and Bruner. Both theorists believed “conceptions that children arrive at on their own are usually more meaningful than those proposed by others…” (Snowman et al., 2009, p. 325). Students applied Bruner’s constructivist view of discovery learning during their research when they discovered relationships between their own country’s characteristics and the country they were researching.

Students were guided through a series of tasks to complete about their country, during the webquest. “Vygotsky referred to the difference between what a child can do on his own and what can be accomplished with some assistance as the zone of proximal development (ZPD)” (Snowman et al, 2009, p. 50). He believed that students can do more if given the guidance and that cognitive development would increase. Therefore, scaffolding instruction within the ZPD was provided to accommodate the range of
abilities in computer skills, research techniques, and reading abilities. As students became more competent, support was adjusted, allowing for more independent work.

Vygotsky and Piaget had similar views on social interaction and how it effects cognitive development (as discussed in Snowman, 2009, p. 397). Both theorists supported the idea that collaborative learning would encourage cognitive growth by exposing learners to other ways of thinking than just their own. Knowing this, I designed the lesson to include cooperative learning groups where students could research and discuss information as they completed tasks. Students in the class vary greatly in reading ability. Through learning groups, students can assist each other in comprehending material and in keeping each other focused on tasks. This proved especially beneficial with lower ability readers, students with attention difficulties, and those on an IEP.

**Motivation**

As discussed previously, social interaction effects cognitive development, but it also effects motivation (Snowman et al., 2009, p. 396). The authors contribute this to peer support to work hard and to equal opportunity for success. Students encourage and praise each other and the tasks become more meaningful due to classmates depending on each other for contributions.

Another area of focus is student’s motivation in relation to academic performance. Theorist, Carol Dweck, describes a child between the ages of seven and eight years old as beginning to notice and compare their peer’s academic achievements. She points out that students are beginning to think about their abilities and how it is an indicator of future performance. Dweck’s research found a solid connection between students’ theories of intelligence, their goal choices, and how motivation in turn was effected (as discussed in
She argues “people’s theories of intelligence are malleable” (Dweck, 2000 p. 24) and therefore teachers can influence them and enhance motivation. “Children’s motivation for learning is affected by their beliefs about the nature of ability (Snowman, p. 413). How capable a student believes they are at completing the work affects if they are learning or performance goal oriented and in turn effects motivation.

My experience with students at this age is that they want to please. They are motivated for the sake of wanting to please their parents and/or their teacher. My rapport with the students has a positive impact on motivation. Maslow’s hierarchy of needs supports this philosophy that students are motivated to do well because they desire the acceptance and affection that result from their behavior (as discussed in Snowman et al., 2009, p. 429).

The students also enjoy sharing what they have learned or created. Knowing that they will share their projects with the rest of the class motivates them to present their best work. This behavior is supported by a study completed by Karchmer (2001) that students were intrinsically motivated to “complete projects and to do high-quality work when they knew it would be seen by a wider audience” (as cited in Snowman et al., 2009 p. 437). My students take great pride in their work and want to share it anytime they get the chance.

Technology has also proven to be intrinsically motivating. Anytime I incorporate the computer especially the Internet into the lesson, the class is excited about learning. My experience is again supported by Snowman (2009) that the use of “computer-based instruction increases students’ intrinsic motivation and performance” (p. 436).
Application

For this project, I will discuss the Social Studies lesson on people in other societies. Students will be researching using Internet websites to learn about another culture. Through this research, they will be able to describe practices and products of that country and explain how these influence the behavior of people living in that culture.

Previous to this lesson, our class has been communicating with a school in England. We continue to share by being e-Pals, using the Internet to communicate, and writing friendly letters sent traditionally through the mail. This helps the students make a personal connection and provide for more meaningful learning.

Day One: Introduce the unit on Cultures. We discussed what they know about our country concerning topics of where are we located, tradition we have, holidays celebrated, food traditionally eaten, climate, plants and animal life present, languages spoken, music, what our schools are like, sports, what we do for fun, places to visit, and what our homes look like. As an introduction to the current lesson on learning about another culture, we discussed what we had learned about the English culture. I asked if the students wonder about children who live in other parts of the world. As a class, we discussed what information we would like to learn about another country. I told the students that they would get a chance to research and find out the answers to their questions.

Day Two: Presenting Research steps, Project ideas, and choosing a Country. I introduced the learning tasks involved in the research, which in this case was to complete a webquest to collect information, then completing a project for presentation, and as a final activity presenting the project as an orally to the class. To do this, I needed to
research appropriate websites for second grade that covered the material desired and
made sure the sites were available through our school server. I made sure my
expectations were clear to the learners by providing a graphic organizer for task
completion and evaluation rubrics to assess progress (one for the project and one for the
oral presentation). Points for the rubric were divided into one-fourth cooperative
researching completing all information, one-half project creation with correct information
and one-fourth oral communication skills. I prepared the students ahead of time by
utilizing class time to cover the requirements before beginning computer tasks. This
preparation allowed the students to feel intrinsically motivated since they felt more
confident to complete the activities and have responsibility and control over their own
learning. Then next part of the lesson included students choosing from a list of countries
to select the one they were interested in learning more about. As a way to differentiate,
students were allowed to get teacher permission for a country not listed.

Day Three-Six: Choose learning groups. I first modeled how to use the
computers in the lab, webquest, and graphic organizer to collect information. Using the
projector and screen so that all students could easily view, I could model how to navigate
through the Internet sites and how to locate information desired. Students were very
motivated to use the Internet and begin their own research so I let them start with the goal
of finding two pieces of information to write about their country. This is where
Vygotski’s scaffolding techniques were implemented, as students required various levels
of assistance. The subsequent days were spent researching.

Day Seven-Nine Project Creation. Students were provided with a choice of
media to complete projects. Some projects were done using computer applications while
others were done by hand. Students also had the choice to work on completing individual projects or doing a group project.

Some students worked with partners and others small groups or three or four, to complete the research and project. The lesson encouraged students to develop mastery learning goals by grouping students according to interest in the country they wanted to research, giving continual feedback about progress, providing a choice of projects, encouraging peer-tutoring, enrichment opportunities, and using cooperative learning techniques (as suggested by Urdan & Midgley, 2001 as cited in Snowman, p. 424). Allowing the students to choose their country of interest also supports Dweck’s theory (2000) that teachers should make lessons enjoyable and enriching by trying to make tasks as interesting as possible (p. 153). As Snowman, McGown, and Biehler report, “cooperative-learning methods have proven effective in increasing motivation for learning and self-esteem, redirecting attributions for success and failure, fostering positive feelings toward classmates, and increasing performance on tests of comprehension, reasoning, and problem solving (as cited in Snowman et al, 2009 Johnson & Johnson, 1995; Johnson et al., 1995; Slavin, 1995). Computer centered activities, in this case a webquest, supports these approaches to learning. By providing a classroom environment that encouraged learning among students, I hoped to intrinsically motivate my students to focus on learning goals, raise achievement, and encourage meaningful learning.

The computer lab promoted a positive learning environment because it had enough computers to accommodate all my students. Parent volunteers assisted during lab time to keep students focused, give immediate feedback when needed, and to encourage
completion of work. Extra adults also proved beneficial with the I.E.P. and ADHD students by assisting them in reading the online material and keeping them on track.

Days Ten through Twelve  Oral Presentations.

Students worked in cooperative learning groups to stimulate creative thinking, share ideas, and as motivational tool. Students demonstrated their understanding of concepts through individual activities. They had a choice of making a poster, creating a PowerPoint presentation, making a travel brochure (by hand or on the computer using Microsoft Publisher), making a podcast (digital audio recording like a radio broadcast-interview style), creating a scrapbook with pictures and captions of their “travels” or writing about what they have learned in the form of a narrative journal. This strategy supported various learning styles, gave students the feel of controlling their own learning, and allowing for differentiating instruction for ability levels. Early finishers were encouraged to create Venn diagrams either using Kidspiration or on paper to demonstrate how the United States and their chosen country were similar and different. Students used communication skills when presenting orally by demonstrating effective speaking and listening skills.

Reflection

I chose the Multicultural Project for my theory into Practice Project because I have taught it for several years and thought the complexity of the project would allow me to evaluate many aspects of psychology as they are applied to my teaching. Reflecting on the lesson made me realize that I have applied psychological concepts supported by research by Piaget, Vygotsky, and Dweck in past lessons but didn’t understand why. I realized that some of the techniques I had included such as encouraging mastery learning
goals, designing lessons that promoted cooperative learning groups, scaffolding the lessons, and supporting various learning styles by differentiating, in past lessons were supported by the theories of Erikson, Piaget, Vygotsky, Bruner, and Dweck which I learned about in this class. At the same time, I learned why I was implementing the lessons the way I did and the research to prove it. I knew students were successful in completing tasks, but now I have the knowledge why these strategies were effective. Furthermore, I have acquired additional background on modifying this or other lessons to better meet the developmental, cognitive, motivational needs of my students.

The purpose of the Multicultural Project was to provide an opportunity for homogeneous population of students to learn about other cultures and to be exposed to cultural differences. Students were to be able to describe practices and products of people in other societies. The entire lesson took several weeks for introduction of lesson, researching using the computer lab, class time to complete projects, and providing time for all students to present orally. With a lesson of this length it was extremely important to break learning tasks into smaller manageable units with frequent feedback to keep students motivated. I have implemented similar lessons of this magnitude in the past with this age learners and know that no two lessons play out exactly the same. However, the theory behind designing effective learning opportunities was the same. Students at this age are eager to learn, have limited attention spans, need diverse instructional strategies, have a variety of academic abilities, and enjoy activities that include technology. I had to keep students’ developmental abilities in mind as I implemented concepts and strategies to improve cognition and motivation. Therefore, I chose both an information processing and constructivist-oriented teaching. Through this approach, I
provided students with meaningful, scaffold lessons to guide them as they interacted collaboratively to construct new knowledge and use technology to acquire, organize, and represent information.

Some students preferred to work alone and took the activity as a challenge. Other students looked for that collaborative support. Students bring different strengths to the project and encouraging them to share in the work would expand their own skills by learning from their peers. “It’s important to emphasize the social nature of this approach. The experiences and ideas of others become springboards for further experimentation and discussion” (Snowman et al., 2009, p. 332). Keeping this theory in mind, the next time I teach this lesson, I would require all students to work together.

Most of the class, I believe consist of incremental theorists. Although the students enjoy looking smart and want to do well, grades are not emphasized at this level. I think this helped alleviate anxiety for some students and make working in groups desirable. Reflecting on my feedback to students’ projects, I plan to incorporate more comments that promote incremental beliefs as suggested by Dweck’s research (as cited in Snowman et al., 2009, p. 423). This strategy would include praising the student’s effort and use of effective skills rather than the end product.

Overall, I feel I have learned a great deal about learning theories and how they can be applied to my teaching. Using these concepts when designing instruction with a wide range of diverse learners can ensure that I can improve students’ cognition and motivation. Although the lesson was focused on bridging the cultural gap with technology for the student, it was a lesson on bridging the gap of theory and application for me.
References
