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Inquiry-Based Learning Using the Internet

BY KELLIE BUGAJSKI

As a teacher with 15 years experience in a small, middle-class elementary school in Michigan, I often try new teaching techniques to improve student achievement. Last spring, I had a small group of first-grade students who were fluent readers and had individual needs much different from most of my other students. They were beyond the reading materials I had available for first-grade students. I also found that reading material at their instructional level was not age-appropriate or suited to their interests. I was determined to meet their individual needs, while providing reading material that was interesting and meaningful for 6-year-olds.

At the same time I was taking graduate courses in reading instruction and participating through my school district in professional development that involved technology in the classroom. These opportunities and resources inspired me to enrich and expand my teaching techniques to an even greater degree. I began by integrating the Internet with some literacy activities in the classroom.

Through trial and error, one of the most effective activities my students and I discovered was an Internet Inquiry method. An Internet Inquiry method can serve many purposes to support reading instruction using an integrated approach. The benefits are best explained by this description of inquiry-based learning and technology integration.

When inquiry-based learning is used well, students engage in “What does this mean, and how can I use this information?” questions. They are pushed to expand their understanding by creating new connections. The focus on inquiry heightens involvement and motivation for reading and writing and for reading and writing instruction. Couching literacy activities in the context of something meaningful and interesting to students

themselves increases the chance for success (Owens, Hester, & Teale, 2002, p. 617).

One of my high-ability groups completed an Internet Inquiry on crabs. I began by telling the four students in the group that they would explore questions about a living thing and develop a presentation on the animal over the next couple of weeks. During our daily literacy centers the four students met and brainstormed living animals they might want to research. They chose crabs as their topic. The next day they worked as a cooperative group to come up with a list of questions they wanted to ask about crabs. The third day I took the students to the media center during their recess time, and we looked for books containing information on crabs. All four of the students were unfamiliar with using an index in informational books, so I taught a mini-lesson using deductive instruction to teach this specific skill. Next, the students read in pairs to look for information to answer the questions they had previously generated together.

The students and I discovered that the information from the media center was not sufficient to answer many of the questions they had previously created, and so we did a successful search on the Internet using Yahoo!igans science to look for additional information

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on crabs. I modeled the importance of using reliable Web sites that use information from educational publications such as *The National Geographic* and *National Wildlife Association*. Each student printed out additional information and pictures from two or three different Web sites. They read independently at home that evening the new information they gained on the Internet. The next day they met as a group to discuss the information they researched and compared what each student had found from his or her Internet Inquiry. They read aloud the information they had found and worked together as a team with my guidance to choose the information that they felt was the most important and interesting from their research. The students worked in pairs and typed up their information on the computer with parental support. Lastly, they worked together to organize their typed sentences and pictures they printed from the Internet on a trifold presentation board and gave a short oral presentation to the class. They successfully answered their classmates' questions, which included questions about information that was not displayed on their final product.

It was amazing to see that this inquiry is possible and worked with my first-grade students. The students were so proud of their final product that they requested to go to every classroom in the school to share their information. However, my observations of their interactions with each other while searching, sharing, and making decisions was evidence of the students achieving far more from the process rather than the end product. Before I had the opportunity to plan their next reading activity, they had already decided on their own a new topic to research.

According to Leu & Kinzer (1999), reading comprehension, problem-solving, information access, and communication are essential to success. This inquiry allowed my students these opportunities and to discover and direct their own learning, which made it a very powerful tool. Reading comprehension was fostered by discussions with group members, which helped develop more complex understandings and critical thinking skills. The depth of knowledge the students demonstrated about crabs was beyond what I expected and is further evidence of their reading comprehension. Cooperative learning supports exposing participants to alternative ideas and views, which

in turn expands their understanding by creating new connections. I was delighted to listen to their excitement one day while they were problem-solving out in the hallway assembling their presentation board together and sharing ideas on what to include in their final product. Something else I discovered while guiding my students was how useful this method could be to support cross-curricular learning. The students were able to answer questions from their classmates during their oral presentation that supported social studies, math, and science learning. Such questions as: In what parts of the world would you find crabs? How big do they grow? What do crabs eat? They once again made connections that expanded their understandings.

It would enhance literacy learning for my students to have use of the computer and Internet on a daily basis in the classroom to support literacy needs. Having access to the computer lab on a "sign-up" basis makes it very difficult to plan teachable moments. Our school parent-teacher association is working on improving technology access in the classrooms. I am currently researching with a co-worker some information on receiving technology grants.

Discovering an inquiry-based learning activity using the Internet with my high-ability students was a successful experience. This activity was enjoyable and meaningful for these students, and thus they were highly motivated. The students and I began the journey to meet their individual needs while providing reading material that was interesting and appropriate for 6-year-olds. This has motivated and encouraged me to continue to explore inquiry-based learning using the Internet with all my students to meet their individual needs whether they are high- or low-achieving to foster their growth as readers and writers. With our rapidly changing world, children's literacy futures will include new technologies. Most importantly, the new technologies should support and not replace traditional elements of literacy education.

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