EDITORIAL

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Authentic Learning: Perspectives from Contemporary Educators

Authentic Learning

Faculty members of the School of Education at Oswego State University assert in their conceptual framework that the role of schools is to promote authentic learning for all students. Authentic learning occurs when:

> Educators provide meaningful opportunities and appropriate support for all students to engage in self-directed inquiry, problem solving, critical thinking and reflections in real world and creative contexts. (State University of New York at Oswego School of Education Conceptual Framework, 1998)

This way of thinking resonates with recent reform efforts in education which advocate moving from traditional teacher-centered teaching towards more progressive, student-centered or constructivist class-rooms: "students actively constructing meaning, grounded in students' experiences in contrast with the student simply absorbing and producing knowledge transmitted from subject matter fields" (Newman, 1995, p. 1). A host of activities has the potential to engage students in thinking, problem solving and construction of meaning, including but not limited to, "small group discussions, cooperative learning tasks, independent research projects, use of hands-on manipulatives, scientific equipment, arts/crafts materials, use of computer and video technology, community-based projects such as surveys, oral histories, and service learning" (Newman, 1995, p. 1).

Research has shown that when students are exposed to these kinds of activities, they often show more animated, visible engagement in the activities, which many interpret to be indicators of student learning (Newman, 1995; Nicaise, Gibney & Crane, 2000; Unwin & Caraher, 2000).

However, care must be taken to ensure that solid, quality learning is taking place. Some situations have been observed where students work diligently in small groups to complete an assignment but one student does most of the work. Another example is students completing interviews of community residents with all questions pre-specified by the teacher. Here, students merely record respondents' answers without trying to interpret the cumulative meaning (Newman, 1995). Or as an in-service teacher recently shared, the use of laptop computers in the classroom has turned out to be just another opportunity for chat room and text messaging for high school students.

What really, then, is authentic learning? How do educators ensure that students' active engagement with authentic activities improves the meaning they construct and enhances the intellectual quality of their work?

Unwin and Caraher (2000, p. 2) gave an authentic assessment to a college writing class as a way of modeling what "I wanted my students to eventually try in the classroom as teachers." For the midterm assessment, students were asked to rediscover themselves as readers and writers by immersing themselves in experiences that would include reading something they have

been meaning to read but had not found time to address. They were asked to experiment in writing with an unfamiliar or uncomfortable genre and keep a reader/writer log of those experiences.

The result of this activity was compelling, to say the least, as Unwin and Caraher vividly report. Students turned in images and glimpses of who they were as human beings, imprints of their hearts so compelling that, on some, she was moved to tears.

> I found I could not put these papers down. Previously, evaluating student papers had always been arduous, involving value judgments, corrections, and calculations. Reading these papers was like savoring the best chocolate, like exploring the minds and hearts of the most interesting characters in any novel (Unwin & Caraher, 2000, p. 73).

Some students reported the cathartic effect of this activity, which in some way proved therapeutic. One student reported:

> This reading and writing project was a rewarding and valuable learning experience. Because I made my own reading and writing choices my mind was free to search, bend, and grow in ways that were personally meaningful. I examined my tastes and talents as a reader and writer. I discovered poetry and gained an appreciation of the beauty of its form through my own expression. I identified the weaknesses I possess as a reader and writer and gleaned a great respect for good writing. I also produced some good writing. (Unwin & Caraher, 2000, p. 80.)

According to Unwin and Caraher (2000, p.86) the most powerful assessment is that which empowers, encourages and strengthens learners, particularly those who will be tomorrow's teachers. "It is through our example as teacher educators that our students will learn to some day empower, encourage, and strengthen the children in their care."

Nicaise, Gibney & Crane (2000) document a study they conducted to find out the high school students' perceptions of an authentic classroom. The study environment was comprised of three separate but interrelated elective courses: Principles of Engineering, Aerospace, and Advanced Aerospace. Each course met daily for 50 minutes. All three courses had a common purpose – to teach high school students aerospace science and engineering by situating learning around an authentic task: a week long mock space shuttle mission.

There were 59 participants in the study, all members of a large Midwest high school. During the week-long simulation, students implemented skills and knowledge acquired throughout the year by role-playing positions common to a space shuttle mission: space station commander, communication expert, medical or science officer, shuttle pilot, or one of the roles in mission control. The weeklong simulation was broadcast to the community through a local cable access channel.

In authentic classrooms, students are given more ownership over what they learn, and are required to integrate multiple contents and multiple skills holistically. Students who entered the environment with content knowledge in engineering and aeronautics were very successful. When students lacked sufficient background knowledge or skill, they felt less successful, and many of them struggled in the environment. The struggling students expressed a desire to improve the classroom by fostering teamwork so that students could mentor each other, increasing resources, decreasing class size, and improving access to the teacher.

For the most part, students who struggled in this environment viewed the role of the teacher as a knowledge disseminator. These students appeared to worry about how well they were doing, about passing the next quiz, and about needing to please the teacher. Students who were more successful in this environment made the adjustment to their new roles much more easily. These students seemed to excel at independent learning and they appreciated the effort of their teacher (Nicaise et al., 2000). The sense of accomplishment is accurately summed up by a student who reported:

> It is like real life __ it shows us what the real world is going to be like, and it gets us ready for industry. … You come in, and you figure out what the problem is and you figure out what you need to do to fix the problem. Then, you research about how you can fix the problem to make it better. You take what you have researched and use the information to fix the problem. (high school student as cited in Nicaise et al, 2000, p.86).

Skinner and Cowan worked with students in their first year of primary teachers courses. Most of the students had expressed a dislike for science. They observed that high school science laboratory work involved little or no real problem solving, with recipe-style exercises at the lowest levels of openness. Little discovery was involved in the highly-structured tasks. Students merely followed a set of procedures with answers already known. This way of teaching science undermines the way research is conducted in the real world, where scientists conduct experiments "in a dynamic, creative, and interactive fashion, constantly observing making sense of results, hypothesis, evaluating, redesigning tests and generating new ideas" (Skinner & Cowan, 1995, p4).

Skinner and Cowan analyzed projects from students who had previously completed an open-ended practical investigation as part of their science education unit. The projects were designed to give students experience in methods used by scientists, encourage the use of good thinking and team work, and model a constructivist methodology in which deep conceptual learning is encouraged. It was hoped these investigations would increase student confidence in learning science and in turn, encourage the future teachers to implement such activities in their classrooms.

Projects from two classes were scrutinized for qualities that indicated science task competence. Written reports and diaries of fifteen student pairs were further analyzed and from those, eight students were chosen for in-depth case studies and pair interviews. Open-ended investigative work initiated by students' interests seems promising in providing motivation for engaging in previously avoided science activities. This approach also seems to encourage deep understanding and autonomous learning behavior through ownership of the problem and more active participation through internal locus of control.

Data from the case studies revealed a good level of conceptual understanding and process skill development, even for the poorest performing student. Of all the personal qualities such open-ended project work develops, it is students' attitudes that benefit the most. Some individuals for the first time have come to appreciate the relevance and enjoyment of learning science in a non-threatening environment.

Bennett, Harper and Hedberg (2001) suggest designing real-life cases to support authentic activities. Their argument is based on the premise that there is value in involving students in tasks that reflect the

way knowledge and skills are used in practice. It also supports some theorists who argue the importance of providing students with authentic experiences – experiences that reflect real-world ways of knowing and doing. Such experiences allow learners to transfer knowledge from formal education to practice, and so provide opportunities for meaningful learning. The challenge is how to incorporate these authentic activities and the realistic contexts needed to support them into the learning experiences designed for the students.

Bennett et al. (2001) worked with two groups of students enrolled in Interactive Multimedia Design, an advanced level subject in the Master of Education program. Students formed small project teams and worked with a real client to develop an interactive multimedia package, which would address a specific educational need. The nature of the task required learners to draw on conceptual knowledge and production skills developed in previous subjects, to work within a team of people with diverse interests and backgrounds, and to manage the relationship with a client who might have different expectations of the process and outcomes.

The preliminary findings indicate that these kinds of designs help students develop the skills in problem-solving, critical thinking, and reasoned judgment needed to work with complex multifaceted design problems. It is anticipated that learners will be prompted by the case analysis questions to explore the multiple perspectives and issues within the cases, to develop their own view of development processes, and in, discussion with others in the team and class, explore the wider issues.

The Challenge of Implementing Authentic Learning

Promotion of authentic learning is not always easy. Educators are faced with the challenge and the responsibility of successfully implementing authentic learning activities. As Roelof and Terwel (1997) remind us, authentic pedagogy can be achieved. However, there are certain requirements that should be put into place: construction of knowledge in a complete task environment, connection to the student's personal world, attention to the value of learning situations beyond the school, and cooperation and communication (Roelof & Terwel, 1997).

A brief survey was distributed to faculty members of the Curriculum and Instruction Department here at the State University of New York at Oswego, and to students enrolled in a graduate course in the fall of 2003. The survey asked respondents to share their own understanding of the term authentic learning. An analysis of this survey shows that faculty and students believe authentic learning should mimic real world situations. All participants felt that learning can only take place when it is meaningful, it is real, and is an extension of the learner's world. This way of learning was well summarized by a participant who responded that authentic learning:

> Has a similar context to real-world experience. That way, a student can make connections between the information or concepts learned and their application to later real world experiences. This can be accomplished in many ways, through hands-on manipulation of materials that allows concepts to be learned in a very concrete way, through simulations, through project-based learning, etc. (faculty member).

Similar interpretations of authentic learning were present in almost all the responses as expressed through comments such as “learning that takes place within real life contexts," “learning that is meaningful and applies to real life,” and “learning which makes direct connections to real life activities while being meaningful to the student."

However, a further analysis of the survey reveals a number of structural changes that need to be put in place for successful authentic learning to be implemented. All respondents indicated a need to place the student at the center of learning in three main ways: a) by how instruction is done, b) by how knowledge is disseminated and c) by how materials to facilitate learning are used.

Instruction

The role of a teacher as currently understood must undergo a fundamental shift for authentic learning to be implemented successfully. In this transition, the teacher assumes the role of the facilitator and abandons the image of the “sage on stage” cliché to enable the learners to take responsibilities for their own learning.

A respondent summarized this theme of instructor as facilitator by stating authentic learning “comes about through the person seeking what he/she wants to know and getting an answer” (graduate student). The teacher doesn’t have to know everything. Instead, learning is negotiated so that both teacher and learner come to a common understanding. Evidently, the learner gets the opportunity to show knowledge in a variety of ways as suggested by a participant: “developing performance tasks that cause students to use their own knowledge, skills and abilities to learn about tasks that are meaningful to them” (graduate student).

Knowledge dissemination

Learners need to be active participants in knowledge construction. The image of the teacher as the harbinger of knowledge and the students as passive recipients, or what Freire (1993) refers to as the banking concept of education, is challenged. The assumption that students come to the class with blank slates to be filled by the teacher is no longer true for the authentic classroom. That learners desire to be active participants in knowledge construction is summed up in the following comment: “Making what I learn my own. Understanding it in my terms related to my life” (graduate student), or as another says “… knowledge that I can use later. Something learned that will be useful for me in my daily activities” (graduate student). Ultimately, the learner should be able to “apply whatever is learned to new things, new phenomena” (faculty member).

Learning materials

There is no doubt that over reliance on the textbook or “limited worksheets” has no place in authentic classrooms. Learners need to be introduced to material “that is meaningful and useful in the real world” (graduate student). The materials the learners use should be in the “fashion of hands-on activities; activities that will bring relevancy to the information they are learning and their lives outside school” (graduate student). These kinds of materials will ensure “real learning that will be transferred to the real world (lifelong) learning. Hands-on application of concepts learned” (graduate student).

In summary, it is clear that faculty and students in the Department of Curriculum and Instruction have a clear view of what an authentic classroom should be. There is a conscious effort to “provide students with meaningful real-life learning experiences that will give them the

knowledge, practice and opportunities for reflection they need in order to become effective and successful educators to ALL children" (faculty member). Opportunities are being provided for students to learn in "real-life situations" which involves "exploration, student-initiated into topics they find meaningful using real-world situations" (faculty member).

This survey shows that the School of Education is able to communicate authentic learning principles through faculty to students. It is clear too that authentic activities are being implemented in the classroom both at the University and in the K-12 classrooms of our graduates. What remains crucial is for individuals is to share and document their successes on implementing authentic activities in the classroom. By so doing, others will build on the successes and reduce the necessity to re-invent the process.

Authentic Learning from Contemporary Educators

Each of the authors in this issue of the *Journal of Authentic Learning,* in one-way or another, documents an element of authentic learning.

Brouse and Basch (2004) bring us to the concept of authentic learning in health education as illuminated through the John Dewey humanistic approach to learning. Even though death is preventable through early detection and treatment, colorectal cancer continues to be a leading cause of death, claiming close to 60,000 lives a year.

Brouse and Basch argue that a possible reason for the low participation in screening is the way health education is conceptualized and implemented. Learners are not encouraged to create ownership of information crucial to their health. Instead, they are passive consumers with health professionals as the experts. The authors conclude that educators in the health profession need to understand the background, experiences, and interests of learners. Patient listening to the learners' needs allows educators to develop a sound education program leading to more screening of the colorectal cancer, early detection, and prevention of death.

Khamasi (2004) shares the gains made by allowing student voices in the learning process. Students in Kenyan universities learn in a system that treats the teacher as an authority and the student as a passive learner. By asking students to dialogue with her regularly through a journal, she is able to breakdown barriers that separate the teacher from the learner. This process provides an avenue for qualitative assessment, which is authentic and meaningful to both teacher and learner.

Lassonde and Reinhart's (2004) account of the dilemma teachers faced when challenged to implement a program in which they had little input, identifies the reflective process of maintaining authentic classrooms. Teachers make the programs their own by the use of inner and collaborative reflection. Ultimately, teachers make appropriate modifications to help their students bring meaning to their learning.

Long and Rule (2004) introduce a new hands-on strategy of teaching vocabulary to students attending a high-needs urban school. This pilot study examined the use of boxes of concrete objects with corresponding definitions and word-part cards to allow students to create a graphic organizer by laying out the materials. Students engaged in the manipulative activities, showing enthusiasm and obvious enjoyment. Helping students to find concrete representations of what they are learning is among the authentic strategies of literacy education.

Finally, Phan (2004) shows the parent involvement in education occurring

outside the school unbeknownst to many educators. Parents in Vietnamese-American communities may not perform as traditionally defined school-supportive parents. They may not belong to the school parent-teacher organization, rarely visit the school and may even have limited English language skills. Yet, many of their children complete high school with a 4.0 grade point average. Vietnamese parents contribute to the success of their children through constant reinforcement of cultural values, by providing love and nurturance even when resources are limited, and by emphasizing the values of hard work and sacrifice espoused through stories brought from Vietnam.

Conclusion

There is no one definition of authentic learning. Educators must make their own interpretations of what creates meaning for students in their classrooms. Authentic learning involves increasing motivation and enthusiasm, helping learners to make decisions concerning their learning, as well as identifying non traditional ways learning is enhanced and accounting for such learning. The *Journal of Authentic Learning* provides a welcome home for such documentation.

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