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ABSTRACT

Authentic assessment directly examines student performance on worthy intellectual tasks. The student determines the topic, the time allotted, the pacing, and the conditions under which the examples are generated. Authentic assessment is labor intensive, time-consuming, and expensive. Technology can provide the means for students to reflect on authentic tasks that will be part of their professional life. The graduate programs in Library Media and Computer Education at the Wright State University College of Education and Human Services in Dayton (Ohio) require a portfolio as part of students' culminating activities. The portfolio requirements are explained in an entry course, and the portfolio is finished and presented during an exit course. There is an infusion of authentic assessment opportunities throughout the entire program of study for inclusion in the portfolio. For example, students assemble videotapes with examples of lessons taught and skill-dependent tasks, and students collaborate with faculty to solve problems via electronic mail. The use of technology in authentic assessment is beneficial in that students can be assessed on their knowledge; course assignments can support a variety of learning styles; and testing activities can replicate constraints and opportunities encountered in real-life professional situations. (JDD)

Portfolios:
Addressing the Multiple Dimensions of Teaching and Learning

Technology in Authentic Assessment

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Research Question:

"What roles can technology play in authentic assessment of graduate students?"

Introduction

According to researcher Grant Wiggins, assessment is authentic when we directly examine student performance on worthy intellectual tasks and traditional assessment, by contrast, relies on indirect or proxy 'items' - efficient, simplistic substitutes from which we think valid inferences can be made about the student's performance at those valued challenges. Wiggins continues by stating that authentic assessment is labor intensive, time-consuming and expensive. Meyer clarifies the difference between performance assessment and authentic assessment by asking who has the locus of control. In authentic assessment the student not only completes the desired behavior, but also does it in a real-life context. The student determines the topic, the time allotted, the pacing, and the conditions under which the examples are generated.

Technology can be employed by both the student and the teacher to improve performance and instruction. It can provide the means for students to reflect on authentic tasks that will be part of their professional life. Teachers can enhance their instruction and lessen their workload by taking advantage of the unique capabilities of various technologies.

The utilization of technology in higher education has been minimal even though technology has been evident secondarily by "use of classrooms and labs emphasizing 'hands-on' computer-based drill and practice exercises" (Chambers).

Modern electronic classrooms encourage a change in faculty roles by supporting mentoring, stimulating and facilitating discussions. The newer electronic classroom "blocks out outside stimuli and presents situations as realistically as possible short of the use of virtual reality; thus it projects students into meaningful situations in which learning occurs faster due to the focus of attention" (Chambers).

College of Education and Human Services
Wright State University

For the last five years, the graduate programs in Library Media and Computer Education at Wright State University, College of Education and Human Services have required a portfolio as part of students' culminating activities. This requirement has evolved into a mediated document and presentation that represents an array of knowledge, skills and values obtained by the student during their degree work.

Students entering either program are required to take an entry course that introduces them to their specific program of study, expectations of the department, library resources available to them, and the basic structure and requirements of the portfolio they must complete by the end of their program. The last quarter of their studies, students complete an exit course. During this course the student finishes and presents the portfolio, explores and shares research findings within their discipline, and reads a professional book to share with the class. The entrance and exit class are uniquely scheduled in that while they are both worth two quarter hours of credit, they meet as though they are a four-hour class but for only half of the quarter. The exit class meets the first five weeks, the entrance class the last half, and both meet together during the final exam week. Two full time program faculty are responsible for teaching these classes.

Having a common entry point has proven beneficial as students begin to bond with other beginning students, questions are asked and answered, the department has the opportunity to detail expectations, and a mindset is created about the development of the portfolio. Students are instructed on how to write reflectively and are encouraged to do so as their program progress. The exit class is usually smaller than the entry class and by this time most of the students know each other and end up as sources of support and assistance. Having both classes meet at the end has been very helpful for the entering students. The instructors

leave the room near the end of the evening to give students an opportunity to talk freely about what the programs are "really like".

Most likely the infusion of technology into the assessment of these graduate students was natural and not as intimidating as this is their area of study. One program focuses on school library media preparation and licensing and the other deals with computer-based technology and instruction. There are several classes that both groups of students take and all have the opportunity to develop production skills that will enable them to create a mediated portfolio. Certainly some students enter with more skills and access to technology than others. Both programs of study require an internship near or at the end of their program.

There is an infusion of authentic assessment opportunities throughout the entire programs of study. Students are asked to perform tasks and demonstrate knowledge and skills, some of which are videotaped and available later for inclusion in the portfolio if desired. For example, students in the cataloging and classification class are asked to catalog and process a variety of materials using popular computer cataloging programs like Follett's *Quick Card* or Winnebago's cataloging program. Students learning how to do research and explore reference tools quickly find and depend on *Internet* sources like gopher, archie, and other archival areas both in-house and throughout the world. Instructors have the opportunity to share in these explorations both online through "chat" modes or by reviewing findings via e-mail. Media and television production classes permit and encourage students to create materials that will support their professional work. Telecommunications coursework involves students in actual distance learning activities and involvement in a variety of delivery modes.

Digital and optical media are part of both programs of study. Understanding how laser video disks and CD-ROM disks work to reviewing many video-based materials are critical. The department hasn't moved yet to creating their own video disks or CD-ROMs but see this as a future goal. As the graduate programs progress, video tape is used for reflection and the development of instructional materials. Students and faculty check-out camcorders and tripods to video tape activities in classrooms, media centers, computer labs and other educational facilities.

Students in the computer education program of study are exposed to a variety of hands-on classes and workshops on topics such as Classroom Applications of Computers, Desktop Publishing, or DOS and Hard Drive

Maintenance in which they can demonstrate their skill and knowledge of how to use these programs in an instructional setting.

As technology evolves, so does the variety and depth of use change. Students now as a matter of course use video editing equipment to help assemble their videotape that accompanies the written portfolio. Inserts of examples of lessons taught, interviews, and skill-dependent tasks can be easily included. Student accounts on the university network provide the capability for electronic submission of assignments and electronic office hours with the faculty.

Issues of time spent, cost and labor are shifted onto the shoulders of the students rather than remain focused on the instructors. Instructors are now able to spend their time in valid and reliable tasks such as viewing and analyzing video taped excerpts of an intern's day, sharing in the joys and frustrations of online reference searches, critiquing newly produced materials. Faculty and students electronically engage in the oral analysis of research, collaborate on solutions to real problems, and together gain confidence in performance obligations.

Specific Technology

Specific technology involved in Wright State's graduate programs include:

- video camcorders and editing equipment
- Macintosh and PC computer workstations and labs equipped with laser and dot-matrix printers and scanners
- internal and external CD-ROM playback units
- access to over a thousand educational and other computer software programs
- online computer services like *America Online, Prodigy, CompuServ* and *Internet*
- access to video disk players and a modest collection of video disk and CD-ROM programs
- access to an educational resource center with a media production lab, an instructional materials collection, a microcomputer lab, and a professional reading area
- students are given an account on the University's network that enables them to use e-mail, access to *Internet*, access to the campus libraries and accessing information and people in remote locations

Benefits

It is now possible to evaluate exit outcomes and areas of the curriculum that were usually not assessed. Traditional testing tends to "overassess student 'knowledge' and underassess student 'know-how' with knowledge" (Wiggins,

1992). The student can use also use technology knowledge and skills to achieve an effect or products.

Course assignments and class activities can be designed to support a variety of approaches, learning styles, and solutions. Technology allows for simulations and examples that are realistic in context, thought-provoking and engaging.

Technology can assist in the development of testing activities that can be designed to replicate constraints and opportunities encountered in real-life professional situations.

Using International Society for Technology in Education (ISTE) guidelines for technology competencies for all teachers, it is possible to review all programs of study for planning educational applications of technology in teacher education curricula. Even though these guidelines refer to basic teacher knowledge, skills and attitudes, all graduate education programs will find them useful in establishing instructional outcomes and determining assessment practices.

The Future

Higher education along with the rest of society is racing into a future shaped by technology. Predicting technology's impact on teacher education programs might be done by examining tends and innovations. Computer hardware has and will continue to improve in speed, size, efficiency, capacity, and cost. Software trends include transparent communication between platforms, customizable applications, and converging user interfaces. As lines separating computers, televisions and telephones blur, the information highway will offer all types of possibilities for education and entertainment. Examples could include permanent personal telephone numbers, videophones, on-demand customized products, movies and still images on-demand, customizable television and newspapers, and customized textbooks and instructional materials (Beekman).

Conclusion

The College of Education and Human Services at Wright State University, has begun to restructure teacher education by providing access to technology throughout undergraduate and graduate programs of study and to assess students using a variety of technology tools and experiences. This task is not finished and along the way we must deal with issues of what it means to provide a positive climate for learning, how to support and enhance our faculties' new roles, determining what are appropriate authentic activities, and understanding

how best to empower our students by helping them set personal and professional goals, allowing them to work cooperatively, and to engage in self-evaluation and reflection on their performance, progress and products.

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