Developing Evaluative Items for the Assessment of Faculty Performance in the Computer-Mediated Distance Learning Environment

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Background

There is a growing interest in assessing how students learn and how well they perform in technology infused courses. [1] With more opportunities for online delivery there is a need to study the impact of new technology on learners. Secondarily, we want to know more about the fear and anxiety that some student's report when presented with having to carry out course assignments online. How does this affect their performance and how do they translate this in evaluations that measure teaching effectiveness? At Kennesaw State University this research question is currently under study from a number of perspectives. This article addresses the issue of assessment from the perspective of item development. It is broken down into three brief sections in which raw items have been developed reflective of (1) how students might view their performance, (2) what fear and anxiety they may feel, and how they (3) evaluate teaching effectiveness in a technology driven classroom environment. The items presented are representative samples of a larger pool that can be found at http://www.caso.com (Reid, 1998).

Performance items:

The first measurement items below provide a theoretical foundation from which to explore the subject. [2] These were developed to determine if individuals find involvement with the online environment to be one of satisfaction and potential growth. Much of this work is based on the work of Zane Berg (1996) and (Diehl, 1989). What follows is a subset of performance-based items:

1. I feel motivated to learn how using a computer and the Internet can assist me in learning more about subjects that interest me.
2. I am the type of student who really enjoys turning in homework via e-mail and receiving a grade back from the instructor.
3. I like to work on class assignments with fellow classmates online.
4. I found that working with group members online allowed us to get assignments done much faster than if we were in a face-to-face classroom setting.
5. I made effective use of time management to get e-mail assignments turned in on time.
6. As a result of learning how to use technology in this class, I am now much better prepared for the workforce.
7. With the course syllabus placed online I was able to more effectively understand how the instructor organized the class.
8. Reflecting back on it, this course challenged me to invest time learning how to use technology that benefited my course of study.
9. It has been time well spent to learn how technology can be applied to my specific learning needs.
10. My expectations of performing well with the aid of technology in this class have been met.

Items useful in measuring student fear and anxiety in the computer-meditated environment

The second groups of items do not have a theoretical basis and were derived solely from observation as I engaged in teaching using technology:

1. I am apprehensive about using technology as a method to learn my subject.
2. My biggest fear in using a computer is not being effective in sending and receiving e-mail.
3. I have continually put off learning how to use a computer because I believe I can do as well without it.
4. I don't like the idea of being responsible for learning how to use technology.
5. I'm confused by class assignments that are posted electronically.
6. Using the Internet for research will create more problems for me than it will solve.
7. When I found out that this class was heavy on technology use, I had some serious doubts about my ability to perform well.
8. The idea of learning online and not seeing classmates for extended periods is not consistent with my style of learning.
9. I am troubled by the idea of having to learn how to use technology while at the same time learning my subject matter.
10. I came into this class expecting to be taught the subject matter, not about technology.

Faculty evaluation items

The third and final group of items helps us look closely at how we are perceived administering our courses:

1. The instructor was knowledgeable about the use of technology.
2. To help me do well learning how to use technology, the instructor provided detailed explanations in class.

3. As a result of this class my interest in the use of computer technology has grown.
4. There was real value in what the instructor taught regarding using Internet technology.
5. In-class instruction on the use of electronic technology was appropriate.
6. When necessary, the instructor took time to e-mail the class information to clarify assignments.
7. Overall, I would rate learning to use technology as useful to my future professional and workplace needs.
8. The instructor was patient with me while I learned how to use technology.
9. An e-mail list of class participants was made available to all members of the class.
10. The instructor was effective at administering the course online.

Discussion

The infusion of technology may present students with new and exciting opportunities to learn subject matter, but it can also create substantial problems for those unsure of how technology can serve as an adjunct to their individual learning needs (Downey, 1998). Ideally, technology benefits those, whose talents and abilities allow them the flexibility to use it to its fullest capacity. Anecdotal and some scholarly evidence suggest that while successful in traditional classrooms, not all students perform equally as well in electronic learning environments. Often times, students who are working and learning in virtual classrooms become overwrought with fear of isolation. They report a need to be in close interpersonal contact with the instructor. Others talk about their anxiety with the use of technology. Modem and hardware configuration problems, long waits for tech support rank high among frustrating experiences. Taken together these issues often result in evaluations remarking that while challenged, the use of technology does not serve a particularly useful purpose at the given moment.

The raw items presented are ideal for inclusion in pre-existing faculty evaluations. They can also be used to spark further item development across a wide range of disciplines and subjects. While they do not attempt to get at the richness of qualitatively derived written responses, they do present statements that should elicit feedback specific to the situational context in which they are gathered. Colleagues are encouraged to use these items to measure their students' self-perception of performance or to gain insight into the various fears and anxieties they report when using computers and technology for the first time. Ideally the results can be used to gauge what is working and pinpoint problems which interfere with teaching pedagogy and method. At the departmental level chairs may choose to assign their evaluation committee the task of redesigning current instruments. [3] Certainly at the college or university level there should be movement and discussion to address the need for accurate and flexible measurements that take into account the role technology plays

Conclusion

In presenting these items I have attempted to create a pool that can be either adopted or modified for specific subjects and needs across disciplines. Having a good understanding of how students' view the use of web-based technology in the traditional and electronic classroom is critical to developing an effective teaching strategy. How fears and reported anxieties affect on learning is also in need of investigation. The data gathered from instruments that are sensitive to technology infusion can go far in helping us become better at delivering coursework through various technological modalities. A pressing need exists to move steadily towards a revamping of present instruments, which appear to be tied to closely to "Carnegie-based" teaching models. [4] In the meantime, those who use technology in their teaching must be cautious to make sure that they are being evaluated with a set of criteria that accurately measure these efforts.