

Chapter 16

The Impact of Technology on Assessment and Evaluation in Higher Education

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ABSTRACT

This chapter explores the impact of technology on assessment and evaluation in higher education. The impacts on classroom, program, and organizational assessment are discussed. Both formative and summative assessments in classrooms have been impacted by emerging technologies. However, the impact of many of the technological tools developed by measurement specialists has not been as widespread as one would expect given the age of many assessment technologies. Nevertheless, there remains a great potential for new measurement technologies to significantly improve classroom assessment practices. Technology for organizational assessment has continued to boom in light of the dual push for both accountability and continuous improvement by accreditors. The social impacts and burden of organizational assessment and evaluation are discussed. Overall, it is concluded that in order to evaluate the impact of technology, attention needs to be paid to the consequences of both classroom and organization assessment.

INTRODUCTION

There is no question that new technologies for assessment and evaluation in higher education have impacted students, faculty, and administrators. It

has created more options for creating assessments that can be used to improve student learning. Additionally, it has created more efficient ways to assess more complex and authentic academic products like projects and portfolios that students can create. Further, new technologies have created new kinds of products that could be used as alter-

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natives for assessing students. For instance, Web quests (Dodge, 1995), blogs, presentations done with PowerPoint, web page development, evaluation of student reasoning in threaded discussions are just a few of the kinds of products that have been used as alternatives to traditional products like essays, speeches, tests, projects, simulations, and other traditional assessment tools. Technology has facilitated the discussion of performance and alternative assessments that claim better validity than traditional forms of assessment (Frederiksen & Collins, 1989). So technology can make the assessment activities that people have traditionally engaged in more efficient, can change the media for presenting them, or can transform the way assessment occurs by introducing new forms of assessment activities.

It is not possible to talk about assessment without addressing evaluation activities based on assessments. Evaluation involves making judgments of merit or worth about the work of a student, a program, a unit, or even the institution. Evaluation can be formative, providing provisional knowledge that can be helpful for improvement, or summative, providing grounds for deeming worthy or unworthy a student's work, a program, or whatever entity that is being evaluated. These more summative evaluation judgments can have significant impacts on the individual or organization being evaluated. A student might be dismissed from a program, a program might be funded at a higher or lower level, a unit or even an institution might be closed down. These kinds of consequences point toward the importance of what Messick (1994) called consequential validity. In looking at any assessment activity, it is important to consider whether the use for an assessment will yield valid conclusions that lead to appropriate consequences. Hence, when examining the impact of assessment activities on people in higher education, the focus will be on the issue of consequential validity.

To help frame the discussion of this issue it is also helpful to think of assessment and evaluation

as a process of communication (Van Haneghan, 2009). Generally, assessment situations are aimed at providing someone with some kind of information. It could be a professor providing a student with information about their success or failure in a course. It could be a professor learning that the students leaving his or her program are unable to meet the competencies he or she has taught. The meaning of that information is subject to a variety of different interpretations. For example, a student might view failure in the course as meaning he or she does not have the ability to succeed. Alternatively, he or she could interpret failure as a sign that the professor was not a very good teacher, or that the assessment was unfair. The professor might attribute the failure of students in a program to a variety of factors. For example, the professor might attribute the student failure to changes in student selection into the program rather than to problems with his or her teaching.

Also, just like any other communication, it generally has an intended message, but the intended message is not always understood. For example, often the purpose of student assessments is to provide feedback for performance improvement. However, that purpose is often missed in the concern students have over grades. They may see the information as having summative purposes and not cull out information that could lead to better performance on later assignments or on ways to improve their skills in the future. Likewise, program assessments may be viewed as busy work by faculty rather than opportunities to improve the program.

Also, just like any other communication it is subject to limitations of what people can comprehend. For example, feedback from a professor might be too complex for students to understand given their level of expertise. Further, given the limits to working memory capacity and the way information is presented, the amount of assessment information might simply be too much to process in working memory (Van Haneghan, 2008). If students have not had prior experience

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