THE IMPACT OF TECHNOLOGY ON THE REFLECTIVE PRACTICE AND ASSESSMENT IN A TEACHER EDUCATION PROGRAM: THE ACCREDITATION STORY OF A SMALL PRIVATE UNIVERSITY

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ABSTRACT

The purpose of this paper is to describe the experiences of a small, Catholic university as it began implementing the various functions available through LiveText. LiveText represents a straight-forward tool for collection, analysis, and presentation of candidate artifacts. The LiveText platform was expected to allow to do long-term program improvement through a systematic approach to assessment. It was also anticipated that LiveText, as advertised, would allow to demonstrate the successful achievement of teacher education candidate standards for the upcoming accreditation visit of the campus. Complying with accreditation requirements through the use of this web-based tool resulted in more immediate and positive, and unanticipated effects on program-wide reflection, instruction, and assessment practices.

As the "product" of data analysis to provide the necessary information for programmatic discussions was awaited the more subtle yet immediate impact the "process" of using the new technology had on the day-to-day operations was recognized .While as individual professors, faculty had always considered the careful creation of appropriate assignments and assessment tools, the department-wide use of standard templates, scoring guides and forms to foster more reflective, coherent and consistent assessment practices.

This presentation will discuss the various ways that the use of LiveText had on all aspects of the teacher education program. Faculty collaboration, clarification of program goals, overlapping assessment tools and systematic application of their own revised conceptual framework standards resulted in a more coherent and, a more productive learning experience for the teacher education candidates of the campus.

INTRODUCTION

The purpose of this article is to describe the experiences of a small private university's teacher education program with a web-based technology tool originally acquired to meet accreditation requirements (NCATE Standard 2) (NCATE, 2002). Complying with this requirement resulted in important positive, if unanticipated, effects on program-wide reflection, instruction, and assessment practices.

Literature Review

A plethora of research studies examine the role that technology plays in teacher education. With an ever increasing amount of research, various strands of technology use in teacher education have developed examining electronic portfolios (Evans, S., Daniel, T., Mikovch, A., Metze, L., & Norman, A., 2006; Sunal, C. S., McCormick, T., Sunal, D. W., & Shwery, C. S., 2005; Woodward, H., & Nanlohy, P., 2004), online learning communities (Cosgrove, M. S., 2002; Fottland, H., 2002; Strudler, N., & Wetzel, K., 1999), candidates' use of technology to impact K-12 learning (Blocher, J. M., Echols,

J., de Montes, L. S., Willis, E., & Tucker, G., 2003; Fay, R., & Hill, M., 2003), and faculty's use of technology to model best practices and increase teaching effectiveness (Teclehaimanot, B., & Lamb, A., 2005; Teclehaimanot, B., & Teclehaimanot, B., 2005).

However a very extensive literature search found a dearth of research on the use of technology for accreditation purposes, the focus of this study. The authors consider this article as a first step to address this important aspect of technology use.

Initial Expectations of Technology

In 2003, the Department of Education at The Catholic University of America (CUA) invested in a web-based environment called College LiveText edu solutions™. *LiveText* is a suite of web-based tools for (1) creating assignments and scoring guides to assess candidate performance, (2) managing data collection and analysis on individual, course, program and unit levels, and (3) developing an online exhibit room for accreditation visits. From lesson plans, portfolios, and papers for scoring guides, surveys, and accreditation data reporting, this web-based environment offers a wide range of functions and capabilities to meet the technological expectations set forth by NCATE.

The original motivation for the acquisition of this technology tool was to meet NCATE accreditation requirements for documenting systematic assessment practices (Standard 2) and collecting candidate data concerning knowledge, skills, and dispositions (Standard 1) as part of the larger unit assessment (NCATE, 2002). Faculty created templates with directions describing the preferred structure for each assignment as well as scoring guides for assessment purposes. The candidates then submitted their assignments through the web-based system, and qualitative and quantitative feedback from the professors was delivered and archived on each artifact. The electronic versions of the assignments and candidate scores were available not only to the course professors and specific candidates but also to program administrators for the purposes of data analysis.

From the stored data it became possible to aggregate and to disaggregate scores in many ways at a click of a button. Program administrators were able to sort on several levels including individual candidates, courses, yearly cohorts, majors, by instructors or semesters, the unit as a whole or other demographic groups. This data-collection allowed for tracking of performance even if various sessions of the same course were taught by different professors. At the unit level, once the database was established, program reports could be easily generated using the above mentioned criteria. A particularly desirable feature of this web-based environment was that relevant artifacts were automatically linked to the tables generated.

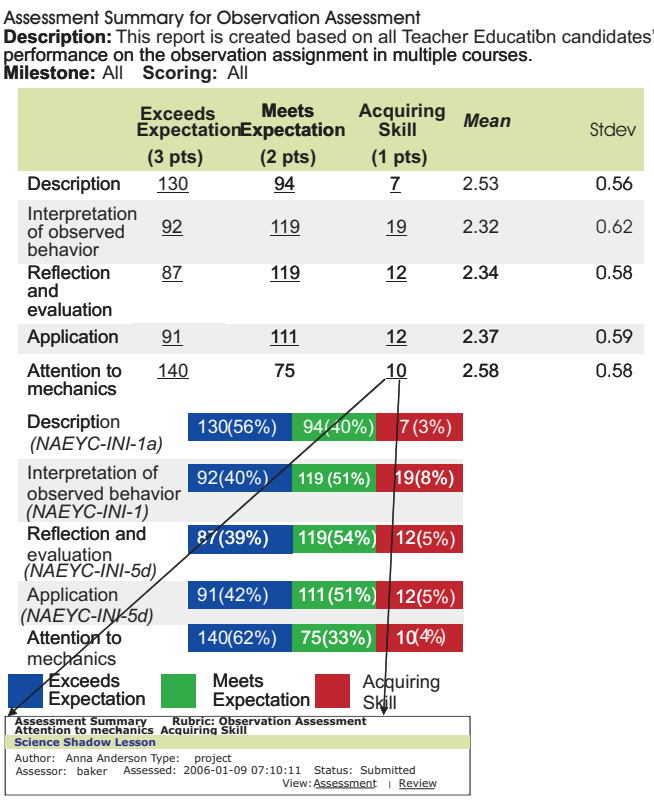

Fig. 1. Sample data report and field expansion to show specific candidate artifacts.

This meant that a click on a particular field within a table would pull up the related artifacts for that particular field (see Figure 1).

In this electronic environment various reports can use the same artifact without requiring multiple copies of the same document, and program coordinators no longer have to rely on the record keeping of part-time faculty for long-term data collection.

Another advantage of this technology is that classroom professors can find samples of outstanding work even if they have not taught the course before. Samples can be selected based on performance level in a particular area. For example, it is simple to find a strong literature review even if it is embedded in an average action research paper or a detailed description in an average observation paper.

Actual Impact of Technology

This web-based environment continues to serve as an infrastructure for data-based decision making for program improvement as had been originally anticipated. What was not expected was how the process of designing and implementing the various templates, scoring guides, and forms improved the program coherence before any data were collected. The use of the technology resulted in a dramatic improvement in the department's focus on its own reflective practice as a unit. The department has found that the technology has driven the faculty to face questions of on-going concern that have been too easily avoided when working in isolation on a specific course rather than program with wide outcomes. These questions addressed issues such as individual professor versus program expectations, individual candidate versus cohort versus program performance, anecdotal versus data-based decision making, and the systematic application of the program's stated conceptual framework.

Communication

Prompted by the new technology tool, issues related to departmental policies and goals have been debated in the liveliest discussions that the faculty could remember for more than ten years. While faculty are not expected or required to use LiveText for all course assignments, templates and scoring guides have been developed for all key assessments on the program and unit levels. This process has required faculty to compare course and program goals to see how their individual courses contribute to the overarching structure and to establish common expectations for success. While each faculty member is encouraged to use his or her own talents and interests to present the material in the most effective manner, it is essential that common assignments (observation papers, lesson plans, etc.) have clear and consistent expectations across courses. This is an important consideration for courses taught by part-time adjunct faculty. As a result there has been improved communication between the full and part-time professors. Even those professors who teach a single class are trained not only on the use of the technology tool but also on the department's conceptual framework and program specific goals, and areas that had been identified by the department as needing attention.

Collaborative Practice

A significant increase in meaningful collaborative practice has been most clearly seen in the discussions among the core teacher education faculty concerning the expectations across courses and the purpose of each assignment in light of larger programmatic goals. These discussions have resulted in significant changes in assignments and the explicit role of reflective practice in both course content and faculty conversations. One example of this type of shared assignment between courses is being piloted in the junior level method classes. A new form of thematic unit, that assigned in multiple

courses, requires explicit use of the conceptual framework, cross-disciplinary planning and assessment, and references to current practitioner research literature. In the new web-based data system, program coordinators will have immediate access to data comparing the different professors' use of the scoring guide to foster continued discussion of expectations, grading, and areas for revision.

In another type of collaboration, the team of professors who have at one time or another taught a specific graduate level course entitled Psychology of Learning for Diverse Populations, worked together to redesign the key assessment associated with the course. This particular assignment is an observation paper in which candidates are expected to explicitly tie the theories discussed in the course to P-12 student behavior and/or performance to make recommendations for future intervention. The new project requires candidates to use the departmental conceptual framework to focus and guide their reflection, prompting them to consider multiple perspectives and moral implications of their instructional choices. This collaboratively designed key assessment reflects the shared expectations of all relevant faculty and allows for comparisons through systematically collected data.

Conceptual Framework

CUA's Conceptual Framework, which guides CUA candidates' reflection and faculty's reflective approach to teacher education, places the learner (both the teacher candidate and the P-12 student) at its core and incorporates the technical aspects of teaching with moral considerations to facilitate deliberation of the multifaceted nature of every learning environment. It addresses three dimensions in education: components of reflective decision-making, elements of the learning environment, and educational dilemmas (Vaccaro, E. & Nagy-Rado, A., 2006).

The faculty's increased attention to common assignments and expectations has allowed the department to address the overt application of the conceptual framework in each required course and key assessment. Each of the sophomore level classes, for instance, presents the conceptual framework as a whole and then provides scaffolded assignments to encourage the candidates to explore specific aspects of the framework through meaningful field experiences. A course on the role of education in society emphasizes the types of dilemmas that face all educators through observations of local schools, while the course on educational psychology requires candidates to consider the multiple elements of any learning environment through their own tutoring experiences. Each key assignment explicitly requires candidates to use the conceptual framework in their written reflection, and the scoring guides include specific grading criteria to indicate candidates' developing reflective skills.

Standards

One additional advantage of the web-based environment is the ability of both professors and candidates to easily access any set of standards including those of Specialized Professional Associations (SPA) and those for P-12 students in any state. The technology allows candidates to effortlessly include the relevant P-12 standards in their own lesson or unit plans, improving their own understanding of how standards can be used to support instructional planning. Faculty members have created a set of standards specifically addressing CUA's conceptual framework, which has also been uploaded into the technology tool. All documents in this web-based environment including templates for directions, scoring guides for assessment, syllabi, evaluation forms, and surveys have been meticulously aligned by faculty with relevant SPA and CUA conceptual framework standards.

Having ready access to these standards has resulted in a

shift in the role the standards play in the department. Previously, standards were reserved for program level analysis.

In previous accreditation cycles, individual program coordinators took the responsibility of documenting how course materials, experiences, and assignments adequately prepared candidates for the profession. While that has not changed, a significant increase has been observed in the level of engagement by the rest of the faculty. Each faculty member must consider what sets of standards apply and how achievement of specific standards is being assessed when creating course syllabi and requirements. It is now possible for faculty wide discussions on the role of standards to take place in a manner that was inconceivable three years ago when such discussions would be limited to abstract debates at faculty meetings. With the introduction of the technology tool, inclusion of the standards became an expected practice in the creation of any document. This improves not only programmatic assessment but also the quality of modeling provided for candidates who expect to document achievement and planning using P-12 standards.

On-going development/Future plans

The program coordinators have found the new tool as invaluable in preparation for CUA's upcoming accreditation visit and have been even more pleased at the resulting improvement seen in the quality of the teacher education programs. It is important, however, to note the challenges the technology has presented to many faculty members. Service providers at LiveText have been very responsive to the needs of the department and have made important changes to the user interface and functionality of the technology as needs evolved and accreditation requirements changed. Even though these changes have been initiated by the LiveText user community and, therefore, address specific weaknesses identified by the users, there has been a corresponding challenge of training faculty to keep up with the updates when they use the system fairly sporadically. It is hoped that the demands on the faculty will be reduced, as available departmental resources and the number of local "experts" who can help the more occasional user is growing each semester.

Those faculty members who have participated in cross-course discussions of goals and expectations have been able to see the advantage of using a more systematic, electronic, program-wide data collection system. Professors who have had a more peripheral role in the teacher education program tend to view this technology as an obstacle or an added responsibility rather than as a tool for improvement. The initial expectations for the system were almost completely aimed at program assessment and accreditation. Program administrators hope that with continued exposure and support, these faculty members will come to value the system as a key element in their own reflective practice. As they become aware of an authentic purpose for the data collection beyond that which can be viewed as an arbitrary, or even meaningless, requirement imposed by an external accreditation agency, they become more active participants in this growing conversation.

Conclusion

The initial purpose for instituting the data collection system was to satisfy the NCATE requirement for documenting and assessing unit performance. By using a web-based data collection tool, CUA has been able to organize candidate artifacts and analyze performance far more simply and completely than was thought possible. The program coordinators had assumed that the data analysis would allow to make long-term improvements to the teacher education programs based on the data collected. What

had not been anticipated was the much more immediate effect that the use of the technology had on instruction and assessment.

Before the advent of the new technology tool, faculty had discussed the idea of each course as part of a larger whole as the need for more intradepartmental conversations on philosophy and goals arose. As it is often the case, however, these conversations were not embedded in concrete terms with productive outcomes but only as abstract concepts. The use of the technology has fostered an environment in which meaningful conversations on the role of the conceptual framework, instruction, and assessment have been translated into concrete plans explicitly addressing programmatic improvement, implemented at all levels of the teacher education program. For the first time in years, the teacher education program is using the reflective practice model that faculty have been presenting to CUA candidates. Data based on candidate artifacts is fueling discussion on the needs and interpretation of various stakeholders in light of larger departmental goals and expectations. The teacher education program's lofty goal is to see this type of technology infrastructure that reflects in all other departmental programs, from the para-education program to the Ph. D. level preparation. In a small department, where there is significant overlap between the teaching responsibilities in various degree programs, the teacher education program administrators hope that as other faculty members would come to see the technology as a meaningful component of teacher education program improvement, and they hope to expand the use of this type of system to non-teacher education programs as well.

It is evident that the new and improved technological capabilities have allowed faculty to make informed decisions about the CUA teacher education programs, but, perhaps even more importantly, these technological innovations have also made it possible to completely implement the educational philosophy of reflective practice that is taught in courses but had been incompletely modeled to CUA candidates in the past.

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