Peer Review and Organizational Learning: Improving the Assessment of Student Learning

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Abstract

Virginia's assessment of student learning outcomes has been lauded by national organizations for its respect of institutional autonomy while providing meaningful information on student learning outcomes. Virginia recently implemented a process by which each institution's plan to assess student learning outcomes are evaluated by peer institutions. The application of peer review to plans for assessment is described in greater detail and critiqued using the theoretical lens afforded by organizational learning. The article concludes with discussion and recommendations for the improvement of the peer review process as it applies to assessment.

Introduction

Virginia's assessment of student learning outcomes has been lauded by national organizations for its respect of institutional autonomy while providing meaningful information on student learning outcomes (Epstein, 2005). Virginia recently implemented a process by which each institution's plans to assess student learning outcomes are evaluated by peer institutions. The application of peer review to plans to assess student competency is described in greater detail and critiqued using the theoretical lens afforded by organizational learning. The article concludes with discussion and recommendations for the improvement of the peer review process as it applies to assessment.

In order to best understand the application of peer review to the process of competency assessment in Virginia, it is necessary to begin by describing the process of competency assessment in Virginia and the recent addition of peer review to this process. Following a description of assessment of student learning in Virginia, a brief discussion of organizational learning is conducted that includes an operational definition of the term and a tentative description of the organization in question. Next, the use of peer review in higher education is surveyed with particular attention paid to the benefits and shortcomings of the process. Finally, a discussion of improvements to peer reviewed student outcomes assessment is undertaken and recommendations are made using the theoretical constructs provided by organizational learning.

It should be noted from the onset that the topics of organizational learning, peer review, and student competency assessment are far broader than the limitations of this article. This article seeks to illuminate the areas of critical overlap between organizational learning, the use of a peer review process, and the assessment of student learning in an attempt to improve the assessment process.

Competency Assessment in Virginia

In 1998, the Governor of Virginia charged a Blue Ribbon Commission with evaluating the needs and goals of higher education in Virginia for the 21st century. Among the specific charges to the Commission, the Governor requested that the Commission, "advise the Governor on how the institutions, administrators, and faculty that comprise Virginia's system of higher education can be made more accountable to their stockholders (the taxpayers, the parents, and the private contributors who finance the system) for the quality of the academic content and the outcomes accomplished through the investment of public funds." (Executive Order 1, 1998). The Commission concluded that evidence of high quality outputs is essential in assuring stockholders that the substantial investment made by the Commonwealth in higher education is producing results (Governor's Blue Ribbon Commission on Higher Education, 2000). In order to provide this assurance, the Commission identified six areas of core competency—areas of knowledge and skill that supersede majors, disciplines, and institutional missions— recommending that these areas be assessed regularly and the results of such assessments be shared with the public. The core competencies identified by the Commission included written communication, mathematical analysis, scientific literacy, critical thinking, oral communication, and technology.

The Code of Virginia was subsequently amended such that the State Council of Higher Education for Virginia (SCHEV), Virginia's coordinating body for higher education, was charged with "develop[ing] in cooperation with institutions of higher education guidelines for the assessment of student achievement" (Code of Virginia, 2000). Biennially, and starting in 2001, each public four-year institution of higher education in the Commonwealth submitted plans to assess competency in two speci-

fied areas. The first of three rounds of assessment required institutions to submit plans to assess student competency in written communication and technology/information literacy to SCHEV for approval one year prior to submitting results. SCHEV staff reviewed the plans in light of each institution's mission and provided feedback with notification of approval. The same process was used in 2003 when plans to assess student competency in scientific reasoning and quantitative reasoning (adapted from the Blue Ribbon Commission's recommendation to assess scientific literacy and mathematical analysis, respectively) were submitted to SCHEV staff for review and approval.

In 2005, SCHEV staff instituted a process of peer review, by which each institution's plans to assess critical thinking and oral communication were shared with two other institutions in the Commonwealth for the purpose of (a) providing each institution with expert feedback; and (b) initiating inter-institutional communication on topic of competency assessment plans for the purpose of providing mutual benefit to reviewer and the reviewed while spurring creative approaches to assessment. Some six months before the peer review process began, SCHEV staff solicited the opinion of assessment professionals regarding the use of a peer review process in place of a review of institutional plans to assess student competency conducted exclusively by SCHEV staff. General support for such a process was expressed by assessment professionals.

In the spring of 2005, each of Virginia's 15 public four-year institutions submitted plans approved by its chief academic officer to assess student competency in critical thinking and oral communication. Plans included a definition of the competency used by the institution, criteria and standards for determining competency, and a methodology for scoring and deeming students competent. Each institution's designated assessment coordinator was then provided with plans from two other institutions in the Commonwealth: one institution that was of the same Carnegie classification and one that was from a different Carnegie classification (Carnegie Classification, 2000). Each institutional representative was encouraged to form a committee of knowledgeable staff from his or her institution to review the four assigned competency assessment plans (two competencies from two universities) and provide written feedback in accordance with a set of suggested components. Examples of the suggested components provided to referees for the purpose of evaluating an institution's plans to assess competency read, "adequacy of criteria and standards for determining competency" and "appropriateness of competency to the mission, goals, and objectives of the institution" (SCHEV memo to assessment officers, 2005).

Peer reviews were collected and compiled by SCHEV staff who acted as editors of the peer review comments much in the way that a journal editor does of peer reviewed publication. SCHEV staff read each plan and each review before sharing anonymous feedback with each institution. The feedback outlined the concerns and praise raised by referees in addition to concerns and praise generated by SCHEV staff. The process resulted in a single blind review, in that the reviewers were explicitly notified of the institutions they were reviewing, while recipients of review were not notified of the institutions that conducted the review. A double blind process was not possible given that referees were required to compare each institution's plans to assess competency with the institution's mission, goals, and objectives. Each institution received peer review comments within 45 days of submitting plans to assess competency and one full year before the results from the competency assessments were due.

Organizational Learning

Organizational theory is the study of how "groups and individuals behave in varying organizational structures and circumstances" (Shafritz & Ott, 2001, p.1). The study of organizational theory helps those that manage higher education to understand complex concepts (Berger, 2000; Birnbaum, 1988). Further, the application of organizational theory to complex concepts allows for a more complete understanding of the concept and the ability to take wellinformed action (Berger 2000, Birnbaum, 1988; Bolman & Deal, 2003; Morgan, 1997). The term organizational theory refers broadly to the theoretical frames and perspectives applied to the study of organizational behavior (Morgan, 1997; Shafritz & Ott, 2001). In an effort to better understand the processes of peer reviewed student learning assessment and make recommendations for its improvement, the theoretical frame of organizational learning will be applied to peer review and student competency assessment.

Organizational learning is, in itself, an umbrella term for a set of organizational theories that ascribe learning characteristics to organizations (Morgan, 1997). Taxonomists of organizational learning have classified its theories in a number of ways (Argyris & Schön, 1996; Dierkes, Berthoin Antal, Child,

& Nonaka, 2001; Morgan, 1997). Dierkes et al. (2001) distinguish between theories that speak to the creation of new knowledge and those that speak to the sharing, using, and storing of knowledge. Morgan (1997) distinguishes between theories associated with acquiring, processing, and using knowledge and those associated with storing and accessing knowledge. Argyris and Schön (1996) distinguish between a practically-oriented branch of organizational learning and a scholarly-oriented branch of organizational learning that is distant from practice. The immediate discussion of organizational learning, as it applies to the peer review process of plans to assess student learning outcomes, will begin by focusing on how knowledge is practically shared, processed, and used. The discussion will then migrate to the formation of new knowledge.

In order to best understand how organizational learning will be applied to the concept of peer review and ultimately the assessment of student learning, it is necessary and appropriate to provide a functional definition of organizational learning that narrowly describes its use in this process by which organizations share, process, and use knowledge by scanning the environment, comparing what is observed to operating norms, and correcting accordingly. The act of scanning, comparing, and correcting reflects a single loop learning orientation. A double loop learning orientation to organizational learning, in which existing norms are questioned, will be introduced in the discussion section.

Community of Practice

Given the existence of learning organizations, it must be established that an organization among assessment professionals in the Commonwealth of Virginia exists if the theory is to be applied to the discussion at hand. Wenger and Snyder (2001) coined the phrase community of practice to describe people informally bound by shared expertise who, in turn, share knowledge beyond the traditional boundaries of their formal organization for the purpose of creatively approaching shared problems. Looking at this definition in parts, the argument can be made that assessment professionals at Virginia's public institutions of higher education (a) contain shared expertise; (b) are formally bound to their own institution; and (c) are encouraged to share knowledge with colleagues for the purpose of approaching shared problems through a process of peer review.

The argument that assessment professionals in Virginia constitute an informal organization is not without its flaws. First and foremost, the association of assessment professionals formed through peer review is not a free association, as the members have been, to some degree, compelled to participate. But the very nature of organization results in variation in participation levels and willingness to participate among members (Bolman & Deal, 2003; Morgan, 1997). Second, members of the loosely coupled organization of peer reviewers are not bound to creatively approach problems. Yet the most recent assessment of the critical thinking and oral communication core competencies were thought to be the most difficult competencies to assess of the six that Virginia has identified. Peer review, as a mechanism for sharing information, was intended to heighten creative problem solving with regard to the development of plans to assess critical thinking and oral communication.

Peer Review

Peer review is a widely practiced form of certifying quality in higher education. Peer review has been described as a formative evaluation process in which participants work collaboratively to strengthen a product (Keig & Waggoner, 1994). Common uses of peer review in higher education include the awarding of research funds, evaluating academic publications, reviewing faculty performance for tenure and promotion, and granting regional and disciplinary accreditation. Peer review is generally said to encourage critical examination, promote the exchange of ideas, reduce non-academic interference, guide academic discourse, and reinforce academic values (Berkencotter, 1995). In addition to its benefits, peer review has been criticized for suppressing innovation, promoting cliques, and providing irreproducible results (Harnard, 1982; Peters & Ceci, 1982; Rothwell & Martyn, 2000). Focusing on the benefits and shortcomings of peer review, it is important to draw connections between peer review and organizational learning where such connections exist.

An alignment may be identified between the constructs of organizational learning defined previously and the benefits and shortcomings of peer review. It is this alignment that permits for a better understanding of peer review, an improvement of its practice, and an improvement in the assessment of student learning. Peer review, like the single loop learning process of organizational learning, assumes the existence of norms by which a peer's work may be judged. Through critical examination, norms are

used to compare a peer's work to accepted practices. If a peer's work deviates significantly from accepted norms, then an attempt to correct will likely occur. Harnard (1982) refers to this action of peer review as "selfcorrective", in the sense that experts in the disciple are maintaining the discipline's accepted norms. The same terminology is used by organizational learning scholar Morgan (1997) to describe single loop organizational learning. Peer review, as a form of organizational learning, uses norms to guide a self-corrective process.

Self-correction exposes peer review and single loop learning to a major criticism. Single loop learning is, by its very nature, a perpetuation of the norms of the organization. Like peer review, ideas that deviate from the norms of the organization are corrected. The perpetuation of norms can lead to the suppression of innovation in peer review and the inability to adapt and change in an organization. Up until this point, the discussion of organizational learning has been confined to the single loop learning process.

Discussion

In order to overcome the impediment to organizational learning that is created by the suppression of innovation, a new view of organizational learning must be adopted. Double loop learning encourages participants in organizational learning to challenge the norms that guide corrective action (Morgan, 1997). The cliché "thinking outside the box" is often used to describe the process of challenging existing norms. When faced with an idea or practice that deviates from existing norms, double loop learning encourages the learner to challenge the norms rather than immediately discard the innovation, as single loop learning would dictate. For example, a method of assessment that does not resemble the status quo may be discouraged by peer review that is guided by single loop learning. The introduction of double loop learning permits the reviewer to challenge the status quo and further explore the innovative technique through a dialogue with its creator.

Perhaps the strongest bond that exists between peer review and organizational learning is that which is exposed only when double loop learning is introduced. Organizational learning has the potential to promote the mutual sharing of knowledge (Argyris & Schön, 1996). Double loop learning furthers this sharing of knowledge by permitting for the creation of new knowledge. Peer review also seeks mutual benefit through the sharing of information. Peer reviewers and those receiving review can benefit from the exchange afforded by the peer review process. If the mutual benefits of peer review are to be realized, an iterative process must be instituted (Rubin, 1982). The peer review of plans to assess competency in critical thinking an oral communication fell short of a process that was truly iterative, in that reviewers were only afforded a one-time, one-way opportunity to address an institution's plans to assess competency. An iterative process would provide the opportunity to review, rebut, and revise in a cyclical method until a suitable finished product is reached.

The following suggestions are made in an effort to improve the peer review process as it applies to the assessment of student learning. First, double loop learning requires that the norms used to guide decision making and corrective action (i.e. the norms that guide an organization) must be continuously challenged (Morgan, 1997). In efforts to advance new ideas and promote innovation in student outcomes assessment, operating norms and assumptions must be confronted, ultimately resulting in their affirmation or their dismissal and replacement. Morgan suggests that organizations interested in fully developing double loop learning strategies (a) anticipate change; (b) develop capabilities for questioning operating norms; and (c) foster emergent organization.

Second, a balance must be struck between innovation and regulation. Steps must be taken to foster innovation and the free exchange of ideas, as is required in a community of practice, while still engaging in a process that is ultimately regulated by state code. Bureaucracies are widely criticized for stifling innovation. At the same time, a level of consistency and order must be achieved to comply with the intent of the policy that aims to provide substantive information on the quality of student learning. Goodsell (1994) notes that the ability to stabilize and provide predictability are among bureaucracy's greatest virtues. In all, forces for innovation must confront forces for stabilization and predictability.

Finally, in order to achieve an environment in which innovation is fostered and properly balanced, communication must be optimized (Berkencotter, 1995). Managers of information must act diligently and deliberately to establish networks that support collegial interaction. Organizers of peer review should consider how a truly iterative process may be implemented if the full benefits of peer review are to be realized. Further, members of the organization must be willing to engage in ongoing

and substantive discussions on what constitutes good assessment. The original intent of using peer review in evaluating student competency assessment plans was to (a) provide expert feedback, and (b) encourage inter-institutional communication for the purpose of providing mutual benefit to reviewer and the reviewed while spurring creative approaches to assessment. Given that the plans reviewed have yet to be fully implemented, it is too soon to determine if both aims have been achieved. Evaluation of the first aim will require the completion of the assessment cycle to determine if the expertise of peer comments provided greater value than those of SCHEV staff. The second aim will also require the sort of reflection that is best accrued with time. Ultimately, the literature suggests that a double loop learning process will contribute to mutual learning and the use of innovative assessment techniques, if the proper conditions are established. Participants and organizers (i.e. the reviewed, reviewers, and editors) must engage in an ongoing discussion that seeks to clarify good assessment without suppressing innovation.

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