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Recognizing and Disseminating Innovations in Scholarly Teaching and Learning to Support Curricular Change

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Introduction

Over the last four years, the *Education Section of INNOVATIONS in Pharmacy* has worked to support scholarly teaching, the scholarship of teaching and learning and the recognition of innovation in pharmacy education.

Like any education related publication, we are interested in supporting scholarly teaching (ST) and the scholarship of teaching and learning (SOTL). However, we are particularly interested in helping to support curricular change. As a result, we are specifically working to broaden and strengthen pharmacy education's scholarship in a few key areas.

First, we seek to support work on the adaptive challenges in pharmacy education through the dissemination of innovations. To succeed into the future, the academy will need to innovate in our methods for designing, delivering and evaluating pharmacy education. This *Section* provides a venue for examining, debating and promulgating those innovations.

Second, we are developing new options for disseminating scholarly work in SOTL through the creation of new article types. In particular, we are interested in bringing promising areas of investigation to the forefront, substantiating new directions by establishing solid foundations, recognizing early work as it emerges and promoting rich and robust scholarly lines of inquiry.   To this end, guidelines for Case Study Reports and Idea Papers are available.[1]

This paper will: 1) describe papers of interest, 2) provide working definitions of innovation, scholarly teaching and the scholarship of teaching and learning, and 3) outline general review criteria for the evaluation of papers submitted to the *Education Section of INNOVATIONS in Pharmacy.* As such, this Invitation will serve as resource for reviewers and for authors looking to submit their work to the *Journal*.

Papers of Interest

Embracing problems, challenges, questions and opportunities
We believe that pharmacy education is facing many teaching and learning problems, challenges, questions and opportunities. As faculty, we are being asked to use evidence based teaching to examine and evolve the content of our teaching, the techniques used and our methods for monitoring learning. As pharmacy colleges/schools, we are being asked to be more accountable for student learning outcomes. These pressures lead to the need for work on assessment methods used at the classroom/experiential level and at the curricular/program level. However, they also push for work on systems-level issues, such as implementing continuous quality improvement processes, creating resource efficiencies and identifying indicators of effectiveness. Outside of classroom, experiential and formal curricula, we are also interested in innovations related to the student experience, including those that address pharmacy internships, extra-curricular opportunities and student life issues. The *Education Section of INNOVATIONS in Pharmacy* is a home for responses to all of these issues.

It is often easy to identify innovations that have resulted in response to problems or challenges. We are regularly faced with issues, such as the need to introduce new content or the need to respond to learning deficits. However, we are also interested in innovations that have resulted in response to scholarly teaching and learning questions. As teachers, we observe the teaching-learning process and become inquisitive. What is a manageable method for teaching X or fostering Y? Scholarly pursuit of questions is welcomed.

In addition, despite the challenges, pharmacy education also has opportunities. Opportunities may arise when learning environments change, curricula are transformed, technology is introduced or for a multitude of other reasons. Innovations that harness and maximize opportunities are also welcomed. In short, we would like to provide a venue for work that is addressing current problems, challenges, questions and opportunities.

Supporting leadership and curricular change
With its changing accreditation demands, continual need to incorporate new science, and pressures for accountability, effectiveness and efficiency, pharmacy education is immersed in a milieu that requires adaptive leadership. In order to better serve our students and the profession, we must maximize contact time, extend experiential education, incorporate simulation, make better use of technology, and develop new instructional methods. Stated simply, we must evolve new curricula. In these times, we can no longer look to the person in charge and expect them to apply the current

know-how. Instead, the people experiencing the challenges must be mobilized and need to learn new ways of responding.[2] In adaptive work, the mounting challenges can only be addressed through changes in people's priorities, beliefs, and habits.[3]

Fortunately, methods for facilitating and managing organizational change have been described. Strategies include: establishing a sense of urgency, building a guiding coalition, developing a vision and strategy, communicating the change vision, empowering action, generating short term wins, consolidating gains to produce more change and anchoring new approaches in the culture.[4] One can easily see how these strategies apply to curricular change. We would also argue that scholarship and publication can aid each step in the process.

To that end, we are interested in articles that are not only helpful to individual faculty, but also instructional teams, curriculum committees, assessment committees, student services professionals, and administrators, as well as other scholars in teaching and learning in pharmacy. We encourage authors to share their published work within their institutions to aid in celebrating short term wins, producing more change and anchoring new approaches in the culture. We also encourage readers to share published work within their institutions to aid in creating urgency, building teams, developing strategy, communicating change visions and empowering action.

Innovation

In many cases, evolving the way we plan, organize, deliver or evaluate pharmacy education will involve innovation. Educational innovations can change the classroom/setting of origin, but they can also disperse and create more change locally, regionally or nationally. We would like to aid this dispersion through scholarly dissemination of innovative work. However, the term "innovation" can be confusing. A description may be helpful.

Innovation involves the transformation of ideas. As a result of innovation, ideas are transformed into new theories, models, policies, structures, methods, processes, products or opportunities to advance education. Specifically, innovation is something new, or perceived new by the population experiencing the innovation. It must be compatible with the values of the organization and produce an advantage.[5] Innovation is not to be confused with invention, which is the creation of new ideas.

Innovation is a multi-stage process (e.g. generation, development, adaption) and the result of hard work. As

described by Weberg, innovation has antecedents. It requires leadership that is supportive, educated on the innovation and focused on creating the processes and culture needed. Innovation takes time, effort, space, and people. Innovation also requires conscientious idea generation that examines both need and opportunity. This idea generation may come from an individual's brainstorming or a team's discussion and debate. Demand is also an essential antecedent. Without demand there will be no adoption.[5]

Innovation creates new processes of educating. It also has consequences or outcomes. For instance, innovation may alter demand or education related efficiency or effectiveness. It may be intrusive and create disequilibrium. It may generate a need for new policy. It may force new ways of organizing and making decisions. Innovation may, in fact, spark more innovation.

This understanding of innovation should guide the selection of manuscripts to submit and the focus of the writing itself. We encourage all pharmacy faculty to reflect on their teaching. What ideas have you had? Where have you worked to address an instructional challenge? Where have you worked to maximize a teaching/learning opportunity? How has this work resulted in new theories, models, policies, structures, methods, processes, products or opportunities to advance education?

In its introduction, each paper should have a clear statement of the innovation. In its discussion, the antecedents, processes and outcomes of the innovation should be described.

Scholarly Teaching and SOTL

A journal can support ST by adding to the knowledge base that informs evidence based teaching. A journal can also support SOTL by providing a venue for dissemination of interesting key findings.

Richlin has described ST and SOTL as a cycle. ST begins with observing a teaching-learning problem or opportunity. Following this observation, the scholarly teacher: consults the literature (the knowledge base), selects and applies an educational intervention, conducts systematic observation, documents observations, analyzes results and obtains peer evaluation (Figure 1).[6] The purpose of scholarly teaching is to affect the activity of teaching and the resulting learning.[7] Scholarly Teaching promotes student engagement and learning by using the educational literature and assessing learning outcomes.[8] We invite readers and prospective authors to examine their approach to teaching and identify areas where scholarly teaching has produced intriguing results.

SOTL builds on the end product of ST. SOTL involves: identifying key issues from ST, analyzing results, placing results into the context of existing knowledge, preparing a manuscript or proposal for presentation, submitting for peer review, disseminating, and adding to existing knowledge base (Figure 1).[6] Of note, SOTL results in formal, peer-reviewed products, which then become part of the knowledge base of teaching and learning.[7] This knowledge can then benefit the larger pharmacy education community by being a source for Scholarly Teaching, as well as a foundation for future SOTL.

This understanding of ST and SOTL should guide reporting within submitted papers. Authors should present and reviewers should look for evidence of consulting the literature. Work should build on previous work. In original research, case studies and other articles reporting results, authors should present and reviewers should look for evidence of selecting an appropriate intervention, systematic observation, strong documentation and strong analyses of results. In particular, peer evaluations can provide additional data for consideration. Of critical importance, the key issues identified should not only build on the previous scholarship, but should pin-point interesting and important questions that will advance the design, delivery and/or evaluation of pharmacy education.

Innovation can occur at various points in the ST/SOTL cycle. Certainly, the innovation may be the educational intervention that is applied to the teaching-learning problem or opportunity. Oftentimes this intervention is a new or modified teaching technique or learning strategy. In addition to innovations related to teaching and learning, authors can also consider innovations related to student learning or programmatic assessment. In fact, at times, higher education conversations about SOTL specifically include Assessment, creating acronyms such as the Scholarship of Teaching, Learning and Assessment (SOTLA) or the Scholarship of Assessment, Learning and Teaching (SALT).

Aside from articles focusing on interventions, there may be innovations related to the conduct and documentation of observations, analyses or peer evaluations that have resulted in new processes or policies for an instructional team or college. We invite articles discussing innovative educational interventions, as well as articles discussing innovations that aid administration and examination of interventions.

Although we are open to a broad field of innovation types, authors should take care in examining their innovations prior to submission. While innovation may be defined, in part, by the population experiencing the innovation, innovations disseminated as SOTL have an added requirement. By nature, to be SOTL, the authors are adding to the existing knowledge base. In other words, the subject of papers submitted to the *Journal* should be innovative within their immediate context, but also contribute more broadly. To position the SOTL innovation effectively, authors are encouraged to ask: Have I successfully argued that this work meaningfully adds to the current literature? Have I explained findings relative to the existing literature? Has this work helped to define direction for future investigations?

Review Criteria
Education related papers of various types will be submitted to the *Journal* and specific standards/evaluation criteria may apply to specific types. However, there are defined standards for scholarship that all *Innovations* reviewers will be asked to apply to all manuscript types, with the exception of Commentaries, Letters and Book Reviews. In general, all manuscripts submitted to *Innovations* should provide evidence of Glassick's six standards for assessing scholarship, which include clear goals, adequate preparation, appropriate methods, significant results, effective presentation, and reflective critique.[9] Table 1 summarizes the questions that should be asked by authors as a check of their work prior to submitting. In addition, the questions in Table One should be asked by reviewers in assessing scholarly work and in preparing constructive comments to improve the paper.

Table 1: Questions to Assess Scholarship in Pharmacy Education
- Clear Goals
    - Does the scholar state the basic purpose of his/her work clearly?
    - Does the scholar identify important questions in the field?
- Adequate Preparation
    - Does the scholar show an understanding of existing scholarship in the field?
- Appropriate Methods
    - Does the scholar use methods appropriate to the goals?
- Significant Results
    - Does the scholar achieve the goals?
    - Does the work add consequentially to the field?
    - Does the work open additional areas for exploration?
- Effective Presentation
    - Does the scholar use a suitable style and effective organization to present the work?
    - Does the scholar present their message with clarity and integrity?
- Reflective Critique
    - Does the scholar critically evaluate his or her own work?

Modified from Glassick. [9]

Conclusions

Pharmacy education is facing a host of challenges and opportunities. To address these challenges and maximize opportunities, teams are innovating and undertaking adaptive work that is changing priorities, beliefs, and habits related to education. The *Education Section of INNOVATIONS* is a venue for scholarly work that aims to alter perceptions, shift expectations or change the way we organize, deliver or evaluate pharmacy education.

We endeavor to publish articles that aid instructors, instructional teams, education related committees, task forces and working groups in the work of evolving pharmacy curricula. Through publication, we are interested in bringing promising areas of investigation to the forefront, substantiating new directions by establishing solid foundations, recognizing early work as it emerges and promoting rich and robust scholarly lines of inquiry.

We encourage prospective authors to reflect on how their work has resulted in new theories, models, policies, structures, methods, processes, products or opportunities to advance education. Education-related innovations are happening daily in our colleges and schools.

The strongest submissions will have emanated from Scholarly Teaching (i.e. consulting the literature, appropriate intervention, systematic observation, strong documentation, strong analyses of results and peer evaluation) and will have pin-pointed interesting and important questions that will advance the design, delivery and/or evaluation of pharmacy education. All submissions (with the exception of commentaries, letters and book reviews) will be evaluated for clear goals, adequate preparation, appropriate methods, significant results, effective presentation, and reflective critique. Prospective authors are encouraged to read specific guidelines related to our various article types.[1]

The editorial team welcomes inquiries and questions. We look forward to continuing our work with dedicated authors. We also look forward to continuing to provide a venue for disseminating innovations that: 1) contribute to the knowledge base used in scholarly teaching and 2) provide support for the challenging work associated with evolving curricula.

Acknowledgements

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Figure 1: The Ongoing Cycle of Scholarly Teaching and the Scholarship of Teaching
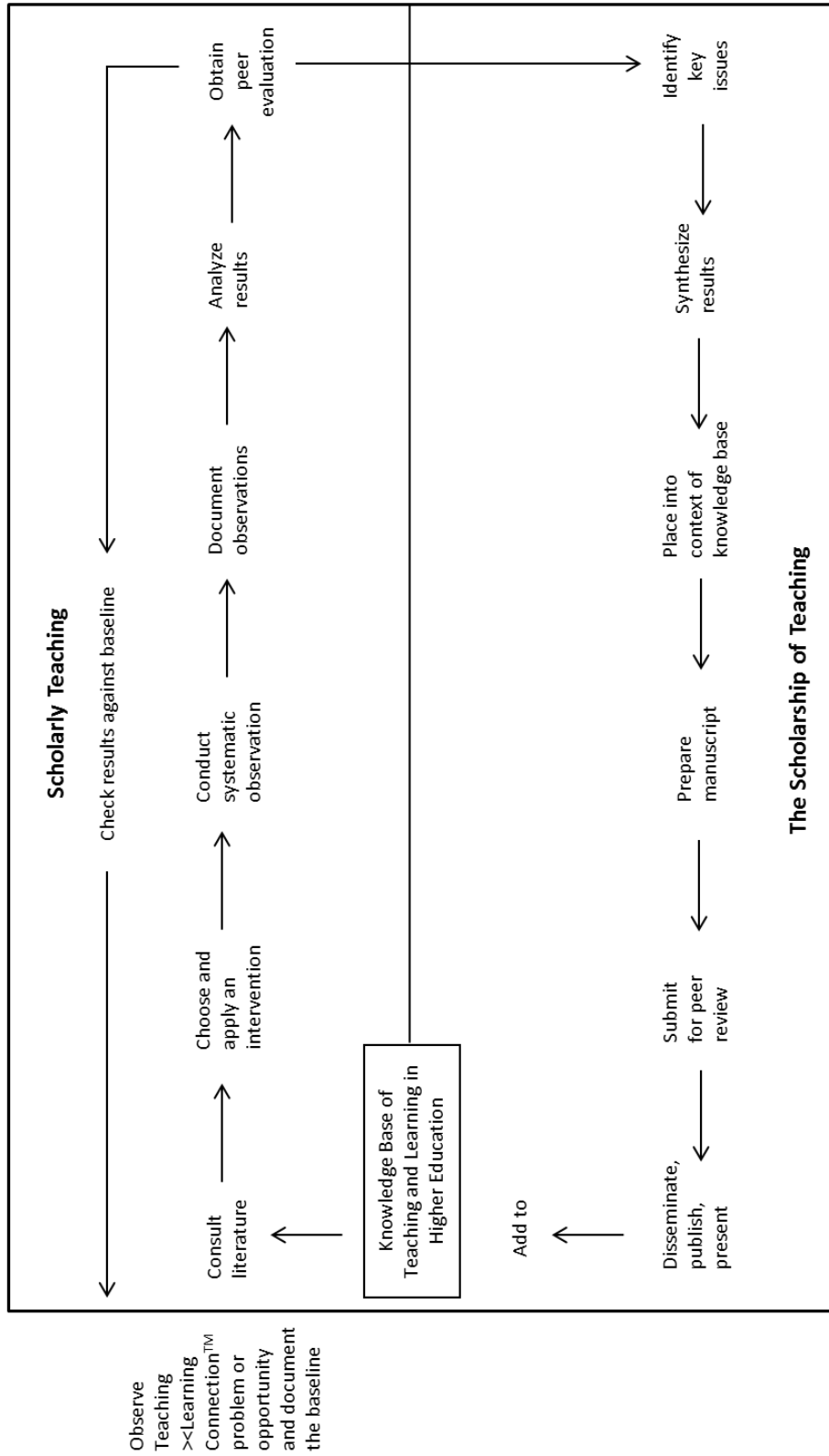
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