

Promoting Scholarly Lines of Inquiry in Pharmacy Education Through Idea Papers and Case Study Reports

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Introduction

Over the past four years, the *Education Section of INNOVATIONS in Pharmacy* has been interested in, as its name suggests, innovations in pharmacy education. Since inception, this journal has been a place for work that aims to alter perceptions, shift expectations or change the way we organize, deliver or evaluate pharmacy education.

As we have sought to recognize and celebrate innovation, we have also been reading the pharmacy education literature and investigating methods for enhancing scholarly work in education. As a result of this work, a number of growth opportunities emerged. In particular, we were inspired by four issues related to publication. First, while the evaluation of educational initiatives/interventions is celebrated, the work leading up to the intervention and evaluation often does not have a venue. In discussing this problem with our colleagues, we often heard that, in order to be publication-worthy, initial, promising work needed to wait for more data. A mechanism to disseminate preliminary work would be useful.

Second, in scholarly articles on pharmacy education, we observed that the foundation that inspires and supports the scholarly work is often given thin treatment. The background to the project often points to accreditation standards or a handful of related works as the rationale for the effort. Discussion of the theories and models supporting the work may be non-existent. At times, even the description of the problem/challenge/opportunity is sparse, as reports jump quickly to the evaluation. A mechanism to explore and articulate the foundation and rationale for our scholarly efforts is needed.

Third, with the emphasis on intervention and evaluation, the experience an individual instructor gains from years of teaching and refining is often not captured and disseminated. This Wisdom of Practice¹ can add to our knowledge base. However, when this is not captured, new instructors may need to “reinvent the wheel” and repeat the same errors as their predecessors. Mechanisms to share this wisdom gained from experience would be an asset in our pursuit of educational excellence.

Fourth, despite the passage of time, many instructional challenges in pharmacy education may not develop a solid line of inquiry. This phenomenon can be observed from a variety of vantage points. For instance, over time questions of knowledge acquisition are simply asked and answered repeatedly for different groups of students studying different content areas. There is not a sequence of new questions that progresses in terms of specificity and sophistication. In addition, publications simply aren't cited; they don't become the starting point for broader exploration and subsequent questions. Mechanisms for supporting a succession of contributions to the literature are needed.

In an attempt to address some of these growth areas, we have been working to develop a number of new article types. While intervention and evaluation is needed, we felt we also needed article types that would allow exploration of the foundation and rationale for our work. We also heard the demand for an article type that would allow preliminary and promising results to be shared. These article types needed to recognize the value of experience and the need to build scholarly lines of inquiry.

A previous Invitation describes papers of interest, innovation, scholarly expectations and general review criteria.² This paper will describe guidelines for two of the article types in *INNOVATIONS*, Case Study Reports and Idea Papers. Many authors and reviewers have worked to write to these article types over the past four years, providing us with a rich repository for identification of helpful practices in structuring these papers. In addition, consultation with thought leaders in pharmacy education and review of various article types in higher education journals has allowed us to refine and better articulate the expectations for these article types in the *Education Section of INNOVATIONS*.

Idea Paper

Idea Papers can provide a venue for the intellectual work leading up to an educational intervention/evaluation or formal research study. In working with this article type over the last four years, we have continued to examine the use of Idea Papers in other journals. Although they may not be explicitly labeled, Idea Papers can appear as special features or in themed issues. They are often focused on imaginative thinking and visioning that is designed to challenge paradigms

and provide a glimpse into the future. Similar to other journals, Idea Papers submitted here should challenge our current thinking and help us move toward the future. The following guidance is designed to assist future authors in developing and structuring their papers and to reviewers in understanding the expectations for this article type.

The goal of an Idea Paper in the *Education Section of INNOVATIONS in Pharmacy* is to advocate for an innovation that will advance pharmacy education. The subject of an Idea Paper could be an instructional technique, method, strategy or approach to education. For instance, one Idea Paper has advocated for the use of faculty evaluation when implementing Team Based Learning.³ Another Idea Paper suggested a framework for strengths education in pharmacy and argued for the development of a sequence of learning opportunities delivered over time.⁴ The subject of an Idea Paper might also be a content area, competency, policy or practice. This article type should not be confused with the IDEAS format in the *American Journal of Pharmacy Education*, which applies to “manuscripts that describe and evaluate instructional design”.⁵

The value in publishing Idea Papers, we believe, is in articulating an innovative response to an instructional challenge or opportunity. Through the narrative of the paper, the innovative idea is supported by a strong rationale, a cogent line of logic, experience and other forms of evidence. However, an Idea Paper is not just a discussion of the idea. It should strike a balance between discussing the innovation and looking forward to its broader implications. Through these types of papers, the academy benefits by seeing a well-framed description and discussion of the innovation; the author benefits by having examined their experience and formulated their thoughts. Idea Papers can serve as a starting point for a line of inquiry, establishing the foundation.

In the body of the paper, specific section headers are not required. However, the narrative of the Idea Paper should address three basic questions: Why is this innovation important? What has been learned so far? How does the academy move this forward?

The first question, “Why is this innovation is important?” likely begins in the introduction. Using literature (as available) and logic, the author should show the reader why this particular innovation is critical at this point of departure. Answering this question typically starts with a description of the problem, challenge or opportunity. In order to orient the reader, the author should likely provide some history and context.

In addition, this section should also show why the status quo is not sufficient and introduce the reader to the innovation. Effort is expended on building the argument that this method, content area, competency, policy, practice or approach is important and needed. After this foundation has been laid, the innovation and its implications can be examined more fully.

The second question, “What has been learned so far?” explores the collective knowledge related to the innovation. This section of the paper should be rooted in the literature. When previously published experiences, reports or studies are not available, literature on relevant theories and models becomes especially important. Evaluative data from the author’s work has a role, however, the author’s experiences, observations and insights should also be considered. The author should take care to establish their expertise with the subject by describing the sources they have drawn from in developing the innovation. This may include: experiences with teaching, reflections on teaching, observations conducted over time, assessments of student learning, student ratings of instruction, peer observations or evaluations, personal scholarship, or other evidence, as appropriate.

In relaying experiences, it is helpful to examine the breadth of what has informed, influenced and framed the author’s thinking. Authors are asked to consider their successes and failures, why the innovation met with success (or did not), and what data led them to their current thinking. It is also helpful to examine the evolution of your thinking/approach over time. These critical appraisals are additional forms of evidence and should be shared.

Authors should also distill and translate learnings in the form of guidance, insights or advice for the reader (e.g. instructor). The authors should facilitate the application of “What has been learned so far?” in the reader’s classroom, learning environment or institution by clear articulation of guidance, insights or advice.

The third and final question, “How does the academy move this forward?” is nearly entirely future-oriented. It requires the authors, who believe strongly in this innovation, to identify ways for progress to be made. This may involve investments in teaching, curriculum development, student development or the Scholarship of Teaching and Learning (SOTL) at our home institutions. Efforts may also be needed in theory, model or concept development. Advancement may require collaborations and/or action regionally or nationally. The suggestions and recommendations for how to move forward can serve as a call to action for the academy.

Idea Papers will vary in length. Care should be taken to consider the subject's need, but also the reader. Concise and direct writing may be more useful to the diversity of faculty, committees and administrators that may need to understand the innovative instructional technique, method, strategy, approach, content area, competency, policy or practice, and take action.

Idea Papers will also vary in their degree of referencing, depending on the depth of the existing literature. An Idea Paper does not need to be an exhaustive review. However, a selective overview of relevant literature is expected, including any appropriate definitions, theories and models. In this overview, authors are urged to convey how they've made sense of the literature, particularly in the case of extensive or conflicting bodies of work.

If you have spent time in reading or working within an area of inquiry and have become convinced of its implications for pharmacy education, you may be interested in pursuing publication using this article type. Writing to this article type can assist in solidifying the rationale and foundation for translational or application oriented work in pharmacy education. In addition, if you believe that an approach, method, strategy or practice is under-recognized, under-developed, or deficient in some way or missing, you could use this article type to advocate for an enhancement or alternate approach. If you are working with an area that is new or emerging, or a variant or extension of previous work, this article type can assist in articulating the innovation and its value. In any of these cases, the Idea Paper can then be referred to in future papers that examine the innovation. By pursuing this initial publication, you have the time and space to more thoroughly address: "Why is this innovation important?" and "What has been learned so far?" To facilitate leading change, there is also the opportunity to inspire and engage others through the section on "How does the academy move this forward?"

Case Study Report

Case Study Reports provide an opportunity to disseminate preliminary, novel, or unsuspected results of an innovative instructional technique, method, strategy or approach. Traditionally, a case study is a "systemic inquiry into an event or a set of related events which aims to describe and explain the phenomenon of interest"⁶ and a case report is the documentation of the case study.⁷ Although, this article type does not require that case study methodology be used, we have borrowed from this area of research in defining the expectations for a Case Study Report. As with Idea Papers, over the past four years we have examined the use of Case Study Reports in other journals, assessed the strengths and

weaknesses of pharmacy education's literature, and considered the best practices of submissions to our own *Journal*, resulting in the following direction to authors and reviewers.

The pharmacy education literature contains many personal accounts of change. In this form of pedagogical scholarship, faculty report how they came to make the change, a detailed description of the change, including logistics, and some analysis of how well the change worked.¹ However, the presentation of Case Study Reports is not meant to merely inform the reader about a change, but to inspire future use and investigation of the strategy, technique, method or approach in pharmacy education. As such, they should convey a sense of urgency for additional scholarly inquiry. In clinical literature, we are familiar with Case Study Reports as a means to disseminate newsworthy scholarship to help spur further, more detailed research. This is a similar application in education.

In addition, we believe this article type can play an important role in establishing a line of inquiry. It may be helpful to follow an Idea Paper, which advocates for an innovation, with a Case Study Report disseminating preliminary findings. These papers then establish a history, which can be referred to in future research reports.

In Case Study Reports submitted to the *Education Section of INNOVATIONS*, problem solving, not hypothesis testing, is emphasized. As such, the format of the Case Study Report should be structured, but does not need to have the traditional objective, methods, results and discussion sections. Section headings can be more flexible, but the paper as a whole should provide: a description of the case, identification of case themes, and an exploration of the impact of the case. Each of these stages will be explored in more detail below.

Description of Case

In general, the description should explain the importance of the instructional technique, method, strategy or approach to pharmacy education and its status as an innovation. In addition, the description should also offer enough context to enable the reader to judge relevance and applicability to their own setting.

The Case Study Report should provide sufficient detail to understand the learners and the environment where the innovation occurred. This will typically include the techniques, methods, strategies or approaches considered and a description of the fit of the selected intervention to the situation, including support from the literature related to the

innovation (e.g. theories, models, previous uses). The goal is to inspire others to join in the scholarship and build on your work, not simply recreate your work. Therefore, the rationale and support for the innovation is important.

In addition, the description should include the resources required for design, implementation and evaluation. The description of the Case Study Report is also where data is presented. The strongest Case Study Reports include data from a variety of sources.⁸ Consideration should be given to data that helps to demonstrate any learning effects, as well as evaluative data that may provide opinions (e.g. satisfaction) and information to guide refinements. While student ratings of teaching are often used, authors are encouraged to think about the breadth of evidence available. It may be helpful to consider that evidence might come from four major sources: students, peers of students, instructors and other faculty. Table 1 suggests evidence that might be considered.

Of note, both quantitative and qualitative data are valued. However, rigor is expected. Resources to support design and analysis should be consulted and referenced. In particular, resources should be consulted and referenced when coding or identifying themes from student comments and/or reflections.

Enough evidence should be included to give the reader a complete picture of the case, to aid in discerning the promise of the technique, method, strategy or approach and to engage the reader's interest in participation in future steps. The presented evidence should be compelling. To that end, multiple data sources may be required and are often available (or can be obtained), when a broad view of evidence is used (Table 1). By using multiple sources of evidence, the strengths of each source can compensate for weaknesses of the other sources, resulting in a decision about teaching effectiveness that is more accurate than one based on any single source.⁹

Again, the goal of Case Study Reports is not to present a definitive evaluation of success. A comprehensive evaluation of an educational innovation may require formal triangulation of three or more different sources of evidence on a focused area of inquiry. Although the strongest Case Study Reports will provide multiple sources, these sources may be concentrated on a facet of the innovation (e.g. one of several skills targeted for development). Alternately, the evidence may provide broader insights, including both learning assessment and technique/method/strategy/approach evaluation. By presenting more than one source, the contribution of the innovation can be more fully examined.

In addition, having "tested" multiple sources, further investigation can be better targeted on high impact assessment/evaluation areas and/or the most useful data sources. Furthermore, these early considerations of evidence in a Case Study Report can aid in the planning and logistics necessary for a more comprehensive evaluation in the future.

Identification of Case Themes

Instead of a typical discussion section, which focuses on 3-5 findings, a Case Study Report requires review of the data, interpretation and the identification of themes. A theme is a "unit of analysis" used to give meaning to a set of observations or group of data.¹⁰ In a Case Study Report, this data may be quantitative and/or qualitative. Themes are a way to bring together individual pieces into a coherent idea that has implications for the future. More than simply reporting findings, identifying and developing themes will show the reader what these findings mean. This requires a deep understanding of the case itself, the breadth of data available and knowledge of the relevant literature. The description of the case will provide rich material, but it is in the development of themes that connections are made for the reader and a more complete understanding of the innovation is presented.

Developing themes is an analytical and interpretative process that illuminates the complexities of the case both on its own and in comparison to the literature. A theme is an *outcome* of coding, categorization and analytic reflection.¹¹ Authors are encouraged to review the breadth of available evidence, holistically. In this review process, themes should be stated as simple examples at first, then woven together during later cycles of review and analysis to detect explanations, processes, tensions, causes, consequences, and/or conclusions.¹² Most importantly, a theme should be stated as "an *extended phrase* or *sentence* that identifies what a unit of data is *about* and/or what it *means*."¹¹

For example, when examining a peer review process, student survey responses may report that a majority of students did not find feedback from peers helpful in making revisions. This information combined with review of the peer feedback and instructor feedback may lead to the development of themes. Depending on the findings, the researchers may find students do not give sufficiently detailed or constructive feedback or suggest that students struggle with interpreting and incorporating feedback into their revisions. These themes might be confirmed, refuted or enhanced by other studies. Themes should demonstrate that thorough analysis of the available data has been completed and that points of intersection have been identified.

Exploration of Case Impact

Exploration of impact sets the Case Study Report apart from other common articles types in pharmacy education. This section of the Case Study Report explains the current and potential influence of this work. In a Case Study Report, authors are encouraged to thoroughly explore and then selectively report impact. The goal is to present areas of impact that demonstrates the emerging value of the technique, method, strategy or approach.

Impact may have been seen in the use of the technique, method, strategy or approach in the author's own course(s), other college courses, within the university, within pharmacy education, or within higher education. In other words, the innovation may have had an impact on teaching locally, however, it may have also have had an impact on teaching elsewhere. It may also have had an impact on curriculum development or approaches to student development. The innovation may have also had an impact on SOTL. It may have prompted concept, model or theory development. It may have had local effects, such as the development of a SOTL team undertaking additional SOTL initiatives. As with all scholarly work, impact should be supported by any relevant evidence and should be presented without overstatement.

Likewise, the innovation may have strong impact potential. Authors should logically extend findings and use connections to related research to bolster and support their arguments for potential.

In a typical discussion, future action would involve 1-3 paragraphs focused largely on future research. In contrast, in a Case Study Report, the discussion of future action may be longer. Authors are requested to advise on both the incorporation and the extension of the work. These comments should focus on both teaching and research related to the innovation.

Fundamentally, a Case Study Report should create urgency and inspiration for others to join the line of inquiry. In terms of length, reasonable treatment of the topic is required, including the three areas of discussion described here. However, there is a delicate balance. Authors are reminded that long, exhaustive and regimented presentations may work counter to this goal.

If you are working with an innovative technique, method, strategy or approach, you may wish to consider a Case Study Report as a stepping stone to a more comprehensive evaluation. Writing to this article type can help describe the innovation and its impact, which can be referred to in future work. It can also help discover and plan for additional forms

of evidence that may be needed for a more focused and formal evaluation. If you are developing a focus area within your SOTL, you may wish to consider a case study as part of a line of inquiry. Demonstrating successive, focused projects that have been carried forward to dissemination can be helpful in annual review and promotion processes.

Conclusions

Idea Papers and Case Study Reports have been used for the past four years in the *Education Section of INNOVATIONS in Pharmacy*. As we have gained experience with these article types, we have also worked to assess the strengths and areas for growth in pharmacy's education literature. Considering the best practices of our own *Journal*, along with review of other journals in higher education and consultation with opinion leaders, we have refined our direction to authors to best meet the needs of pharmacy education.

Both article types allow the exploration of an innovative instructional technique, method, strategy or approach to pharmacy education. They value and encourage the use of a variety of sources of evidence. They are application and action oriented, allowing the author to advise the readership, based on the collective wisdom of learnings to-date. In addition, both are future oriented, inviting authors to enunciate the value of their work and call the academy to action in using and investigating the innovation.

Idea Papers can provide a venue for the intellectual work leading up to an educational intervention/evaluation or formal research study. They address three basic questions: Why is this innovation important? What has been learned so far? How does the academy move this forward? The value in publishing Idea Papers, we believe, is in articulating an innovative response to an instructional challenge or opportunity. Idea Papers are unique in that they allow authors to describe the rationale and foundations for their work, while also allowing discussion of necessary future actions.

Case Study Reports provide an opportunity to disseminate preliminary, novel, or unsuspected results of an innovative instructional technique, method, strategy or approach. A Case Study Report consists of: a description of the case, identification of case themes, and an exploration of the impact of the case. We believe this article type can play an important role as a stepping stone to more comprehensive evaluation of the innovation and in creating urgency and inspiration for others to join the line of inquiry. Case Study Reports are unique in their identification of themes from the evidence and exploration of the impact of the innovation.

Through these article types we hope to bring promising areas of investigation to the forefront and recognize early work as it emerges. We also hope to substantiate new areas of inquiry by establishing solid foundations and to promote rich and robust scholarly lines of inquiry. For further assistance in framing articles, we encourage authors to review the Review Forms for each article type, which are available on the *Innovations* website. We also welcome inquiries.

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Table 1: Evidence for Consideration in Case Study Reports

Data Types	From Students	From Peers of Students	From Instructors	From Other Faculty
Assessments of Learning Products	<ul style="list-style-type: none"> self-ratings of work product (e.g. checklist, rubric ratings, holistic rating or quality or expertise demonstrated) 	<ul style="list-style-type: none"> ratings/evaluations of student work products (e.g. completeness and structure of SOAP note or drug literature reviews) 	<ul style="list-style-type: none"> student performance on pre-test ratings/grades of student work products (e.g., drug information responses, term papers) 	<ul style="list-style-type: none"> ratings/evaluations of student work products (e.g. faculty ratings of therapeutic recommendations and justifications)
Observations of Learning	<ul style="list-style-type: none"> self-assessments of ability or performance (e.g. video review and checklist) 	<ul style="list-style-type: none"> ratings/evaluations of participation or contributions ratings/evaluations of observed performance (e.g. case presentation) 	<ul style="list-style-type: none"> ratings/grades of observed student performance (e.g. therapeutics debate, presentations) 	<ul style="list-style-type: none"> ratings/evaluations of observed performance (e.g. guest evaluator of simulated patient interaction or faculty panel on oral exam)
Evaluation of Technique, Method, Strategy or Approach	<ul style="list-style-type: none"> survey or poll of students (pre, midpoint and/or final) interviews or focus groups about learning or educational process results from administrator led discussions (e.g. town hall meetings) 		<ul style="list-style-type: none"> survey or poll of instructors (e.g. team teaching, sequence of courses) interviews or focus groups of instructors observations of students (e.g. question-asking) reflections or observations from teaching (e.g. log or journaling) coding and/or themes from student evaluations and/or reflections on the method 	<ul style="list-style-type: none"> classroom observations/data collection (e.g. faculty observing and documenting student behaviors) curriculum level course reviews or reports from curricular improvement processes peer evaluations of educational materials peer observation of instructional delivery
Other			<ul style="list-style-type: none"> student performance compared to other course sections, past students or advanced students/residents analysis of repeated measures over time (e.g. improvements in tailoring a literature search) 	<ul style="list-style-type: none"> performance in future (e.g. pre-test, initial observations in experiential) performance on relevant curriculum-level assessments