The Scholarship of Teaching as Career Development

JoLaine Reierson Draugalis
College of Pharmacy, The University of, P.O. Box 210207, Tucson AZ 85721-0207

We must be reminded that, “One need not conduct educational research to possess a scholarship of teaching. Every faculty member is a potential teaching scholar but may not know how to do so; are doing so, but don’t know how to measure; or are doing so, but measuring erroneously or insufficiently. All those with instructional responsibilities should be skilled in teaching which leads to a scholarship of teaching, but that needs to be distinguished from an educational researcher. Educational researchers are educated and trained in the theory and practice of education and their research efforts provide frameworks for teaching scholars.”(1)

Educational researchers must secure funding and their work does carry publication and presentation expectations. The scholarship of teaching may, but more than likely does not, demand this type of dissemination expectation. Also, there may be some amount of overlap.

Sources/Levels of Support

Funding sources are listed in The Complete Grants Sourcebook for Higher Education, 3rd Ed.(2). This compendium contains 258 entries across foundation, corporate, and government funding sources. Each listing provides: areas of interest, eligibility, personnel, financial profiles, application process, sample grants (among which several pharmacy schools are listed), comments/analysis.

The Fund for the Improvement of Postsecondary Education (FIPSE)-The Comprehensive Program was originally included in this presentation. Susan Meyer, PhD was principal investigator for a FIPSE project funded with AACP and three innovator schools regarding implementation of abilities-based curricula. We submitted a pre-proposal in October 1998, but the comprehensive program was canceled for 1999 before any investigators were allowed to move to the full proposal stage. In March of 1999, the Office of Postsecondary Education distributed absolute congressional funding priorities for postsecondary education under a new competition, many of which had a technology-focus and some of which pharmacy faculty would be eligible.

The Grant Awards to Pharmacy Schools (GAPS) funded by SmithKline Beecham Foundation and administered by AACP was a big part of my funding and subsequent scholarly activities. But alas, this source is no longer available to pharmacy faculty. There are other initiatives of the association however. Recent RFPs include: The Innovations in Continuing Professional Education; An Assessment Process for Pharmacy Practitioners Applying for Nontraditional PharmD Programs; and Design and Delivery of a special 1999 Teachers Seminar for new faculty members. The New Investigator Program (NIP), funded by the AFPE and The Burroughs Wellcome Fund, is a potential source for faculty members in the first five years of their academic appointment. The Innovations in Teaching Competition supported by Merck & Company, Inc. annually identifies new and innovative teaching and assessment strategies.

The pharmaceutical industry and related firms may provide funding for the delivery of in-house training programs; provision of continuing education sessions; as well as conference and educational program grants. For example, PCS Health Systems, Inc. funded us to put on a half-day refresher course for pharmacy preceptors on the topic - principles of research design and statistical analysis. Many times these are unrestricted educational grants and one may have extreme flexibility in how funds are expended.

Peer-review presentation venues for the scholarship of teaching include meetings of and publications from the AACP and professional practice organizations such as the American College of Clinical Pharmacy, American Pharmaceutical Association, Academy of Managed Care Pharmacy, and American Society of Health-System Pharmacists. In addition, some of these organizations and others, such as the National Community Pharmacists Association have foundations which fund research grant programs and specific funding initiatives may be education-focused. Organizations generic to higher education, such as the American Association for Higher Education, and another journal specific to pharmacy education, The Journal of Pharmacy Teaching, are also examples of where pharmacy faculty have presented and published.

National student/faculty interface initiatives where faculty members may demonstrate mentor/advisor expertise previously included the Searle Fellowship program. Current competitions include the NACDS Community Pharmacy essay contest and Award for Innovations in Health-U.S. Dept of Health and Human Services. I found out about all of these when students approached me to serve as mentor/advisor.

Faculty members may find funding on their own campuses. For the last several years our Provost has offered a competition for using technology in teaching. Also, there may be annual competitions offering new faculty seed grants for any sort of scholarly endeavor. In the Arizona Health Sciences Center, we have a Dean’s Teaching Scholar Program and faculty members from the Colleges of Pharmacy, Nursing, and Medicine are eligible. We have had two of our faculty members participate in this 12-month experience. Some institutions have dollars set aside for faculty requests and/or competitions as related to teaching endeavors.

Importance of Scholarship to Career Management

At the first Council of Faculties Interim Meeting in 1990, I did a presentation titled, “Achieving Personal Objectives in a

1Manuscript based on a presentation at the AACP Interim Meeting program on Career Management and Personal Development, March 1, 1999, Washington DC.
2Professor and Assistant Dean.
Faculty Career.” Given I had been in a tenure track position for all of 20 months at that time, I remember feeling fairly intimidated because the other two speakers were Full Professors, Drs. Robert Chalmers and William Garnett. I did take pride however in telling my mother that I was on the same program as the Secretary of the U.S. Department of Health and Human Services as Dr. Louis Sullivan was the lunch speaker. The purpose of the session was to discuss achieving personal success. I was to offer my own observations about my experiences at achieving my personal objectives. As I was only in the second year of my tenure-track appointment, I adopted a prospective look at the questions the program planners posed. For example, Did you establish career goals; do you think they will be modified; what help are you receiving, and what are your current problems? By the way the problems are still the same, not enough resources - time, space, manpower, or dollars and particularly for me, not enough file cabinets. I concluded with, “I believe in moderation and strive for balance in both my personal and professional life. Although my husband might argue this.” On the professional side this translates to making a little mark in all three areas of our tripartite mission rather than a major splash in one. This is what works for me. You have to decide how to fulfill your personal objectives.” This still works for me. I feel the need to contribute as a researcher, teacher, and provider of service. But I have been asked to speak on the scholarship of teaching, or as the program planners labeled it, the scholarship of student learning, which I am sure we would all agree that student learning is the desired outcome of teaching and certainly important to our institutional missions. Which is the perfect lead-in, to demonstrate a scholarship of teaching, one needs to provide evidence of student learning - most importantly in demonstrating true products or outcomes, but aspects of structure and process and the inter-relatedness can be important as well. How do we do this?

Six Qualitative Standards

In their follow-up work to Ernest Boyer’s Scholarship Reconsidered, Glassick, Huber, and Maeroff in Scholarship Assessed - Evaluation of the Professoriate, suggest that the standards of scholarly work have common features regardless of the category of scholarship - whether; discovery, integration, application, or teaching(3). It was found that when a piece of scholarship was praised, that usually meant that the project being evaluated was guided by six qualitative standards: (i) Clear Goals; (ii) Adequate Preparation; (iii) Appropriate Methods; (iv) Significant Results; (v) Effective Presentation; and (vi) Reflective Critique. Now let us take each of the six standards and see what sub-questions Glassick and colleagues posed for each standard and I will provide evidence of meeting the standards as applied to the scholarship of teaching over the past ten years. Also, I will integrate specific examples of course and instructor evaluation form items and how teaching scholars might track this evidence over time to provide evidence of change, improvement, or consistency of efforts.

Clear Goals

Does the teaching scholar state the basic purposes of his or her work clearly? Course and/or Instructor evaluations may address this emphasis. Specific items that I track in this regard using a five-point agreement scale: The expectations for the course were clearly communicated and this instructor clearly communicated what I was expected to learn in the course. Other institutions may have an item directly asking students if the proposed objectives agree with those actually taught and tested and certainly one could demonstrate this in a teaching portfolio. In our promotion and tenure packet, we submit a teaching philosophy in which we put forth our philosophy and objectives as teachers and discuss how this guides our actions we take as teachers.

Does the teaching scholar define objectives that are realistic and achievable? The first time out, I would guess most novice teachers try to cover too much ground in too short a time and expect (demand?) that their students learn more than can be reasonably expected given the number of classes and instructors that will be thinking the same way. It didn’t take me too long to realize that I needed to realign my expectations and teaching materials and that I couldn’t (nor should I) teach them every thing I know about my specialty area.

This is the one topic I hear the most grousing about from students. And, if we were to stop and think about it, does every graduate need to (or can they possibly) possess the level of expertise that their collective faculty does? I have thought about this as far as taking exams in other classes (and in some cases in the same class that you are individually participating in).

I think back to one of the first times (perhaps the first time) I taught the overview of statistics module, being at the chalkboard showing how to fit a least squares line of best fit to a scatter plot, describing the mathematics supporting SS regression plus SS error = SS total. What was I thinking? And this was before I developed any lecture outlines or audiovisuals and long before the advent of an extensive set of course notes/supporting materials.

Does the teaching scholar identify important questions in the field? A course syllabus should be guided by realistic goals. Instructors must recognize relevant material and see possibilities for change. Relevant material - the saga of choosing a text - trying to locate a text that students would find useful has been a challenge over the years. The challenge was finding a text that addressed the majority of topics in the course and unfortunately many dealt with statistical analysis and others covered design topics, but it was hard to locate one that addressed both. There were still others that may have addressed both content areas, but were too much in depth for a survey course or only covered a certain body of research inquiry. Therefore, this quandary led to formal course note development - a process that continues.

Of course there are some sections we don’t modify, but we do some amount of updating and revising every time we teach the course and we do a major overhaul about every three years. This takes a Continuous Quality Improvement approach as applied to the syllabus, methods, and materials. Not everything we try works, and we try to learn from our failures as well as document our successes.

Adequate Preparation

Does the teaching scholar show an understanding of existing scholarship in the field? Using contemporary literature (especially if it is your own or others at your institution) and practice examples are very effective teaching aids. For example, in our course Dr. Marion Slack and I cite passages regarding our approach to instructional design, testing philosophy, and reliability and validity as applied to classroom testing(4,5). I illustrate representative sampling, definition of a census versus a sample, and survey research methodology via various research projects I have carried out on pharmacy students, faculty, and administrators. I have also published several mono
graphs that list criteria for evaluating proposals and published literature and I have used these as well.

**Does the teaching scholar bring the necessary skills to his or her work?** In the last major revision of our College Instructor Evaluation form we added an item that reads, what is your overall rating of this instructor’s teaching effectiveness? with the possible response options of almost always effective, usually effective, sometimes effective, rarely effective, and almost never effective. We added this because previous versions only had a comparative item (i.e., what is your rating of the instructor compared to other instructors you have had?) which is not nearly as useful to use for individual tracking and improvement purposes. Some evaluation forms may ask students, Was the instructor well prepared for each class? Our course evaluation form asks students to rate how well-organized the course was.

**Does the teaching scholar bring together the resources necessary to move the project forward?** This may involve documenting and evaluating handouts, supplementary materials, assignments, and in-class activities.

**Appropriate Methods**

**Does the teaching scholar use methods appropriate to the goals?** Obviously, methods and procedures make a great difference in teaching and ultimately, learning. Glassick and colleagues say this is true from the logic of the syllabus to pedagogical procedures and student assessment. Our specific instructor and course rating items in this regard include:

- The expectations for this course were clearly communicated;
- The course promoted critical-thinking;
- The exams allowed me to demonstrate what I have learned;
- The instructor presented material in such a way that my learning was greatly facilitated;
- The instructor clearly communicated what I was expected to learn in the course; and
- The instructor explained concepts and ideas by providing examples and relevant applications.

We have to be careful to ask students to evaluate what is appropriate. Course content, relevance to practice, and curriculum topics are beyond their expertise.

Examination considerations warrant a separate discussion. Examination preparation, grading, item-analysis and the like is an art and science unto its own and has a body of literature. As well, there have been specific review articles presented for pharmacy education and pharmacy practitioners. For example, Characteristics desired in tests: validity(6), Reliability: the accuracy of a test(7), a four-part series on teacher-made exams(8-11), and a recent primer on writing cognitive educational objectives and multiple-choice test questions(12). These must be taken as introductory pieces. There is a scholarship of test development. Crafting a multiple-choice (MC) exam that addresses higher levels of learning beyond memorization of factual knowledge takes an inordinate amount of time (to learn how to write and then on-going use in courses) and continuous validation and reliability assessment. This is one area where I get on a soapbox, especially when I hear over-generalizations regarding the quality and usefulness of one kind of exam versus another.

Essay exams are not always superior over MC format exams. Some essay exams would be more apt to test regurgitation ability than a properly constructed MC exam. It depends on what you are testing. Changing to a performance-based competency assessment curriculum would obviate these arguments. A teaching scholar would select their testing strategies, evaluate these strategies, and make adjustments. Both quantitative and qualitative data would support this aspect of one’s teaching portfolio.

Last academic year, a faculty member approached me about how to interpret the variety of reports generated when an exam is graded via a scantron. The individual was wondering about the reliability coefficient generated as she was aware the coefficient generated would be considered very low if it had been generated during the conduct of a research project, but was unaware how to use the information in a teaching context. I informed her that the coefficient was also low for a classroom examination, but then they typically are much lower than say, for a standardized type of instrument. Yet, we should still strive for higher levels of reliability in our classroom assessments. Content validity, particularly in terms of sampling validity is important as well. I give students a table of specifications a week or ten days before an exam, indicating how many items will be derived from particular topic areas; which have been based on the learning objectives provided in the course note packet disseminated on the first day of class.

I get a kick out of finding just the right cartoon or quotation to put on the cover of exams. Some excellent sources for cartoons include the Kappan from Phi Delta Kappa and The Chronicle of Higher Education. Copyright considerations preclude including any in this article, but my favorite one features four children standing around a teacher and one says to the teacher, “I’d be happy to play duck-duck goose if you can show me how it would benefit me in later life.” This cartoon is always a hit and so appropriate for the statistics module examination. I have been known to tell a class of students, “you performed well and so did the test”. And I present the mean, SD, range as well as the reliability, and specific item performance (such as, exceptional, acceptable, and need to be replaced items), if there are any of the latter, they do not get graded. I have found that Teaching Assistants and graduate students are always amazed at how hard it is to create these items.

I have numerous anecdotes about testing over the years - I would like to share just a few with you. About five years ago, the Class Representative came to me visibly shaken. It was 15 minutes before I was to administer, and her class was to sit for, a midterm exam. She said there were rumors that an individual had a copy of one of my old exams. I wanted to calm her fears, and I didn’t think it was truly a possibility (because my exams are double-counted, handed out one at a time, shredded, and originals kept in locked cabinet). So if someone did have a copy, it was stolen. Given the time considerations, the only option was to administer the test. I prefaced disseminated the exam, by indicating that I was aware of the rumor, didn’t think it was true, and that I would be able to analyze exam statistics to shed additional light on the situation. Plus, although the old exam would be helpful, the one they were going to take had been significantly modified. I was so upset and angry, I guess I smacked the exam booklets down on individual desks and had to leave the room for awhile (another proctor was present). Later that week, a student came to my office and offered up an explanation for the sequence of events. The afternoon before the exam he was in a laboratory class and wanted to bait some of the other students; so he told a classmate (making sure others could eavesdrop) that he would share a copy of an old exam...
with just his closest colleagues that evening. Apparently this was how the rumor got started. Oh, and the student who supposedly had the exam, let us just say his score didn’t appear that he had been at all enabled.

Does the teaching scholar apply effectively the methods selected? Many individual course and instructor evaluation items could provide evidence to answer this question.

Does the teaching scholar modify procedures in response to changing circumstances? Just as flexibility and being able to adapt to change and replicating experiments is necessary in research endeavors, thus it is so for the teaching scholar. My most recent tale of flexibility and need for quick-thinking (read, disaster averted) was during the Fall 1998 semester when on one fateful examination day at 12 noon, the fire alarm sounded. Nineteen people had turned in their exams and the other 40 were in various stages of completeness - most were down to bubbling in their selections. The students were ushered out of the building and I made sure the tests were safeguarded; we were on the evening news as forty students sat on the curb and completed their answer sheets. Let’s just say my graduate student explained I ran back into a burning building to protect my babies (i.e., the exams). Due to my extensive data set, I was able to compare and contrast performance with previous years; the 19 versus 40 individuals; and also get in shots at professionalism and honor code. I hope I never have to be this flexible again. On the day of my second hourly exam later in the semester (after class was over thank goodness) another fire alarm sounded - this time a false alarm, but the term Draugalis-curse was coined by some students.

Significant Results

Does the teaching scholar achieve the goals? Document, document, document, but clearly articulate, do not submit every piece of material you have ever prepared for a course; rather synthesize structure, process, and particularly outcomes. There are a number of references to guide the construction of a teaching portfolio(13-15). Specific rating items may ask students whether the course piqued their interest and whether they considered the learning material valuable.

One may be able to track how many students choose an elective subsequent to receiving introductory material in a required course/rotation. As well, an instructor can track outcomes subsequent to certain experiences. For instance, I used to offer an elective clerkship rotation in Pharmacoeconomics - and I tracked how many students pursued post-graduate training in the field after completing the rotation. Now I have a rotation in Pharmaceutical Education Research.

There may be other unique things to each of you. I would encourage exploration of a variety of outcomes you influence, some beyond traditional classroom and experiential settings. Perhaps supervising independent studies, undergraduate research project mentoring, student organization advising, and national competition mentoring. And as far as the last one goes, the student does not have to win or place to have positive outcomes from the experience. The students will come to this conclusion upon submitting their own proposals or portfolios—these are indeed products of learning, outcomes if you will. Are you the resident guru for a particular topic or initiative? If so, document what you provide to students and perhaps colleagues. Evidence of selected competencies upon completing a specific course or specific series of objectives could also provide evidence of results.

Does the teaching scholar’s work add consequentially to the field? A new way of teaching therapeutics may serve as a model in one’s home institution or beyond. Certainly the host of AACP Innovations in Teaching winners, honorable mentions, and submitters would provide evidence in this regard.

Does the teaching scholar’s work open additional areas for further exploration? The specific passage in Scholarship Assessed - “Because the four types of scholarship dynamically interact, their contributions to each other can be traced as well. New developments in research, for instance, can contribute to ideas about teaching or application, while ideas generated in teaching, integration, or application can suggest new lines of research (16).” Telling the story of how one has done this would make interesting material in a promotion and tenure dossier.

Effective Presentation

Does the teaching scholar use a suitable style and effective organization to present his or her work? Rating items that I track include:

• This instructor presented material in such a way that my learning was greatly facilitated
• This instructor explained concepts and ideas by providing examples and relevant applications

Does the teaching scholar use appropriate forums for communicating work to its intended audiences? A book you may find informative in this regard is Teaching and Performing-Ideas for Energizing your Classes(17). I have yet to find the time or energy to read it, I figure I might absorb some simply having it on my shelf. However, I have scanned it and certain aspects make sense, probably more so now with the MTV generation. Some may recoil at this suggestion, and ask, “now we have to entertain as well”?

Chapter 7 deals with an introduction to development, discovery, and drama. Pacing oneself, warm-up exercises, and breathing are among the topics covered. These topics are reminiscent of a semester-long, President-sponsored, University-wide Leadership Development Program where an actress/drama coach had us doing the most ridiculous breathing and utterances of sound which were supposed to help us take control of situations when it becomes necessary to be confrontational, exert power, and the like. So it seems to make sense when you think about it.

Chapter 6 is titled “Energy, Creativity, and Spontaneity.” We ask students to think on their feet; therefore we should as well. Not possessing the ability to deviate from a lecture script or planned activity is really quite staid. Some of the most positive comments I ever received on student evaluations have to do with the ability to be spontaneous, go with the flow, come up with off the cuff examples, and the like. However this can work against you.

In my first five years of teaching, in addition to teaching the Research Design/Statistics course, I also taught a course titled “Psychosocial Aspects of Drug Use”. I don’t have to tell you that rarely are either of these classes among the favorites in the curriculum. Anyway during one lecture I was relaying a practice story (that had not been scripted in the lecture notes) where I indicated that early in my husband’s practice, the state of Michigan still had a Prophylactic Act in place which

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required that the pharmacist maintain control over said merchandise. His first position upon graduation was at a busy chain store pharmacy located on Grand River Avenue in East Lansing bordering on the Michigan State campus. The Trojan sales representative told Paul that his store was the number 3 store in terms of volume in the whole United States - and this was way before the safe-sex campaigns. Apparently MSU students were careful and prudent, good to know since my three sisters are alumnae. I said to the class, can you imagine the marketing and advertising potential, they could have hung up a banner - Number 3 in the nation, come one, come all. And as soon as it was out of my mouth I about died. I tried to carry on without missing a beat. After class, my TA asked if I had planned the comment, and I said I most certainly had not.

Does the teaching scholar present his or her message with clarity and integrity? Certainly there are specific student ratings items in each institution that address these aspects. I always find it amazing when current and particularly, former students, tell me about what they remember from interactions we had (some from many years ago). Some of these were from one-on-one interactions and others were in the classroom situation. I guess sometimes it also reminds me how powerful we can be and maybe I need to be more careful and weigh what I say. Obviously, this kind of impact would be hard to quantify, but perhaps could be captured somehow via qualitative student input.

Reflective Critique

Does the teaching scholar critically evaluate his or her own work?, Does the teaching scholar bring an appropriate breadth of evidence to his or her critique?, and Does the teaching scholar use evaluation to improve the quality of future work? David Kolb is the most commonly cited theorist in the experiential learning literature. His theory uses earlier work by John Dewey, Kurt Lewin, and Jean Piaget to develop a four-step system of experiencing and understanding(18). The four-steps include a concrete experience, reflective observation, abstract conceptualization and generalization, and active experimentation(19). Experience and learning from an experience are not the same; that is, an experience alone does not cause learning. I think we all buy this as far as our students are concerned, why not ourselves, particularly as applied to our teaching?

Kolb and other theorists consider reflection as primary in experience-based learning; operationalized as follows: simply experiencing a phenomenon is not sufficient for learning to occur(20). The learner (in this discussion the teacher as learner) must do something with the perceived experience. In order to learn from an experience; one must be aware of the experience, reflect on the experience, develop a personal theory of the experience, and actively experiment with what is learned. The student (i.e., teacher) must “do something” with the experience for learning to occur.

Just as we know that simply placing students in pharmacy environments is not enough to cause learning, neither is tossing an individual in the classroom enough to create a teaching scholar. And of course, there is the old saw: Does an individual have ten years of experience versus has he or she experienced the same experience ten different times - it most certainly applies to teaching as well as it applies to practicing pharmacy. Reflection promotes intellectual engagement. It will improve one’s teaching scholarship.

CONCLUSION

In closing, I quote Robert Louis Stevenson who said, “to know what you prefer instead of humbly saying Amen to what the world tells you you ought to prefer, is to keep your soul alive”. To which I add, keep your soul alive as you develop your professional plan and map your career strategy.


References