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Research

Appropriateness of self-perceived teaching proficiency as a measurement of teaching certificate program effectiveness within post-graduate training programs

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Abstract

Objective: To determine if self-perceived teaching proficiency obtained from a teaching certificate at the end of post-graduate training is appropriate to measure program effectiveness and if the teaching certificate program influenced the decision to choose academia as a career.

Methods: Pharmacy practice faculty from U.S. Schools and Colleges of Pharmacy were surveyed to determine teaching activities included in teaching certificate programs from a list of 21 teaching activities, if they felt their teaching certificate prepared them to conduct the teaching activities by the end of the program, and to indicate if, after one year in academia, they continued to believe the teaching certificate program prepared them to perform the teaching activities.

Results: There were 1620 faculty surveyed and a 32% response rate. The self-perceived ability at the end of residency compared at two time points (directly at the end of residency and retroactively after one year in academia) was similar for 15 of the 21 skills. Self-perceived ability at the 1-year time point was significantly higher for four skills ($p < 0.05$): writing a course syllabus, developing a grading rubric, writing an experiential rotation syllabus, and serving as a student advisor. Self-perceived abilities were significantly lower at the latter time point for two skills—incorporating active learning and delivering a lecture. Overall, 70% of respondents reported that the teaching certificate program influenced their decision to choose a career in academia.

Conclusion: Self-perceived ability to perform teaching skills measured at the end of teaching certificate programs is similar to self-perceived ability measured at the end of one year in academia indicating self-perception of ability is an appropriate measure of teaching certificate program efficacy. Greater emphasis on skills involving delivering a didactic lecture and incorporating active learning seems warranted.

Keywords: Teaching certificate program; Teaching experience; Resident; Post-graduate training.

Introduction

Since the release of the 2002 American Association of Colleges of Pharmacy (AACP) task force report, residency programs have been encouraged to add more formal teaching components to their program structure.[1] A relationship between a school of pharmacy and residency program can help provide the necessary training for residents to be confident educators.[1] The latest requirement for residency programs to incorporate teaching education into their program came from the 2014 American Society of Health Systems Pharmacy (ASHP) accreditation standards for post-graduate year 1 (PGY1) residencies.[2] ASHP requires "teaching, education, and dissemination of knowledge" to be an objective of every PGY1 program for accreditation.[2]

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Being able to educate others is essential for any pharmacist completing a residency, no matter the practice area they choose to enter.[3] The ability to teach is necessary for patient and family education in addition to the didactic, experiential, and interprofessional education found in faculty positions.[3]

Most programs use resident's self-perceived proficiency upon completion of the program and/or whether or not the resident chooses a career in academia as a measure of success.[4–8] One of the first certificate training programs was initiated in 2001 at the University of Kentucky.[9] The teaching certificate program had ten participants who self-assessed their effectiveness on a scale of one (completely ineffective) to ten (outstanding effectiveness). Before the program, residents gave themselves an average score of five and following the program, the average was increased to seven.[9] Gettig and Sheehan[10] were the first to research the graduates of a single residency program after entering practice. Of 53 graduates from the Indiana Pharmacy Teaching Certificate program, the majority responded that they strongly agreed or agreed that seminar participation, teaching experience, and portfolio feedback helped them in their current position.[10]

There is no research in the pharmacy literature to indicate that self-assessment in a pharmacy residency teaching certificate program is an appropriate measure of skill development. The concern for using self-assessment to measure knowledge or skill development is the overestimation of capability. Sitzmann et al.[11] conducted a meta-analysis investigating self-assessment as a means to measure learning in the cognitive and affective domains. The meta-analysis included 41,237 learners in classroom settings (including medical education) and workplace training in a variety of fields. The affective domain included reaction (learner satisfaction), motivation to use the attained knowledge, and self-efficacy. Results indicated that there was a moderate correlation between self-assessment and cognitive learning and a large correlation of self-assessment with reaction or motivation.

The objectives of this study were to determine if self-perceived teaching proficiency is a useful measure of teaching skill development, and if the teaching certificate program influenced the decision to choose academia as a career. To avoid overestimation of capability at the end of the residency, study participants who had at least one year of academic experience were asked to self-assess the teaching certificate program retrospectively at two time points—at the end of the residency and after one year of an academic appointment.

Methods

Study participants

A list of U.S. pharmacy faculty and their e-mail addresses were obtained by permission from the AACP Faculty and Professional Staff Roster. Faculty who met the following criteria were e-mailed an electronic survey using SurveyMonkey® software: Pharmacy Practice/Pharm.D./Assistant Professor, Instructor, or Lecturer. e-Mail reminders were sent to faculty on days seven, 14, and 21. The survey was closed after one month. Practice faculty participants were excluded if they had not completed a teaching certificate program, the first job following post-graduate training was not in academia, they delivered no didactic lectures in the first year of academia, or they provided no experiential rotations in the first year of academia.

Survey design

The survey contained 17 items including demographic information for the participants, teaching activities included in the teaching certificate programs, and opportunities to teach during the first year of academia (Table 1). Participants were provided a list of common teaching activities adapted from the Greco et al.[12] study that described the characteristics of 14 post-graduate year 2 (PGY2) residency programs (Table 2) and were asked to indicate if each teaching activity was included in his or her teaching certificate program.

Participants were asked to report self-efficacy for each teaching activity at two time points with the following questions: "At the end of post-graduate training, I felt my teaching certificate program prepared me to perform the teaching activity" and "After completing one year in academia, I still continue to believe my teaching certificate prepared me to perform the teaching activity." The survey was pre-tested and feedback was provided by the institution's Scholarship of Teaching and Learning (SoTL) Research Group. The study was reviewed by the University's Research Review Board and approved as exempt.

Data analysis

Descriptive and inferential statistics were performed. All data were nominal and were reported as both number and percentage with the exception of the assessment of the influence of the teaching certificate on the decision to choose a career in academia (measured on a five-point Likert scale). The McNemar Symmetry Chi-Square test was used for the two sample parallel crossover comparison of the teaching activities at the end of the teaching certificate program and at the end of the first year in academia. Statistical significance was set at a two-tailed alpha level of 0.05. Statistical analysis was performed with SYSTAT 13 (San Jose, CA).

Results

There were 1620 U.S. pharmacy practice faculty surveyed and 513 responses were received for a 32% response