Currents in Pharmacy Teaching and Learning xxx (xxxx) xxx–xxx

Contents lists available at ScienceDirect

Currents in Pharmacy Teaching and Learning

journal homepage: www.elsevier.com/locate/cptl

Research Paper

Assessing self-assessment practices: A survey of U.S. colleges and schools of pharmacy

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ARTICLE INFO

Keywords:
Self-assessment
Continuing professional development

ABSTRACT

Objective: This study quantifies and describes student self-assessment approaches in colleges of pharmacy across the United States.
Methods: Faculty members identified as assessment directors from college websites at U.S. colleges of pharmacy were electronically surveyed. Prior to distribution, feedback and question validation was sought from select assessment directors. Surveys were distributed and recorded, via Qualtrics® survey software and analyzed in Microsoft Excel®.
Results: Responses were received from 49 colleges of pharmacy (n = 49/134, 37% response rate). The most commonly used strategies were reflective essays (n = 44/49, 90%), portfolios (n = 40/49, 82%), student self-evaluations (n = 35/49, 71%) and questionnaires/surveys/checklists (n = 29/49, 59%). Out of 49 submitted surveys, 35 programs noted students received feedback on self-assessment. Feedback came most commonly from faculty (n = 31/35, 88%). Thirty-four programs responded regarding self-assessment integration including fifteen colleges (n = 15/34, 44%) that integrated self-assessment both into the curriculum and co-curricular activities, while 14 (n = 14/34, 41%) integrated self-assessment exclusively into the curriculum, and five (n = 5/34, 15%) used self-assessment exclusively in co-curricular activities.
Discussion and conclusions: Student self-assessment is a critical first step of the Continuing Professional Development (CPD) process. Colleges and schools of pharmacy use a wide variety of methods to develop this skill in preparing future practitioners.

Introduction

Student self-assessment remains a vital skill for the development of a competent healthcare professional engaged in self-directed lifelong learning. A variety of definitions of self-assessment exist in the literature. Andrade[1] defines self-assessment as: "…a process of formative assessment during which students reflect on and evaluate the quality of their work and their learning, judge the degree to which they reflect explicitly stated goals or criteria, identify strengths or weaknesses in their work, and revise accordingly." Alternative definitions include the involvement of learners in judging whether or not the learner's identified standards have been met or the learner's estimates of how much they know or have learned about a particular domain.[2,3] Ultimately, self-assessment is a tool to facilitate self-directed learning.[4] Reported benefits of self-assessment include empowering students, increased morale and motivation, increasing dialogue between students and instructors, and improvements in knowledge, communication, and performance.[5,6]

In addition, self-assessment is the foundation of continuing professional development (CPD), serving as the first step in the CPD

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http://dx.doi.org/10.1016/j.cptl.2017.07.008

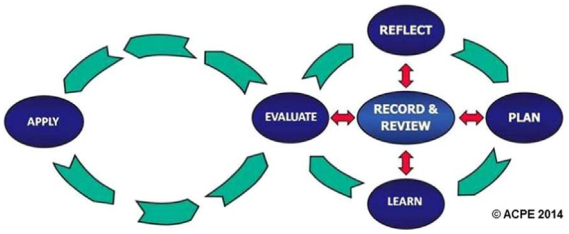

Fig. 1. Continuing professional development cycle.

cycle described in Fig. 1.[7,8] Defined as "an ongoing, systematic, and outcomes-focused approach to lifelong learning that is applied into practice," CPD includes the components of reflect, plan, learn, evaluate, and apply.[9] At each step in the cycle, learners record and review in a personal learning portfolio.[9] Reflect, the first step in the CPD process, requires pharmacists to consider their personal and professional lives and self-assess their learning goals and needs.[9] This model has been endorsed by the Accreditation Council for Pharmacy Education (ACPE) for practicing pharmacists as providing more structure to post-pharmacy school education compared to the current system of mandatory continuing education (CE) and has been incorporated into CE systems in several countries.[9]

The terms self-assessment, self-reflection, and self-evaluation are often used interchangeably in the literature, however, some differences exist among the three terms.[10] Reflection is an intentional exercise aimed at exploring one's *understanding* of the problem one is facing, rather than trying to simply solve the problem.[8] In a sense, a learner is trying to understand the *why* of the problem.[8] Self-reflection often lacks established criteria to confirm knowledge.[8] Self-evaluation is a summative judgment regarding performance.[8,10] The key difference between self-assessment and other terms is that self-assessment serves as a process for formative evaluation and lifelong learning and improvement.[10]

Although self-assessment definitions vary somewhat in the literature, there are several characteristics common to these definitions including that they are: (1) criterion-referenced, meaning that assessment criteria are pre-defined by instructors, or co-defined by student and instructor, therefore allowing students to evaluate their work the same way instructors do; (2) provide feedback to the learner; and (3) involve regulating one's thinking processes and task performances as they happen.[1]

Key Element 4.1 of the ACPE Standards 2016 declares that graduates should be able to "…examine and reflect on the personal knowledge, skills, abilities, beliefs, biases, motivation, and emotions that could enhance or limit personal and professional growth".[11] These Standards further state that developing habits of self-directed lifelong learning must be a purposeful curricular commitment in doctor of pharmacy (PharmD) programs. As one of the primary goals of these established Standards is to produce "CPD ready" pharmacists, self-assessment activities should not be conducted in isolation (activity, course), but rather as part of an integrated process (curriculum, co-curriculum).[12]

Both students and professionals struggle with accurate self-assessment, and like most skills, self-assessment is a process that can be improved over time.[10,13] Cited barriers to effective self-assessment include: the inability to peer-reference (observe, compare, contrast), lack of knowledge or expectations regarding assignments, inability to process verbal or non-verbal feedback in a timely fashion in order to reorient behavior, or lack of accountability to change one's actions.[14] A recent systematic review from the dental literature analyzed 19 studies utilizing self-assessment as a means to evaluate clinical competence and found limited evidence of reinforcement of self-assessment skills in the clinical educational environment.[15] Although no such data exists in the pharmacy literature, similar issues may likely exist in pharmacy experiential education.

Numerous descriptions of self-assessment activities in pharmacy curricula have been published. Examples include student learning portfolios,[16–19] reflective writing,[20–22] peer/self-assessments,[23–25] and learning style tools.[14] Although ACPE standards state that graduates must be able to perform self-assessment, no comprehensive investigation of self-assessment practices at US colleges and schools of pharmacy has been published. The purpose of our research was to further quantify and discuss the current self-assessment activities at colleges and schools of pharmacy across the US.

Methods

Design

The study design of this project was a national electronic survey. A list of US colleges and schools of pharmacy with ACPE accreditation was obtained from the ACPE website. Pharmacy faculty members serving as assessment directors or assistant deans of assessment were identified from college websites. If those positions did not exist or were not listed, alternatively the chair of the assessment committee was contacted. In cases where no faculty leading assessment efforts were listed on their college's website, surveys were sent to the college CEO Dean with the request that it be forwarded to the faculty member in charge of assessment. Qualtrics® software (Provo, Utah) was used for survey distribution and data collection. Between April and May 2016, the survey was distributed with reminders sent to faculty on days 7, 14, and 21. The survey was open for one month. A notice of research was displayed on the first page of the survey, and completion of the survey served as the participant's voluntary consent. The University of Tennessee Health Science Center Institutional Review Board approved this study with exempt status.