Self-analysis in Pharmacy and Health Science practices: A case study of pharmacy institutions

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KEYWORDS

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ABSTRACT

Self-assessment (SA) is essential for a healthcare professional's ongoing growth and development, starting from their time as a student pharmacist and continuing throughout their professional career. The study examines the existing body of research on SA among students and practitioners and investigates the potential for enhancing this capacity in Pharmacy and Health Science. Despite the potential for improvement, learners and professionals still need help accurately assessing themselves. Until SA procedures improve, experts' evaluation of learners continues to be the primary method of testing abilities and knowledge. Although SA is crucial for lifelong learning, external evaluation is as critical for practitioners' ongoing professional growth.

1. Introduction

Student Self-Assessment (SA) is crucial for the growth of a skilled healthcare professional actively involved in continuous independent learning [1]. Multiple meanings of SA can be found in the research. Alternative definitions encompass learners' participation in evaluating whether their designated criteria have been achieved or their assessments of their knowledge or learning in a particular field. SA serves as a mechanism to promote self-directed learning. The reported advantages of SA encompass the empowerment of students, heightened morale and motivation, enhanced conversation between students and teachers, and advancements in knowledge, interactions, and productivity in Pharmacy and Health Science [5].

SA is crucial in initiating the Continuing Professional Development (CPD) process, functioning as the initial stage in the CPD cycle [2]. CPD, or Continuing Professional Development, is a systematic and results-oriented approach to continuous learning that is actively implemented. It involves critical reflection, planning, education, evaluation, and application. During each stage of the cycle, students document and evaluate their progress in a personal educational portfolio. Reflect, the initial stage in the CPD procedure necessitates pharmacists to contemplate their personal and occupational lives and assess their learning objectives and requirements [3]. The Accreditation Council for Pharmacy Education (ACPE) has officially approved this scheme as a more organized approach to post-pharmacy school education for performing pharmacists, in contrast to the current mandatory Continuing Education (CE) system [14,4]. This approach has been integrated into the CE frameworks in various countries.

The terms SA, self-reflection, and self-evaluation are frequently used interchangeably in literature. However, there are some distinctions between the three categories [10]. Reflection is a deliberate practice that examines one's comprehension of a situation rather than solely focusing on finding a solution [13]. A student is attempting to comprehend the underlying reason behind this issue. Self-reflection needs to have well-defined standards for validating knowledge. SA is a final assessment of one's performance [4]. The primary distinction between SA and other words is that SA functions as a method for the initial evaluation and ongoing learning and enhancement in Pharmacy and Health Science.

2. Methodology

Design

This experiment employed a national electronic questionnaire as its study methodology. The ACPE website compiled US universities and pharmacy colleges that have received ACPE certification [11].

Pharmacy instructors functioning as assessment coordinators or associate deans for evaluation were located by searching through college sites. If the roles above were either nonexistent or not indicated, the evaluation committee chair was called as an alternative. If no faculty members responsible for evaluation were mentioned on the college's site, questionnaires were submitted to the university's CEO Dean, with an inquiry to forward them to the faculty person in charge of evaluation.

The Qualtrics® software distributed surveys and gathered data [6]. The questionnaire was circulated during June and July 2019, and invitations were sent to professors on days 7, 14, and 21. The questionnaire was accessible for one month. The first webpage of the questionnaire contained a research notification, and by completing the questionnaires, respondents provided their free consent [7]. The Institutional Review Committee of the University of Tennessee Health Sciences Park has granted this study an exempt category.

Instrument

The survey comprised 19 topics, encompassing demographic data for pharmacy universities, SA tasks, student suggestions, and CPD. Respondents were given a selection of items to pick from and could submit their responses in free-text format for every query [12]. The health sciences research was examined to compile a list of SA techniques. This list was then utilized to create inquiries on the evaluations used in the pharmacy program [8]. Before being distributed, the survey underwent validation through question suggestions and pilot testing conducted by three evaluation coordinators at pharmacy universities in the southeast area. The online survey used skip logic patterns to ensure participants answered only items relevant to their course [9]. The poll was explicitly intended to be completed in around 10 minutes. The results have been analyzed using statistical analysis computed in Microsoft Excel. The data collected were categorical and presented in numerical and percentage formats.

Impact of SA in pharmacy and health science

SA studies

Skilled professionals continuously learn throughout their lives to establish suitable learning objectives to address perceived and actual shortcomings in Pharmacy and Health Science. Although SA is widely recognized as valuable in theory, its accuracy could be higher. In a comprehensive analysis of medical literature, around 65% of research has indicated minimal, nonexistent, or opposite correlation between SAs and external evaluations. Less skilled and more confident individuals tend to have the lowest level of accuracy.

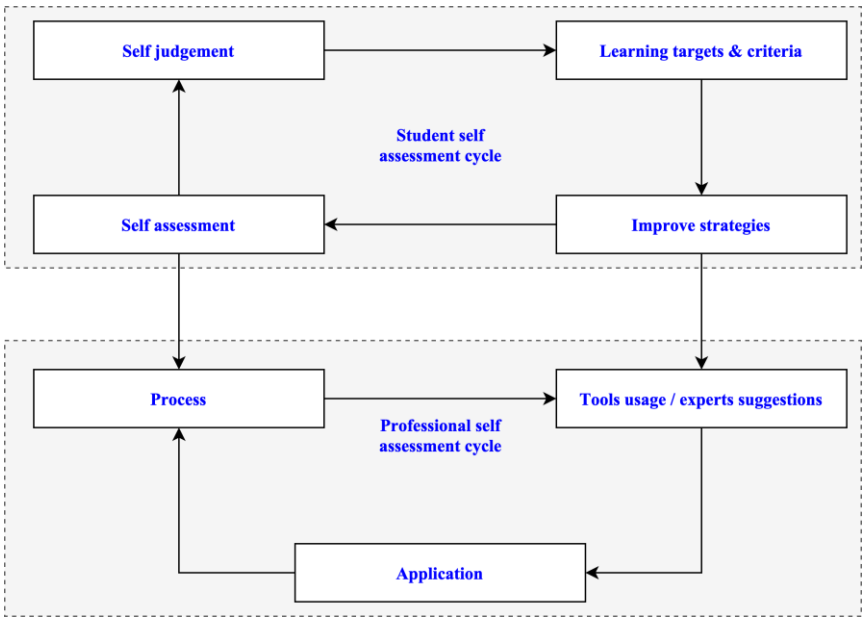

Fig. 1. Workflow of the self-evaluation in health science and pharmacy

Although SA is crucial for maintaining professional ability, a person's SA skills appear linked to their ability level. People with the most significant skill levels sometimes tended to be excessively self-critical in their self-judgments, as contrasted to outside evaluations of their competency. Persons with the lowest competency tended to exaggerate their talents and needed to modify their perceptions when given external assessment successfully. People with moderate competency tended to be the most precise in assessing their abilities and maintained the same degree of proficiency when given outside evaluation. Consistent patterns were observed in the precision of SA among family medicine trainees.

Professional Education and SA

Developing SA skills is considered a crucial aspect of improving academic achievement in Pharmacy and Health Science. Recording clinical interactions on video is a highly effective method for helping learners evaluate and enhance their communication abilities. By utilizing videotaping, they could analyze their conduct and provide precise feedback on areas for improvement by examining specific instances. Even without an instructor and coaching, 30% of these pupils acquired valuable insights into their interpersonal skills and how they will impact the patient visit. Reflection-in-action, known as actual time SA, has positively impacted the critical-thinking abilities of fourth-year pharmacy students. This was achieved by asking learners to offer an overview and reasons for their SA of trust levels. An essential aspect of expert SA is the capacity of learners and professionals to acquire an understanding of their abilities and shortcomings in delivering healthcare to patients.

3. Results and discussion

The questionnaire link was distributed to 134 valid email addresses, each representing a single contact from a pharmacy school that is fully certified by ACPE or is in the process of becoming accredited. In total, 49 replies were obtained, leading to a response rate of 37%. The majority of participants said that their program fulfills ACPE Key Element 4.1 by employing reflective essays (92%), pupil SAs (73%), or written/electronic reviews (84%). Additional modalities encompassed peer evaluations, group evaluations, and questionnaires/surveys/checklists (Figure 2). Of the 50 answers obtained, 32 universities and schools provided information on how they executed SA operations. Among these, 12 universities integrated SA into both the academic program and co-curricular operations. Fourteen universities stated incorporating SA into the educational program, whereas five indicated incorporating it only into co-curricular operations.

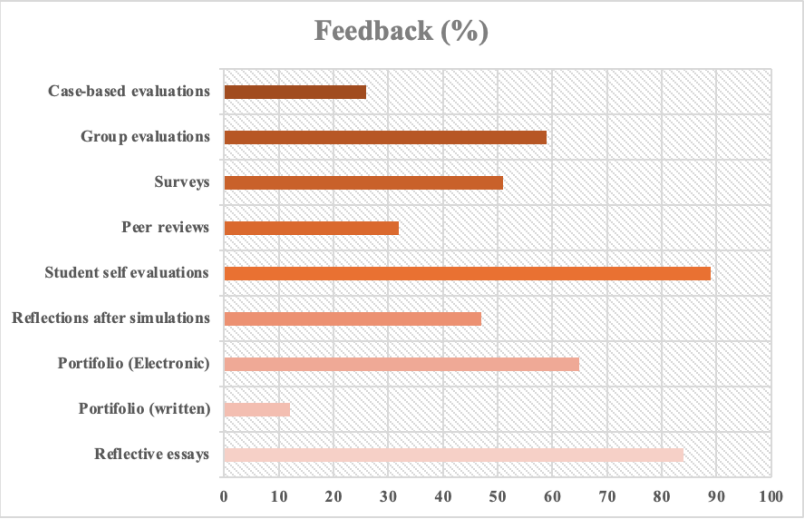

Figure 2. Feedback analysis of self-reflection & learning

Out of the 40 courses that reported employing student portfolios, almost all (85%) used an electronic version. Most programs indicated that pupil portfolios are utilized continuously during the pharmacy

course. The portfolios most frequently contained reflections (81%), SAs (74%), and skills-based activities (52%). Additional responses encompassed notes, credentials, service actions accompanied by reflections, curriculum vitae, peer assessments, and career development objectives (Graph 2). The primary source of feedback for pupils' SAs is instructors (87%). However, peers (27%), mentors (24%), mentors (49%), or other sources (12%) who are assigned faculty advisors also provide input.

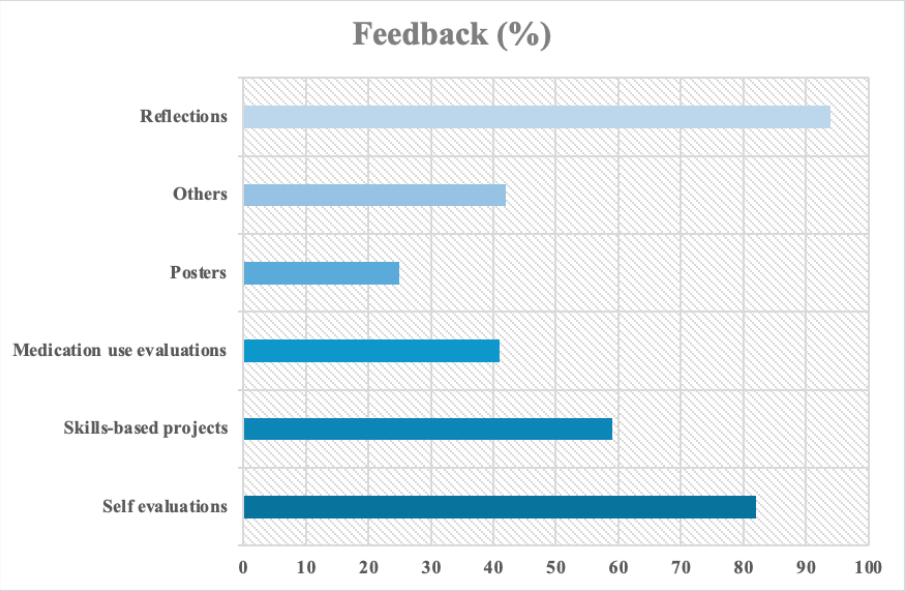

Figure 3. Learning portfolio analysis

Out of the total number of programs, just two (6%) said they do not comment on SAs. SAs were conducted through laboratory tasks, both before and following a course. The frequency of completion varied, ranging from once to twice a semester or every quarter. Out of the 49 respondents, 45 reported having procedures to guarantee the completion of SA operations. These procedures include a completion verification (19% of participants), a quality verification (9% of participants), both a finishing check and a quality verification (68% of participants), or another process (7% of participants). The most frequent "other" reaction was ensuring completion relies on the individual course chairman.

Four institutions utilized a validated instrument to assess learners' preparedness to participate actively in SA or independent learning. The tools used in the study consisted of the Self-Directed Learning Ready Scale (SDLRS), the Oddi Continuing Education Inventory, the Cognitive Interpersonal Style Assessment (TAIS), or a rubric explicitly developed for the study. Among the 50 colleges that responded, 48 programs addressed CPD questions. Of 48 applications, 89% said they introduced learners to CPD. Among these 42 applications, 81% claimed that CPD is consistently addressed. Seven participants recognized that CPD is only provided as an introduction course, while another seven (17%) stated that CPD is not offered for pupils in any way.

Multiple programs offered supplementary remarks regarding pupil SA and self-awareness. An overarching motif is that the SA procedure is consistently undergoing changes and development. Several problems were identified, such as the difficulty of finding an environment that fulfills all the course requirements, the amount of faculty work required for portfolio evaluation, and the task of motivating learners to perceive SA as a valuable activity.

4. Conclusion and future scope

To make progress and utilize SA skills and capacity in the professional and ongoing development initiatives in Pharmacy and Health Science, it is necessary to create and verify suitable models and techniques, offer educators both theoretical knowledge and real-world applications and incorporate culture in the educational offerings where SA is considered a crucial component for achieving success in professional routine. This will necessitate a dedication to cooperate among the primary entities that

oversee professional conduct, including colleges and universities, disciplinary groups, accreditation businesses, and state and national licensing authorities for health professionals in Pharmacy and Health Science.

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