

## VIEWPOINTS

### Self-Assessment in Pharmacy Education

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The new standards for the doctor of pharmacy (PharmD) degree issued by the Accreditation Council for Pharmacy Education (ACPE) call for an increased emphasis on students' self-directed learning. For example, guideline 11.1 under standard 11 on Teaching and Learning Methods, states that "From the earliest stages in the program through the advanced practice experiences, students should be encouraged to assume and assisted in assuming responsibility for their own learning (including assessment of their learning needs; development of personal learning plans, and self-assessment of their acquisition of knowledge, skills, attitudes, and values and their achievement of desired competencies and outcomes."<sup>1</sup> In other words, students are expected to be able to analyze their own learning needs, allocate time appropriately, and then accurately self-assess to determine if those learning needs were met. These skills are critical for their success as lifelong learners in pharmacy. Concomitantly, ACPE has embraced the concept of continual professional development (CPD) as a framework for quality improvement of the current system of pharmacy continuing education.<sup>2</sup> CPD is a self-directed model for continued learning that can best be described as a five-step cycle that begins with self-appraisal and is followed by planning, action, documentation, and evaluation.<sup>3</sup> A critical and important first step in successful CPD is self-assessment (self-appraisal). In other words, the ability to critically examine oneself and appraise professional strengths and weaknesses, and then use that analysis to plan for continued growth and development.

Self-assessment then is a foundational concept in both the new standards for pharmacy education and in the emerging model of continual professional development for ensuring continued learning and growth of professionals. A close examination of self-assessment is in order.

First, an understanding of self is required. How is the sense of self developed? It has been suggested that one's perception of self is formed through experiences with

one's environment. This perception is reinforced through evaluations by significant people in one's life.<sup>4</sup> Thus, a student's perception of self is formed through experiences in the classroom and on rotations, and reinforced by evaluations by faculty members, peers, and preceptors.

A review of the literature informs us of several salient points regarding self-assessment. The results of a meta-analysis conducted several decades ago found a low positive correlation between measures of self and actual performance and achievement (Pearson's  $r = 0.21$ ).<sup>4</sup> More recently, studies on medical students have found low correlations between students' self-assessment and actual performance or achievement.<sup>5-7</sup> Students typically rate themselves lower than experts rating of their performance, but this is not consistent across types of ability (eg, cognitive, psychomotor, or attitudinal abilities). In addition, medical students do not allocate more time for study in areas which they have self-assessed as having difficulties or poor performance.<sup>8</sup> So even if students' self-assessments were accurate, that knowledge was not used in budgeting their time for study.

One possible explanation for the low correlation between student self-assessments and expert assessment of their performance may be lack of maturity or inexperience. The question then, is does the ability to accurately self-assess change over time? Gruppen and his colleagues examined self-assessment of medical students over time and found stability over the first 2 years of the curriculum and then a decline.<sup>9</sup> The results of this study suggest that maturation had no effect on increasing the ability to accurately self-assess. Students underestimated their abilities in the first 2 years of the didactic curriculum and then overestimated their abilities in the third year when OCSE's were used to develop clinical skills. This could be the result of the fact that self-assessment is a fixed or stable ability that develops early in one's life, or it could be simply a result of little opportunity to practice or develop this skill during medical school.

The research on self-assessment is troubling for educators. Pharmacy education is, and appropriately so, emphasizing self-assessment in both pharmacy education and in continuing education. However, it is clear that

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the use of self-assessment instruments and surveys alone cannot and do not make self-assessments accurate and meaningful to students or pharmacists. Therefore, the utility of self-assessments in directing future learning, when the practice is merely completion of an instrument or survey is in doubt.

If one accepts the framework that the sense of self is formed and developed through evaluations by significant others, I would like to suggest that in order for students and pharmacists to increase their accuracy in self-assessment, any self-assessment instrument or survey must be accompanied by verification or providing evidence to support self-assessments. An essential component of advanced standing via portfolio review, developed for nontraditional PharmD students, is verification.<sup>10</sup> For example, if an individual self-assesses their ability in verbal communication skills as excellent, a verification of that could be participant evaluations from a presentation indicating excellent performance or a supervisor's comments on a performance evaluation. In their seminal book describing the abilities-based curriculum at Alverno College, Marcia Mentkowski and her colleagues state, "Curriculum needs to facilitate moving students toward an increasing integrity in self-assessment. It does this through insisting on the credibility of the evidence offered."<sup>11</sup> Verification of self-assessment ratings makes good sense and has been practiced in conjunction with self-assessment in other settings and for other purposes.

Secondly, pharmacy educators need to provide frequent feedback on students' self-assessments. Students have noted that feedback is essential in assisting them in developing more accurate self-assessment.<sup>12</sup> Another study on medical students reported that the use of repeated videotaping of patient history taking communication skills increased the students ability to accurate self-assess.<sup>13</sup> This is no surprise. Consistent and high quality feedback is a basic tenant of sound educational practice. Thusly, the continuous spiral of self-assessment, feedback, self-assessment, feedback can increase students' ability to accurately self-reflect.

Self-assessment is a critical and essential foundation for self-directed learning. However, educators cannot take this concept lightly. It is highly complex and warrants careful deliberation and planning in order to provide an opportunity for real growth and development for both students and practitioners.

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