SKILLS-BASED EDUCATION

COMMENTARY

Addressing Challenges in Skills-based Education Through Innovation and Collaboration

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Skills-based instruction plays an integral role in pharmacy education, serving as a bridge between the didactic and experiential curriculum. As Aristotle wrote, “For the things we have to learn before we can do them, we learn by doing them.”¹ Through skills-based experiences, students are able to apply knowledge and develop skills to demonstrate competency in a safe environment. Skills-based education provides students with real-world simulated experiences which expose them to a variety of pharmacy practice skills, including but not limited to patient consultations, compounding, dispensing, documentation, health-care provider interactions, and physical assessment.²⁻⁴ Through exposure to diverse and increasingly complex patient cases, students learn to apply skills across different environments, preparing them for introductory and advanced pharmacy practice experiences (IPPEs and APPEs).

As the theory of learning by doing (which dates back to early American philosopher John Dewey) suggests, students learn and adapt when immersed in hands-on real-world experiences.⁵⁻⁸ This is further supported by David Kolb’s experiential learning theory and the concept of active experimentation and reflective observation in the classroom or laboratory setting.^{5,9} Both of these theories have been used as a basis for skills-based education across health professions’ education.¹⁰⁻¹⁶ Additionally, Dewey emphasizes the value of the social and human context in learning, and Kolb suggests that learning is a holistic process that includes the context of the environment.^{8,9} This further illustrates the importance of exposing students to authentic experiences and simulations in skills-based pharmacy education.

Skills-based education has gained increasing attention with the Accreditation Council for Pharmacy Education’s

(ACPE’s) publication of the Pre-APPE Performance Domains and Abilities in Standards 2011, the Center for the Advancement of Pharmacy Education (CAPE) 2013 Educational Outcomes, the Joint Commission of Pharmacy Practitioners’ Pharmacists’ Patient Care Process, and the introduction of Entrustable Professional Activities (EPAs).¹⁷⁻²⁰ The ACPE Standards 2016 emphasize the importance of preparing team-ready and practice-ready graduates, with one focus being the “mastery of skills and achievement of competencies.”²¹ With the greater emphasis placed on skills-based education and APPE readiness, many schools and colleges of pharmacy have undergone curricular revision over the past decade, including significant changes to skills-based education. Skills-based courses often require considerable resources, including personnel, educational technology, space, medications and demonstration devices, standardized patients, and perhaps most coveted, faculty and instructor time.²² All of these factors have necessitated the development and dissemination of innovative approaches to skills-based education to meet the needs of student learning.

The idea for this theme issue was derived from shared experiences and collaborations within the Big Ten Academic Alliance Performance-Based Assessment Collaborative (BTAA-PBAC). The BTAA-PBAC, established in 2011, is comprised of skills-based instructors and leaders across nine schools and colleges of pharmacy. While the delivery of skills-based curriculum can be vastly different across institutions, US pharmacy schools provide similar opportunities and experience similar challenges. Topics discussed among the BTAA-PBAC have included remediation; accommodation; diversity and inclusion; wellness; professionalism; resources, including education technology and software; skills assessments and objective structured clinical examinations (OSCEs); and other innovations to meet challenges in skills-based education, all of which

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informed the general topics chosen for inclusion in the theme issue.

The goals of this theme issue are to highlight the scholarship of teaching and learning and perspectives of educators to foster scholarly dialogue regarding the challenges, opportunities, and innovative performance-based instructional and assessment practices in skills-based education. Members of the American Association of Colleges of Pharmacy (AACP) Laboratory Instructors Special Interest Group were invited to submit manuscript proposals surrounding relevant and timely topics in skills-based education. Proposal submissions included an abstract and detailed outline of the manuscript. A workgroup comprised of five members from different institutions was formed to develop an assessment rubric and evaluate submissions. At least two members of the workgroup reviewed each proposal. Not all submissions could be accepted, and authors whose proposals were not accepted were encouraged to pursue other avenues for publication of their scholarly work.

The topics included in this theme issue are timely, complex, and of high priority, deserving of broad discussion within the Academy. As instructors strive to identify best practices surrounding performance-based instruction and assessment in pharmacy education, we can collectively learn from the policies, practices, and diverse experiences of our fellow institutions.

Skills-based instruction and assessment is multifaceted, often requiring many different considerations, which include meeting the needs of the learner through personalized learning and adapting simulations to the changing environment of pharmacy practice. In this issue of the *Journal*, two articles discuss structure, processes, and resources needed to enhance learner success in the classroom. Volino and colleagues examine the importance and challenges of bridging accommodations across didactic, skills, and experiential education courses, including the importance of engaging all stakeholders early in the accommodations process.²³ Chen and colleagues discuss skills-based remediation best practices for summative performance-based assessments and advocate for further discussion around this topic in the Academy.²⁴ Additionally, two articles discuss changes in skills-based education with the evolution of pharmacy practice. Cook and colleagues discuss the importance of incorporating electronic health records into the curriculum to prepare students for pharmacy practice in an increasingly technological world.²⁵ Over the past year and a half, the COVID-19 pandemic transformed the delivery of healthcare, increasing the demand for telehealth services. Similarly, the pandemic necessitated the transition of skills-based courses from a historically in-person

learning environment to a virtual or hybrid learning environment. VanLangen and colleagues evaluated faculty and student perceptions and student performance on virtual skills-based assessments vs in-person assessments focused on verbal and written communication.²⁶ They discuss the appropriateness of the assessment and the application of their results to post-pandemic pharmacy education.

Simulations in skills-based courses go beyond disease states and medications. Equally important are the details in the patient case and the context in which they are presented. Several articles in this skills-based education theme issue of the *Journal* illustrate the importance of holistic simulations and activities, which include human, social, and cultural aspects. Eukel and colleagues implemented and assessed a difficult patient encounter simulation for students.²⁷ This article emphasizes the importance of practicing communication skills in complex situations, and the authors provide a link to all patient cases and instructor materials. Haas-Gehres and colleagues examine the use of self-efficacy theory in developing a culturally sensitive skills-based curriculum, and Nebergall and colleagues present the integration of diverse patient perspectives into a skills course sequence.^{28,29} Both of these articles highlight the role skills-based courses may have in the incorporation of diversity and inclusion topics and providing students a safe place to practice these skills prior to IPPEs and APPEs.

The pandemic has reminded us that change is constant and inevitable. Flexibility and understanding have become more necessary than ever. The articles in this theme issue demonstrate the ways in which educators in skills-based courses have adapted teaching strategies and activities to the needs of the learner, the evolving landscape of pharmacy practice, and the experiences of diverse patients. There will continue to be changes and innovations to pharmacy practice and skills-based education as we navigate the pandemic as well as the post-pandemic world and beyond. Continued scholarship of teaching and learning, sharing of best practices and innovations, and ongoing discussion of challenging topics regarding skills-based education is critical. Additionally, modeling adaptability and inclusive teaching practices to our students prepares them to implement these same skills in practice.

Skills-based education goes beyond the technical pharmacy skills we teach and must be framed in the context of the world around us. As American philosopher and educator John Dewey has been credited with saying, "If we teach today's students as we taught yesterday's, we rob them of tomorrow." We hope that this theme issue stimulates educators to continue to adapt, innovate, and share their scholarly work to advance skills-based education.

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