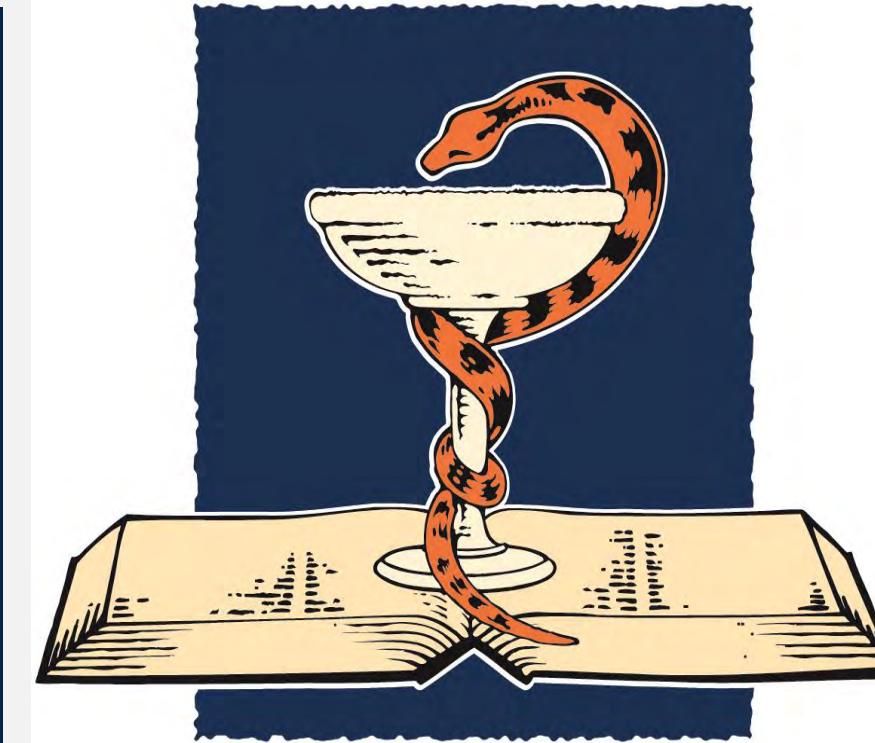


Preparing practice-ready graduates: An integrated approach to health systems sciences

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BACKGROUND

- Social/behavioral/administrative sciences are among the ACPE mandated foundational knowledge requirements for pharmacy school curricula. However, they are often taught in isolation whereby students lose sight of their meaning and significance in the pharmacists' patient care process. The previous curriculum at our institution used "siloed" instruction, where courses were taught as a single discipline.
- Backward design embodies the idea of "beginning with the end in mind," whereby desired student outcomes are used as a starting point, then assessments and learning experiences are designed specifically to achieve those outcomes.¹
- The theory of situated learning purports that learning is a function of the context in which it occurs.² With this in mind, learning activities were used to "situate" the learning into a pharmacy practice context.

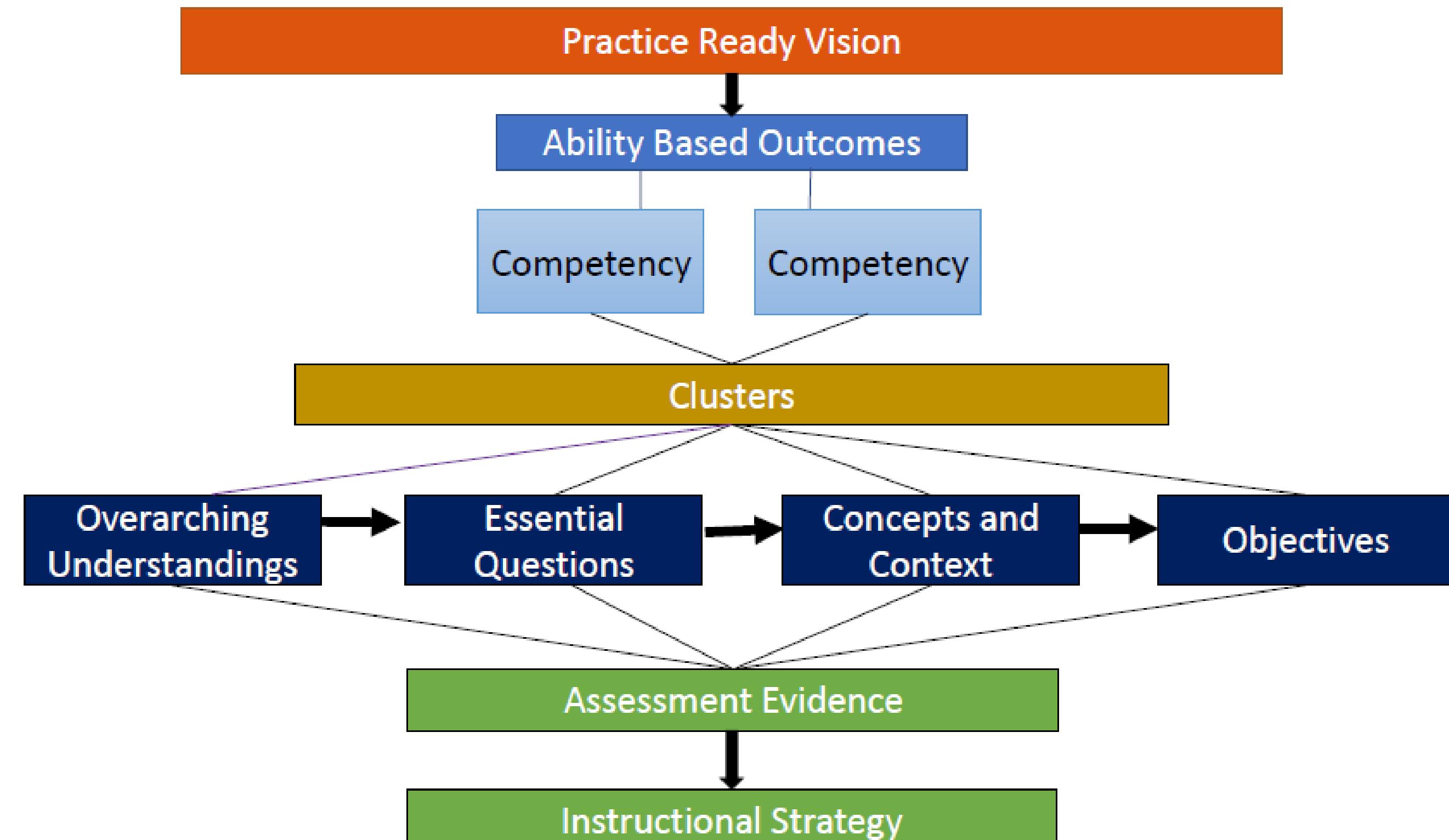
OBJECTIVE

To describe outcomes of an integrated learning experience for first-year student pharmacists focused on the US healthcare system, developed using backward design and the theory of situated learning.

METHODS

- Performance-based competencies were created from a shared understanding of what the "practice-ready graduate" should know, understand, and be able to do.
- From those competencies, an interdepartmental team developed overarching understandings (e.g., "Assessment of patient specific factors is necessary to ensure optimal clinical, economic, and humanistic outcomes.") and essential questions, from which learning objectives were created. (Fig. 1)
- The overarching understandings formed a framework for teaching units, aligning assessments and learning activities grounded in sound pedagogy. This approach resulted in a focus on outcomes rather than mere content coverage.
- Using the theory of situated learning, classroom activities, including student reflection, group case analyses, and role-play, were used to "situate" the learning into a pharmacy practice context, with rubrics developed to guide assessment.
- Quantitative assessment measures included objective structured clinical examination (OSCE) scores and final exam scores.
- Qualitative assessment measures included faculty reports via online survey of evidence of integration of material across disciplines as well as reports comparing previous non-integrated approach with the integrated approach, and student self-reported understandings as an open-ended exam item.
- Descriptive statistics were used to characterize assessment scores.

Figure 1. Development of the Practice Ready Curriculum



RESULTS

- P1 Fall Teaching Units included:** (1) the US healthcare system; (2) Community needs assessment; (3) Resources; (4) Communicating with patients and caregivers; (5) Healthcare team; and (6) Advocacy
- Disease state knowledge was integrated into several learning experiences:** (1) Unit 3 incorporated diabetes and hypertension into a patient case for needs assessment; (2) Unit 4 integrated previously learned knowledge of asthma to assess new prescription counseling.
- Aggregated data from authentic assessment indicated that students ($n=152$) performed well on exams (mean=85.9%; SD=6.5%) and OSCEs (mean=82.9%; SD=7.2%). An authentic assessment requires students to identify the appropriate knowledge and/or skills to utilize within realistic, practice-based scenarios.³
- Faculty ($n=6$) reported that student presentations and discussions reflected a deeper understanding of the US Healthcare system and implications for the profession of pharmacy than in previous years at the P1 level, and that, even when not asked to do so, students included relevant knowledge from their clinical and basic science courses.
- Student self-reported understandings were also in alignment with faculty-created overarching understandings used in development of the course.

Student Quote from Reflection: "One core principle that I've learned so far in the pharmacy curriculum is that when you treat one patient there is so much more that goes into their health than their choices and genetics. You must keep in mind their barriers, their access to care, and especially their socioeconomic situation."

Faculty Quote from Survey: "Several faculty members commented . . . that students were bringing up things they didn't even anticipate and they were very impressed with the students' desire to integrate what they had learned so far into the activity, even when it was unnecessary or outside the scope of what the instructor intended."

DISCUSSION

- The first semester of the newly developed Practice-Ready Curriculum was well-received by both students and faculty.
- Students performed well and demonstrated understandings aligned with desired student learning outcomes of the curricular development team.
- The success of this implementation may be attributed to the collaborative teaching structure that was formally supported by the Dean and the Office of Teaching, Learning and Assessment.
- Time was the biggest challenge. To team teach successfully requires a lot of planning as well as time for faculty members to transition mentally from teaching and planning on their own to doing so collaboratively. However, having a shared goal built around competencies helped faculty to find a common ground for planning and implementing team teaching.

CONCLUSION

- We propose a systematic process to create more meaningful integrated experiences to prepare the practice-ready graduate to apply knowledge of the social/behavioral/health systems sciences.
- Leadership support is a necessity, especially for resources and facilitation of a culture shift to a collaborative and integrated teaching model.

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