A qualitative exploration of ACPE Standard 4 key elements from the perspective of student pharmacists

Logan T. Murry PharmD PhD[1,2], Janice S. Murry MS[3], Matthew J. Witry PharmD PhD[1]

1. The University of Iowa College of Pharmacy , Iowa City IA 2. The Accreditation Council for Pharmacy Education, Chicago IL 3. The University of Nebraska College of Public Health

Introduction

- Skills related to leadership, self-awareness, innovation and entrepreneurship, and professionalism, key elements within the Accreditation Council for Pharmacy Education 2016 Standard 4 (ACPE-S4), continue to be important components of pharmacy education.[1,2]

Study Objectives

- The objectives of this study were to 1) explore student perspectives on the importance of ACPE-S4 key elements and 2) identify experiences that students identified as supporting ACPE-S4 attitude and skill development.

Methods

Population
- All students at UNMC College of Pharmacy from October to November 2021, which comprised of 57 First-Year (P1), 51 Second-Year (P2), 68 Third-Year (P3), and 53 Fourth-Year (P4) students.

Data Collection
- Focus groups and dyadic interviews with groups of pharmacy students from each cohort (i.e., P1) of enrolled students.
- Rank activity of importance for key elements followed by discussion of importance and opportunities to acquire skills related to key elements.

Analysis
- General inductive qualitative approach used to assign open codes to qualitative data by two study authors with extensive training in qualitative research.
- Codes were then grouped by ACPE-S4 key element, after which categories and subcategories were identified and agreed upon.

Results

- In total, 20 students participated in three dyadic interviews and 3 focus groups. Cohort, number of participants, and data collection method are in **Table 1.**

Class (Participants)	Data Collection Methods (# of participants)
P1 (2)	Dyadic Interview (2)
P2 (2)	Dyadic Interview (2)
P3 (5)	Focus Group (3), Dyadic Interview(2)
P4 (11)	Focus Groups (8,3)

Results Cont.

Qualitative Analysis

- identified four categories and ten subcategories of educational activities, programs, and experiences were identified. The four categories identified where students described opportunities to develop skills related to ACPE-S4 were: *Mentorship, Curriculum, Cocurriculum,* and *Opportunities Outside Academic Setting*. A full list of categories, subcategories, and representative quotes can be found in **Table 2**.

Table 2. Categories, subcategories, and representative quotes for opportunities to develop skills related to ACPE-S4 key elements.

Category	Subcategory	Representative Quote (Open Codes) [Participant ID]
Mentorship	Identifying a Mentor	P1 year, luckily I had exposure to the university before I came in. So I kind of built a connection with a mentor. And that definitely showed me different ways to approach different things and they talked about their experience and then I learn from it …if I didn't have them to tell me, to teach me, and to guide me, then I probably wouldn't be where I'm at today. (Identify Mentors Early) [P4C]
	Formal Mentorship Programs	So the Pharmacy Families, there is a faculty member, and they are assigned to students of all the years. And so you can think of it as a big little mentorship type thing. But they're supposed to meet at least, I believe, once a semester, or they encourage them; one semester…I know the college is trying to encourage and stress that that's really important. (Formal Mentorship Program) [P2B]
Curriculum	Practice Lab	PT labs really encourage a lot of those values, and taking leadership, or being professional with your group members, or coming up with ideas, and entrepreneurial sort of but not really. And then just being self-aware of how you're being in the group as well and how you're acting with a patient. I think really that's been probably the biggest thing that's encouraged a lot of my growth over the years is just labs. (Biggest Growth-Practice Labs) [P3E]
	Professional Development Course	One course that I would say could still be improved is the professional development course. I felt like some of those days were really beneficial… (Didactic Course Improvement-Professional Development) [P4A]
	Interprofessional Education (IPE)	Leadership would be great for IPE too, because if it's something that works for all of the professions that we're all comfortable with, it's a good way to show the benefit of pharmacy and how we can help in that clinical setting. (Leadership through IPE) [P3B]
	Experiential Education	Once we get out on rotations [you] get to take that upon yourself, figure out what are my deficits and what do I need to work on. Preceptors that are willing to actually tell you straight up what you need to improve on. So that way you can reflect on that and then get better.(Confidence and Improvement-Self-Awareness) [P4A]
Cocurriculum	Organizational Involvement	Kappa Epsilon is a club I'm involved with, and I did it kind of for the philanthropy that was required for the college. And I've gotten a lot of friendships and found a leadership role in that as well. (Required Philanthropy, Leadership Role) [P3E]
	Volunteer Hours	Volunteer hours I think that that can help with pretty much everything on the list, just giving you more real world experience. I'm sure all of us have seen first-hand that because we don't have that this year, people aren't signing up to volunteer, or there's just been a big lack of involvement due to not having that requirement anymore. (Change in Co-Curricular Expectations) [P3D]
Opportunities Outside Academic Setting	Work	For me, I get a lot of my stuff from work. I've been working at the [Hospital] for over four years now. So when I started, I was an undergrad. And I guess that's where my professionalism mostly started; is talking to other pharmacists, talking to nurses. (Professionalism, Self-Awareness, and Innovation from Work) [P2B]
	Conferences and Innovative Pharmacy Practices	I mean, a lot of innovation entrepreneurship is looking outside of your education. So you have to look beyond for extra ideas that you could bring in, like CPESN. And this summer I went to a pharmacy ownership and leadership conference and I got a lot of information from that that I could pull in if I wanted to have my own pharmacy one day and the types of services you could offer and specialize in. And you know, a lot of those opportunities, you don't just get from your base education. You have to look beyond to get new, fresh, better ideas. (Conferences and Observing Innovative Practice Settings) [P3E]

Discussion

- From qualitative results, colleges and schools could consider several opportunities in each identified category to improve or increase ACPE-S4 key element skills acquisition.

- **Mentorship:** Use structured processes to assess and design mentorship opportunities and programs to facilitate skill acquisition.

- **Curriculum:** design lab activities and professional development courses to create safe learning environments and focus on difficult conversations, revise interprofessional education opportunities to encourage interprofessional empathy, and support/develop preceptors to focus on ACPE-S4 key elements.

- **Cocurriculum:** ensure equitable access to leadership opportunities and volunteer opportunities.

- **Opportunities Outside Academic Setting:** support students in balancing valuable work experiences with pharmacy curriculum/Cocurriculum and provide resources for conferences and exposure to innovative practice settings.

Conclusions

- Participants articulated several opportunities for developing the skills and attitudes reflecting ACPE-S4 key elements.

- Incorporating student input into S4 attitude and skill development may help pharmacy programs consider how to design, refine, and implement initiatives and experiences to help students develop skills related to ACPE-S4 key elements.

Acknowledgments

References

1. Accreditation Council for Pharmacy Education Standards and Key Elements For The Professional Program in Pharmacy Leading To The Doctor of Pharmacy Degree: Standards 2016. Accreditation Council for Pharmacy Education. Accessed June 19, 2023.

2. Medina MS FM, Malcom DR, Lockman DK, Mirzaian E, Culhane N, Vyas D, Kennedey DR, Conry JM, Ragucci KR, Steinkopf M. Report of the 2022-2023 Academic Affairs Standing Committee: Revising the Center for the Advancement of Pharmacy Education (CAPE) Educational Outcomes and Entrustable Professional Activities. Am J Pharm Educ. In Press 2023