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QUALITATIVE RESEARCH IN PHARMACY EDUCATION

Using Focus Groups to Explore Evolving Perceptions of Student Pharmacists' Curricular Experiences

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Objective. To explore student pharmacists' shared experiences as they transitioned through the first three years of a Doctor of Pharmacy curriculum, from dependent learners to autonomous contributors.
Methods. The researchers used interpretive phenomenology to examine the lived experiences of student pharmacists. Previously gathered focus group data for 309 student pharmacists from the 2015-2016 academic year were explored. A step-wise approach to data analysis was used to perpetuate the natural emergence of themes and alignment with theory. Utilizing Arthur Chickering's Seven Vectors of Identity Development as a lens, the researchers analyzed findings related to self-realization and identification of purpose.
Results. The research team identified several themes associated with the teaching and learning process: professionalism, autonomy, and managing the expectations of the curriculum. A connection between the researchers' findings and Chickering's seven vectors was seen as students' comments demonstrated their progress along the vectors over three academic years.
Conclusion. This exploration provided a glimpse into the lived experiences of student pharmacists at three different stages in their journey from dependent learners to autonomous contributors. By comparing students in one year with those in the next, the researchers were able to see the evolution that occurred over time as students became self-authored individuals, which is the ideal outcome for pharmacy graduates.

Keywords: seven vectors, academic entitlement, problem-based learning, professional identity, self-authorship

INTRODUCTION

Pharmacy educators have explored student pharmacists' progression through pharmacy school from various viewpoints; however, there has been limited research focused on capturing the essence of that experience in a holistic, qualitative sense.[1-3] College students, including those in professional programs, undergo significant shifts in their development. These include transitions in their professional development, critical thinking, and academic performance.[1-3]

Chickering's Identity Development Theory, which focuses on students' abilities to commune interpersonally and with society as a whole, is one tool researchers can use to explore student development across seven vectors.[4] These seven vectors include: developing competence, managing emotions, moving through autonomy toward interdependence, developing mature interpersonal relationships, establishing identity, developing purpose, and developing integrity. Within these vectors, specific developmental achievements are described that inform a student's ability to transition into an active member of their profession and community at the end of their educational journey. While the complexity of the vectors is minimal, each vector includes a variety of achievements that a student must attain (Figure 1). However, progress in one vector is not reliant on progress in the other vectors for student development to occur. Vectors are fluid and allow students to progress in their own order, traveling back and forth through vectors to achieve the milestones necessary for further identity development. To assess how students will achieve these transitions, it is essential to examine the role of student development theory. A core component of student development stems from the idea that these theories must apply not only to the current generation of students but to future generations as well.[4]

Another key aspect of understanding a student population is considering how each generation is unique.[5] The majority of students in pharmacy and other professional programs today are part of the millennial generation.

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Figure 1. Defining Characteristics of Chickering's Seven Vectors[4]

Millennials are often thought to be considered special, sheltered, confident, team-oriented, conventional, pressured, and achieving. As millennial students approached college, consumerism was seen as a trend among this generation.[6] Both education and pharmacy scholars have reported that millennials expect amenities from their learning environments.[7-10]

Scholars have discussed the idea of academic entitlement in pharmacy education and have defined it as an attitude in which students expect success without taking responsibility for their own achievement.[8,9] This issue remains a concern for pharmacy educators who are navigating the challenges of matriculating student pharmacists of the millennial generation. Students' consumeristic attitudes often lead to expectations that faculty members will provide convenient education that meets their preferences yet does not require excessive effort on the student's part.[8,9] These students are often hesitant to

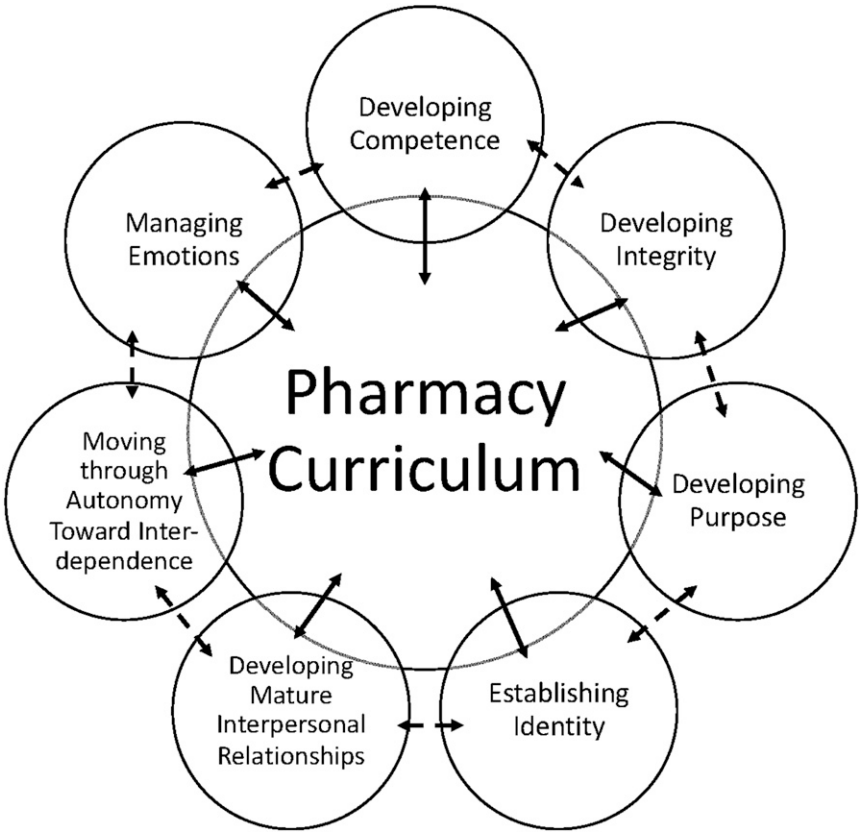

Figure 2. Impact of Chickering's Seven Vectors on a Pharmacy Curriculum[4]

commit time to assignments and may question critical feedback they receive regarding their achievements.[7] Hence, it is important when discussing issues concerning teaching and learning to consider how various approaches will impact students' abilities to transform knowledge into application.[11-13] Researchers must also consider the influence faculty members have on fostering critical thinking in students.[14,15]

Many scholars view academic entitlement and student consumerism as one and the same. If students are the customers, and the customer is always right, it is no wonder that students expect their demands for convenience to be met. This attitude is thought to be characteristic of millennials' external loci of control, meaning they may carry the perception that outside forces are to blame for their successes or failures.[8] These students may not see effort as indicative of achievement, may have low self-esteem, and may value grades over learning.

Further, it is important to consider how the Accreditation Council for Pharmacy Education (ACPE) Standards and Guidelines emphasize the development of a student's clinical understanding and ability to make sound judgements. The third domain of these standards, Approach to Patient Care, includes guidelines for problem-solving and effective ways to deliver pharmacy information. The fourth domain, Personal and Professional Development, outlines guidelines for areas of growth such as professionalism and self-awareness.[16] The expectations of graduating pharmacists, as articulated by the CAPE outcomes, further support the need for continued research on how student pharmacists transition through pharmacy education and how this experience shapes development of their personal and professional identities.

The present study explored student development through the lens of Chickering's Identity Development Theory. The aims of this study were to uncover the shared experiences of student pharmacists as they matriculated through the first three years of the Doctor of Pharmacy (PharmD) curriculum, as well as to identify trends in professional development that occurred along with curricular transitions. Using transcripts from previously conducted focus groups as the primary data source and interpretive phenomenology as the methodology, we explored the essence of pharmacy school. For further analysis, we framed our results with pertinent literature, including the most recent outcomes from the Center for the Advancement of Pharmacy Education (CAPE).

METHODS

This study used qualitative inquiry, as we were interested in exploring how student pharmacists internalize the pharmacy school experience. As such, the methodological framework used was interpretive phenomenology, which aims to interpret and describe the lived experiences of participants.[18] The culmination of a phenomenological study is the discovery of a universal essence or composite description of the phenomenon.[19] Existing transcripts from Learn Team focus group sessions with first-, second-, and third-year student pharmacists enrolled at the Harrison School of Pharmacy during the 2015-2016 academic year were used as the primary data source for this study.

Learn Team

Learn Team was a program implemented by the pharmacy school in the early 2000s as a mechanism for students to provide continuous feedback to the program. Focus groups were chosen as the format for Learn Team in order to facilitate the collection of real-time student feedback regarding teaching effectiveness and course evaluation for program improvement purposes. As a component of the PharmD curriculum, randomly selected student pharmacists were required to participate once annually in Learn Team.

The curriculum structure at the Harrison School of Pharmacy during the 2015-2016 school year was didactic in format during the first two years and a highly integrative and collaborative during the third year. Foundational courses taught in the first two years incorporated both drug and disease processes in a lecture-based format. Students also completed courses focused on clinical skill development, patient-centered communication, business practices for various clinical settings, and experiential learning. As students progressed to their third professional year, the learning environment transformed. Throughout the year, students were immersed in problem-based learning (PBL) where they were expected to incorporate knowledge acquired in the first and second years to resolve a case or problem in a collaborative working environment. During this year, students continued with clinical skill development, experiential learning, and the completion of pharmacy-related electives of their choosing. Because of the traditional curricular structure of the first and second years,[17] transitioning to a PBL design in the third year often revealed areas of disconnect between students' foundational knowledge and application. Thus, the Learn Team sessions, where the curriculum and these transitions were discussed, provided a robust view of the participant group and offered a holistic picture of their pharmacy education.

The dates of Learn Team were established by the school's administrative staff and occurred at various points throughout the fall and spring semesters. Students, stratified by year, were assigned to attend one session on a preselected date. If invited, attendance was required.

However, a student could arrange a substitute from the same class to attend in his or her place, or be excused with appropriate documentation. Separate Learn Team meetings were held for each class year, and each focus group ranged from 10 to 12 students.

Learn Team was facilitated by one administrative faculty member with support from two staff members. In an effort to create an atmosphere in which students could comfortably express their thoughts, the facilitator was someone external to pharmacy curriculum development, implementation, and grading. A semi-structured interview format was used during the focus group sessions.[21] The interview protocol was focused on one topic: the strengths and areas of improvement for each course in which students were enrolled for that year.[22] While participating in focus groups, student pharmacists had full discretion as to what they shared. Additionally, they were not required to engage in any specific line of questioning or contribute to a specific number of questions. Students were also free to address other concerns not directly asked in the interview protocol. Each focus group session was approximately 60 minutes.

In preparation for later conducting note-based analysis, the facilitator made detailed notes as students provided their feedback.[23] In an effort to reduce the potential for bias, facilitator notes were distributed to student participants for review prior to school-wide dissemination. Once finalized, the report was transmitted electronically to all pharmacy departments and the student body.

During 2015-2016, approximately 67% of students in the first three class years (P1s, P2s, and P3s) were selected to participate in Learn Team. Of all selected students, approximately 93% participated in 2015-2016. The average age of the participants upon admission to pharmacy school was 22 years and 3 months (SD=4.227). A little over half of all participants held a bachelor's degree, with roughly half of all participants having some sort of prior pharmacy work experience.

Facilitator notes from the 2015-2016 Learn Team focus group sessions were used for this research as they provided insight into student pharmacists' shared experiences within a pharmacy curriculum. Focus groups are often appropriate when an interactive group format could yield better information from interviewees, when interviewees share similarities, and when working in time constraints.[19] Additionally, focus groups are an appropriate avenue for assessing the climate of a campus.[20] This study was intended to address the following research questions: How are students impacted by the transition from two years of lecture-based coursework to a team-based curriculum in their third year? How do students progress through Chickering's Identity Development Theory as the curriculum transition occurs?

Interpretive Phenomenology

For our study, all 25 Learn Team reports were collected from the 2015-2016 academic year. The finalized reports for each focus group session had the same basic formatting, which delineated the strengths and weaknesses across all courses taken that year. To protect student confidentiality, information on the report did not identify the names of students who attended the sessions.

Coding and analysis of the Learn Team reports occurred in three phases. In the first phase, one of the three researchers, having been the administrative faculty facilitator for Learn Team meetings, was excused from coding. The two remaining researchers coded the reports independently, discovering significant statements, generating codes, subthemes, and themes inductively. This approach of emergent design allowed the two researchers to organically explore patterns in student experiences and perceptions.

During the second phase, all three researchers collaborated to create a final codebook of synthesized themes. This approach followed a suggested design method: when more than one coder is employed for a study, researchers should reach thematic consensus during analysis.[24] The final codebook represented a condensed and collapsed version of the initial round of coding.

From there, the codebook was explored deductively using Chickering's Seven Vectors of Identity Development as a conceptual framework. The goal for this phase was to map student pharmacists' progression on the spectrum of development and to consider their future growth.[4] Overall, the multi-dimensional approach to data analysis was chosen to encourage the natural emergence of themes, as well as to allow Chickering's Identity Development Theory to serve as anchor points for thematic alignment. The university's institutional review board approved the study protocol.

RESULTS

Primary Analysis

As a result of the qualitative analysis, a series of themes were identified within the coded Learn Team data, resulting in compilation of a finalized codebook. The themes identified and their corresponding operational definition, along with our alignment of them with Chickering's Identity Development Theory, are presented in Table 1. Which themes occurred within each program year are listed in Table 2, visually representing the evolution of the themes over time. Student quotes

Table 1. Thematic Definitions and Their Alignment With Chickering's Seven Vectors

Theme	Operational Definition	Vector Alignment
Time Management and Logistics	Students' interpretations of an instructor's responsibility when designing, implementing, and managing a course	1,3
Technology, Innovations, Support, and Accessibility	Ability to competently use resources within a learning environment while identifying areas for support and receiving such assistance	1,3
Clarity	Ability to interpret, understand, and complete the various aspects of the learning experience through adequate guidance provided by the instructor	1, 3, 5
Inclusiveness	Natural relationship forged among students, their peers, and their instructors. This includes decision making, communication, and feedback	2, 3, 4, 5, 6, 7
Helpfulness	Receiving support and assistance needed to navigate a learning experience	1, 4
Managing Expectations	Navigating and reshaping preconceived notions of the various aspects of the student experience, including instruction, workload, assessment, and interaction with instructors	2, 5, 7
Critical Thinking/Application	Ability to use analytical reasoning to connect concepts to practice and experience	1, 3, 5, 6, 7
Efficiency	Acknowledging the instructor and student commitment to quality and time-sensitivity in the delivery and participation in a learning experience	3, 6
Perception of Authority/Instructor	Acknowledging the importance of exploring students' perceptions of instruction	2, 3, 4, 6, 7
Autonomy/Self-Efficacy	Accepting the role the student plays in his/her own success	3, 5, 6, 7
Enjoyment	Students' perception of a dynamic and positive learning experience	2, 5, 6, 7
Workload	Expectations of an instructor or a student as to how much effort is appropriate to successfully complete an objective	1
Accountability	Student and instructor standards for what constitutes acceptable effort and quality of work	3, 4, 5, 7

captured by facilitators during the focus groups are included to emphasize the student voice.

Across all three years, we recognized issues of time management and logistics, technology, clarity, inclusiveness, managing expectations, and critical thinking. Thematically, students remained consistent regarding their interpretations of time management and logistics, technology, and clarity during their time within the program. However, the manner in which students described their feelings of inclusiveness and critical thinking evolved with each completed academic year. For example, when describing inclusiveness, students in their first year focused more on comradery with their classmates and appreciated the approachability and accessibility of faculty. First-year students described this as more of a one-way dialogue with faculty serving as the primary communicator. Yet, students in their third year, spoke more about instructor receptivity, helpfulness, and the two way dialogue that occurred with instructors. Students described the challenges associated with giving feedback, noting the primary struggle was they did not want to come across as being "mean." Third-year students also tended to focus more on their future in the profession and sought feedback from instructors regarding whether they were ready to enter practice upon graduation.

As noted above, inclusiveness was a common theme within students' feedback from all three academic years.

Table 2. Themes Identified in Student Pharmacists in the First Three Academic Years of the Doctor of Pharmacy Curriculum Based on Feedback Received During Focus Group Sessions

First Year	Second Year	Third Year
Time management and logistics	Time management and logistics	Time management and logistics
Technology, innovations, support, and accessibility	Technology, innovations, support, and accessibility	Technology, innovations, support, and accessibility
Clarity	Clarity	Clarity
Inclusiveness	Inclusiveness	Inclusiveness
Helpfulness	–	–
Managing expectations	Managing expectations	Managing expectations
Critical thinking/application	Critical thinking/ application	Critical thinking/application
–	Efficiency	–
–	Perception of authority/instructor	Perception of authority/instructor
–	Autonomy/self-efficacy	Autonomy/self-efficacy
–	–	Enjoyment
–	–	Workload
–	–	Accountability

We defined inclusiveness as the natural relationship forged among students, their peers, and their instructors to include decision-making, communication, and feedback. As with other themes, the researchers recognized that this theme morphed across the three years. First-year students often noted that adequate communication was required but was dependent on the instructor's willingness to communicate with students beyond the learning environment. However, third-year students did not limit these expectations to just their instructors. Instead, they noted an expectation for multi-faceted communication between themselves, their peers, and instructors, as well as a need for group interaction.

Helpfulness only resonated as an individual theme within first-year students' feedback. Upon entry into the program, researchers found that students often focused on the support and assistance they would need, which they perceived as requirements for beginning their pharmacy education. These students tended to focus more on instructor helpfulness, help sessions, review opportunities, and preparation, noting that weekly quizzes were helpful in allowing them to identify misconceptions that required further review. While remnants of this theme appear in later years, the level of dominance lessened over time and transitioned into the larger overarching theme of inclusiveness. Students transitioned from dependent learners to independent learners, armed with the tools necessary to identify resources on their own.

Efficiency stood out as a singular theme in the feedback of second-year student pharmacists. These student pharmacists focused on the need for reinforcement of course material and expressed overall appreciation for expediency in all aspects of their course work, including scheduling, feedback, and implementation. They were also grateful for faculty members' willingness to accommodate their needs. For example, students appreciated when course notes were logically organized in the learning management system and when notes were posted in a timely manner, allowing for easy printing. The researchers identified a link between the themes of efficiency and time management/logistics; however, this connection maintained a larger thematic presence in the second-year students' feedback, leading us to identify it as such within the coding process.

A number of reoccurring themes were idenitified across the program years that were directly related to the instructor's ability to manage both the classroom and the learning experience. These themes, which are specifically related to classroom management, include time management/logistics, and technology. Student expectations in this area, particularly regarding the ability of instructors to ensure technology was working appropriately, remained relatively consistent across the years. One subtheme that appeared more in the third year than in other years was the idea of promptness/timeliness. The timely receipt of graded materials, specifically those with instructor feedback, became a more focused expectation of students.

The themes enjoyment, workload, and accountability only appeared within third-year students' feedback. The appearance of these themes correlated well with the framework of the third-year pharmacy curriculum, as it was designed as a problem-based learning course. Within this format, students encountered higher expectations of accountability, experienced increased workloads as they were expected to research and create their own learning documents, and felt a greater push to progress academically at the appropriate pace. As these student pharmacists were also expected to guide their own learning, the higher

level of enjoyment they achieved was not unusual, as instructors and students shared more of a peer-to-peer relationship rather than a mentor/mentee relationship.

This transition from a mentor/mentee relationship to peer-to-peer was reinforced by the emergence of the autonomy/self-efficacy theme, which slowly materialized in the second year and increased significantly during the third year. Second-year students associated this theme with the usefulness of assignments, increased ability to enjoy what they learned, and the opportunities afforded to them to showcase their successes. However, third-year students' associations for this theme were slightly different, as they focused more on their intrinsic abilities to conduct higher-order reasoning, assess their clinical practice abilities, and weigh application to all aspects of their lives.

Students across all three program years identified the need for clarity within their learning experiences. The research team defined clarity as the ability to interpret, understand, and complete the various aspects of the learning experience through adequate guidance provided by the instructors. This theme evolved as students expressed a need for clarity in objectives and directions. This was especially evident in discussions about assignments, assessments, and study materials. Students also noted that clarity was important to avoid confusion and redundancy, as well as facilitate organized and consistent knowledge transfer. Students across the years often discussed clarity in the form of example questions, practice problems and experiences, and clear expectations.

The theme of perception of authority/instructor emerged within second-year and third-year students' discussions. Students identified the vital role that the instructor played within their learning process. Within the second year, students began to associate this role with an instructor's ability to help them navigate the learning experience, emphasizing a professor's preparation, enthusiasm or passion for the topic, expertise, and organization. This theme was more apparent in the third year.

Two themes the research team viewed as the most noteworthy throughout the coding process were critical thinking/application and managing expectations. The team defined critical thinking as the ability to use analytical reasoning to connect concepts to practice and experience. As future healthcare practitioners, a student pharmacist's ability to transition knowledge into practice is considered essential to ensuring they are ready to enter into practice upon completion of their program. The researchers noted that first-year students limited their view of critical thinking to higher-order reasoning, the usefulness of assignments, and application to patient care. However, second-year students further identified the role of resources within that process, as well as recognized the usefulness of enhanced emphasis on key points. Making the final transition, third-year students embraced the role of critical thinking by applying what they learned to practice and assessing their adaptability to different scenarios.

Students transitioning through the pharmacy curriculum had definitive expectations regarding their learning experiences, which generated the theme of managing expectations. It was defined by the team as navigating and reshaping preconceived notions of the various aspects of the student experience, including instruction, workload, assessment, and interaction with instructors. First-year students emphasized the need for a structured and consistent schedule and learning environment, struggled with handling the workload, appreciated an instructor's willingness to be flexible/accommodating, and stressed the ability of an instructor to make the course interesting. Alternatively, second-year students focused less on a positive learning environment and more on timeliness, comfort, and consistency in materials, scheduling, and assessments (eg, grading, question format, and overall content). Moreover, third-year students more strongly emphasized aspects such as applicability, fairness, tools for success, and preferences/opinions. Third-year students were more likely to describe their learning as preparing them for practice. Because of their evolving role in the learning process, third-year students had slightly different perspectives regarding managing their expectations, as they were actively involved in all aspects of the learning experience and at times served as content experts for other students.

Secondary Analysis Using Chickering's Vectors

As a secondary framework for how students' views and experiences evolved over their academic tenure, we applied a theoretical lens, Chickering's Identity Development Theory, to the focus group data. A connection to the seven vectors was demonstrated throughout all three academic years, with certain vectors displaying more prominence than others. Vector one, developing competence, was widely apparent in the student pharmacists we investigated. It was evident that students initially lacked confidence in their own abilities, yet gained clarity in how to manage their time, navigate the pharmacy program, and utilize resources as they progressed through the program. This increased competence was particularly remarkable in the third academic year, as students at this point had expanded their analytical reasoning skills as a result of the shifting curriculum and expansion in workload, and a corresponding need for enhanced academic support.

Vector two, managing emotions, was equally apparent in student pharmacists' responses. Students beginning their pharmacy training tended to have a decreased awareness of their emotional needs. Perhaps students at this stage found it more challenging to articulate feelings related to situations that arose in their educational environment. However, as students transitioned through the program, the ability to recognize and control their emotions expanded. By the third year, they were able to respond to a professor's feedback in a more professional manner, express their expectations more clearly, respectfully navigate the relationship dynamic with their professors, respond more appropriately to authority, and integrate their emotions into responsible social action.

The significance of vector three, moving through autonomy toward interdependence, cannot be overstated, as it was heavily threaded throughout the responses of student pharmacists in all three academic years. Although at different places in their transition, many student pharmacists, particularly in their third-year, began to realize the ultimate goal of balanced interdependence with peers and professors. This was supported as students developed a stronger sense of self-direction in their learning and were persistant when solving difficult problems with complex answers. For example, when they began the PharmD curriculum, students appeared more dependent on faculty for the transfer of knowledge and access to resources. However, as they progressed through the curriculum, their expanding clinical knowledge encouraged them to recognize their dependent nature. This resulted in a more conscious shift towards self-sufficiency and self-direction, with some students realizing how a greater sense of autonomy facilitates stronger relationships and focused action.

Student pharmacists transitioned through vector four, developing mature interpersonal relationships, as evidenced by how they perceived themselves as learners in a dynamic environment. Many first- and second-year students initially saw themselves as recipients of a professor's knowledge base, or carried the expectation that a professor was present merely to help them. Yet, as student pharmacists matured through the program, a sense of reciprocity developed. This facilitated less reliance on professors, increased tolerance for professors' differences, and an enhanced perception of instructors as professional peers. Ultimately, this recognition allowed students to gain empathy and awareness in their roles as future pharmacy practitioners.

Vector five, establishing identity, had significant implications as students began to identify with their expanding knowledge. Upon entering pharmacy school, some students experienced confusion regarding their identities as future pharmacists. As a result, many experimented with various perceptions of self and struggled to find meaning in others' evaluation of them. This was especially evident when students received feedback on assessments. This tension of immediacy was present when comparing students' struggles to grasp the implications of their future roles as professionals against the desire to get the grades needed to progress in the curriculum. In addition to this aspect, student pharmacists in this vector expanded their sense of identity and sharpened their senses of direction. This individual evolution from a cultural and social context was evident as students progressed through the program, transitioning from team members as first-year students to team leaders as third-year students.

The last two vectors, developing purpose and developing integrity, were both unmistakably present in student pharmacists' responses. Some first- and second-year students, in pursuit of increased efficiency in managing their workloads, found themselves excluding meaningful personal relationships. However, students developed more distinct professional goals, expanding their interests and capacity to be intentional as they progressed through the program. As a result, they were able to focus on cultivating stronger interpersonal commitments in multiple realms: colleagues, mentors, and/or patients. This encouraged students to balance their individual interests with those of others. Also during this time, self-interest evolved into a growing sense of social responsibility. In this way, students were able to consider their roles within a larger context, eg, adulthood and their future careers.

DISCUSSION

Through the analysis process, an understanding of the student experience was explored. This exploration provided a glimpse into the lived experiences of student pharmacists as they journeyed from dependent learners to autonomous contributors.

Within the study, the majority of the student pharmacists were millenials, and the key themes of developing autonomy/self-efficacy and managing expectations aligned with the challenges and struggles that individuals of that generation often face. In general, student pharmacists across the three academic years expected the learning experience to offer a level of comfort and convenience. Initially students expressed their expectation for consistency and fairness, while also desiring flexibility and accommodation. As indicated by Chickering's third vector, student pharmacists' expectations transitioned as they progressed through the program, with second- and third-year students focusing more on what

they learned holistically and less on their comfort with navigating the day-to-day expectations.

As documented repeatedly in the literature, there is an association between millennial learners and a sense of academic entitlement.[8,9] While academic entitlement did not appear as a specific sub-theme in our data, the overarching idea was prevalent throughout the theme of managing expectations. This was particularly apparent in some students' perception that faculty were present to serve students. In other words, some students expected faculty members and the college to make the learning experience more convenient for them by providing constant access to resources, recordings of lectures, and details pertaining to all course expectations at the students' demands.[8]

In previous studies, other scholars uncovered a correlation between academic entitlement and a perception of teachers' abilities to facilitate student success. However, one study found that students identifying most with academic entitlement were less successful in their academic programs.[9] The literature supports the notion that students have a right to learn and access resources.[10] However, as student pharmacists in the current study progressed through the PharmD curriculum, they recognized that their relationships with their instructors and the institution were symbiotic. As supported by the theme of managing expectations and several of Chickering's vectors, the researchers observed that student pharmacists in their second- and third-years worked to better manage expectations through their personal and professional growth, focusing less on entitlement and taking on a more positive and confident view of success.

Problem-based learning, the style of learning encountered by third-year student pharmacists in the current study, facilitates autonomy and enhances students' ability to think critically about course material. Problem-based learning is an effective teaching method because it allows students the autonomy to generate their own questions and solutions, while still having the guiding support of an instructor.[25] A PBL approach draws from the notion that comprehension is facilitated when students struggle to master content presented in a difficult manner.[26-28] The implications of a PBL classroom were evident in the current study, as student pharmacists grew to see the importance of application to clinical practice, emphasis on key points, and higher-order reasoning. Research suggests that a curriculum design that requires teamwork relies on students building a social and cognitive connection with teachers and peers.[29] A collaborative curriculum such as PBL leads to a deep-learning approach, one that is not superficial and fosters academic success. This teaching method facilitates a culture of inclusivity in which students form partnerships by which to navigate the academic process.[13] In line with the benefits of a PBL curriculum, as well as the CAPE expectation for pharmacy graduates to be problem solvers, the current study revealed themes of critical thinking/application and inclusiveness.

Academic programs are experiencing greater pressure to prepare students for the workforce, and this has led schools and colleges of pharmacy to implement practice-based curricula that create autonomous graduates who have situational knowledge and the abilities to make evidence-based decisions. Pedagogical formats that are too focused on knowledge rather than practice have led to what some have called a crisis in professionalism. In turn, health professions educators are increasingly focusing their teaching on professional identity development opportunities that allow students to participate in experiences and then make meaning of them.[30] Student pharmacists in the current study demonstrated the largest degree of growth in professional identity during their second and third years, as showcased by the evolving themes of autonomy/self-efficacy, perceptions of authority/instructor, and inclusiveness. This endorses the notion that students value educational experiences that facilitate preparedness for practice. Exposure to practicing pharmacists allowed students to grasp the complexity of the profession, the role of the pharmacist within the clinical team, and pharmacists' value in society.[30]

Students in the second- and third-years also progressed in their understanding and promotion of a professional community, characterized by shifting power dynamics between faculty members and students, as well as between students and patients. Continuously interacting with pharmacy professionals contextualized and facilitated maturation of students' budding identities, whereas interactions with patients parlayed development in students' humanistic domains. As a result, students were able to recognize the complexity of pharmacy practice, explain the role of the pharmacist in comparison to other health professions, and realize pharmacists' societal value in providing patient care.

As students in the current investigation began to perceive themselves less as individuals and more as contributors to a larger context, they transitioned into the final two vectors of Chickering's theory. As they did so, their senses of purpose and integrity expanded, and their perception of having a a broader calling became apparent. Themes related to these two vectors demonstrated that students relied more heavily on their abilities to use higher-order reasoning, valued insight and knowledge of their professors to a greater degree, and coveted the communal interactions among themselves and colleagues. In conjunction with this emerging sense of

professional identity, students' progressions into self-authorship began to materialize by the third year. As a result, students began taking ownership of their internal voices, making the transition to lifelong, self-directed learners.[31] This notion of an emerging pharmacy leader parallels the CAPE expectation that pharmacists display self-awareness, or an ability to critically examine one's self for both strengths and limitations.

The implications of this evolution become particularly evident as students begin their fourth-year and pharmacist mentors progressively surrender authority to students as a means of encouraging students to take ownership of their learning.[31] Educators seeking to develop students' self-authorship must first validate learners' abilities to construct knowledge independently. This sense of identity was increasingly solidified over the course of the first three academic years and was thought to be further enhanced during experiential training in the fourth year. These experiential exercises that build student confidence may include contributing to a professor's scholarly activities, partaking in a service-learning project, or engaging with patients in counseling exchanges.[31] Navigating these real-life experiences with the assistance of role models, coupled with focused reflection of those experiences, was thought to further promote self-authorship.[12,15,31] The implication here was that structured and intentional experiences for students facilitate their development into self-authored professionals with the capacity to be lifelong, self-directed learners.

The research team concluded that using existing focus group data for the present study would be advantageous as a substantial amount of data had already been collected from a large group of student pharmacists. The utility of focus groups as a method of qualitative inquiry is gaining traction in the health sciences.[24,32,33] However, the relevance of focus groups to enhance pharmacy education or the pharmacy school experience has yet to be fully explored. In general, focus groups are beneficial in that a group dynamic may help participants to identify and clarify their views in a synergistic manner.[22,33-35] Focus groups move past the notions of quantitative research and allow for the study of a population in a way that, while not generalizable, provides greater emphasis on the meaning of the research and the experiences of the participants.[36]

Focus group data were originally collected for internal program improvement purposes to provide feedback on teaching effectiveness and course evaluation. To preserve student confidentiality and promote comfort in disclosing information, focus groups were not recorded and verbatim transcriptions were not taken; instead, detailed facilitator notes were documented and, at times, included descriptive phrases from students.[40] For a variety of reasons pertinent to particular studies, the use of non-verbatim transcripts has been an approach selected by scholars conducting qualitative research.[37-41]

As is often the case in qualitative research, in this study the researchers were the "tools" used to analyze data. We were therefore aware of the potential for preconceptions to be introduced during data analysis. To reduce this possibility, the researcher who had facilitated Learn Team in 2015-2016 stepped away from the initial round of coding. While the results of this study provide valuable insights, a perceived limitation of this study relates to the idea that qualitative findings, such as conclusions from focus group data, are not generalizable to other settings.

We considered the phenomenological framework a strength of this study as it allowed us to assess the meaning of the lived experiences of student pharmacists.[32,42,43] Another strength was the diversity of the research team, which encouraged us to consider varying viewpoints. However, the research team members were also similar in that all three had academic backgrounds in higher education and professional interests in the scholarship of teaching and learning. Two of the three researchers were heavily involved in pharmacy education, encouraging a sense of commonality in understanding the students. As a result of this, the third researcher served to balance these perspectives with those outside of pharmacy education. Coupling the team's variability in expertise and interests with similarities in educational training, we considered ourselves as representing a healthy mix of viewpoints. Nonetheless, we believed that having a similar background in higher education may have led us to more aptly perceive nuances in data.

CONCLUSION

The current research captured student pharmacists' abilities to define, refine, and reshape their professional identities through the first three years of the PharmD curriculum. Chickering's Identity Development Theory helped us to interpret student pharmacists' development over time and provided context to the experience. As a result of this study, we were also able to capture the development of self-authorship through a PharmD curriculum.

The findings of this investigation further support the school of pharmacy's transition to an integrated, practice-ready curriculum, which is rooted in active- and problem-based learning. This transition also opens the door for further research exploring the connection between Chickering's vectors and student pharmacists' identity development and sense of self-authorship. Lastly, the

transition from Millennials to Generation Z will impact future scholarly endeavors in this area, as early research is describing a generation of learners who may require more guidance to facilitate critical thinking and application of knowledge to practice.[44-46]

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