

Student Perceptions of Concentrated Learning Experiences across two different Health-Systems

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Abstract

Rationale, aims and objectives: While many public pharmacy schools have an adjoining health-system to accommodate their students, some schools of pharmacy form partnerships with non-affiliated health-systems to precept students. These health-systems often afford students the opportunity to complete multiple rotations within a single organization, offering decreased onboarding time and more longitudinal experiences. The objective was to compare pharmacy student satisfaction of longitudinal programs at two separate institutions

Methods: This survey assessed student satisfaction, professional skill set development, and achievement of program goals during the experiential year.

Results: Nineteen students (83%) responded to the survey. Students from both health-systems reported similarities in satisfaction with their experiential training. Likewise, all students reported growth in all professional skills assessed. Individual programmatic goals were met at rates of 79-100%.

Conclusions: This study highlights APPE students' improvement in professional and clinical skills upon completion of a concentrated learning experience. Concentrated learning experiences provide opportunities for improving student skills and increased exposure to various aspects of pharmacy.

Keywords: medical education, healthcare, experience

Introduction

Education in healthcare has increasingly embraced learning opportunities outside of the classroom and collaboration between professions. Medical, pharmacy, physical therapy, and nursing programs all require some component of experiential education or clinical rotations.¹⁻³ Regardless of the health profession discipline, all of these programs depend on healthcare sites and clinical practitioners to provide experiential training to their learners. As healthcare in the 21st century requires interprofessional collaboration, many allied health programs offer rotations where medical, pharmacy, nursing and other healthcare students will potentially have the opportunity to learn with and from one another. Utilization of practice sites that embrace a model of team-based care could be beneficial to students' learning experience and the sites' ability to precept a variety of health profession students.⁴

Though experiential education is a requirement of many health professions programs, a multitude of barriers to precepting students exists. As discussed by Logan et al., some perceived barriers include loss of patient interaction time, lack of time in the workday, lack of compensation, and lack of precepting experience.⁵ The authors describe the implementation of workshops that provide ways to foster student-preceptor relationships, effectively teach and provide feedback, and increase time management skills.⁵

Over the past few decades, pharmacy curricula have made significant changes to incorporate earlier and more frequent experiential education. To ensure diversity of education, the Accreditation Council for Pharmacy Education (ACPE) requires students to complete Advanced Pharmacy Practice Experiences (APPE) in community, ambulatory care, hospital, and inpatient general medicine settings, with elective rotations to further their interests and grow professionally.³ This presents challenges as students complete experiences at different experiential sites, typically requiring orientation and electronic medical record training at each site.

Many large, state-funded schools have access to a university-associated health-systems that can serve as experiential education sites for students. This allows for continuity of training and streamlining the rotation scheduling process.⁶ For non-affiliated programs, partnerships are formed with health-systems without university ties to precept their students. Schools of pharmacy are required to conduct quality assurance assessments at these and all experiential rotation sites.³

Concentrated learning experiences, or block scheduling, enable students to strengthen clinical and professional skills in an individual healthcare setting while decreasing orientation and onboarding time.⁶⁻⁹ Ultimately, the goal is to best prepare students for postgraduate training and advanced pharmacy practice roles. At this time, there is a paucity of literature comparing perceptions of a single school's APPE partnerships at multiple healthcare sites. We sought to compare student experiences at two independent university affiliated programs.

Methods

Wingate University School of Pharmacy (WUSOP) consists of a main campus in Wingate, NC, and a satellite campus in Hendersonville, NC. For APPE rotations, students are assigned to one of five regions within the state. The school has partnerships within two of these regions, with Atrium Health's Carolinas Medical Center (CMC) in Charlotte and Wake Forest Baptist Health (WFBH) in Winston-Salem, to precept selected APPE students in a concentrated learning experience. All students from the 2017 WUSOP graduating class who participated in a concentrated learning experience at an affiliated academic medical center (CMC or WFBH) were eligible for inclusion. This was a single-institution, investigational review board-approved, survey-based research study. The primary objective was to assess change in self-perceived skill set development over the APPE year. Secondary endpoints included perceived satisfaction with program opportunities (e.g. teaching, research, post-graduate training preparation).

The survey instrument was developed by the authors using QualtricsXM (Qualtrics, Provo, UT) and was distributed electronically via university email addresses to students during their final experiential trimester. Prior to survey deployment, content validity was assessed by clinical preceptors and faculty colleagues who reviewed, edited, and tested the survey instrument. Participation in the survey was voluntary and subjects were informed of that fact. All survey results were anonymous.

Student-perceived changes in clinical and professional development skills from start to completion of APPEs centered on seven areas: critical thinking skills, drug information evaluation, medical team engagement, presentation skills, time management, verbal communication, and written communication. Students were asked to reflect on their skill level at the start of their APPE year compared to the end of their APPE year. Using whole numbers from 1 to 10 (1=weak, 10=strong), they assigned a number to each skill at both points in time. Additional analyses included an assessment of any differences in skill set development between the two concentrated learning experiences and overall student satisfaction with program experiences. Stated program benefits included availability of elective rotations, education with pharmacy residents, longitudinal research opportunities, project opportunities, teaching opportunities, exposure to hospital pharmacy practice, career development, and preparation for post-graduate practice. Information was collected to analyze aggregate student responses. Students were asked to rate perceptions using a five-point Likert scale.

Descriptive and inferential statistics were used. A p-value less than or equal to 0.05 was considered statistically significant. Changes in student perceptions were analyzed with a Mann-Whitney U. Differences between programs were assessed using a repeated measures ANOVA. All statistical tests were performed using SPSS software, version 25 (IBM, Armonk, NY).

Results

A total of 23 students were eligible for participation: six students from CMC and 17 students from WFBH. Survey responses were received from 83% (n=19): six from CMC and thirteen from WFBH. Across both institutions, students reported growth in critical thinking skills, drug information evaluation, engagement with medical teams, presentations, time-management, verbal communication, and writing skills during the APPE year [Figure 1]. Individual site comparisons were conducted for professional skill development [Figure 2]. Median skill development for medical team engagement was significantly higher at WFBH than CMC; this was the only significant difference between the two programs ($p<0.05$).

Overall >95% of students indicated satisfied or strongly satisfied the number of rotations and rotation compatibility with interest. Goals for teaching, career development, small projects, education opportunities with residents, longitudinal research, preparation for post-graduate training, and maximizing exposure to hospital pharmacy were met very well and extremely well at rates of 79%-100% [Figure 3].

Discussion

The concentrated learning experiences at WFBH and CMC were designed to help students strengthen their clinical and professional skills in preparation for post-graduate training and advanced pharmacy practice roles. Students reported significant improvement in all skills self-assessed. These findings complement prior research showcasing that pharmacy school and health-system partnerships facilitate participant growth and multidisciplinary engagement.^{7-8,10}

Students were able to meet program goals through the unique experiences offered during the concentrated learning program. Previous studies highlighted similar opportunities with networking, publication, research, and presentations contributing to the satisfaction of students.⁶⁻⁷ Additionally, the consistency of the programs allowed the students to focus on rotations and deliver advanced patient care as opposed to repeated onboarding and becoming acquainted with new facilities.^{7-8,10} Our findings show a single skill development (medical team engagement) resulted in a significant difference in median skill development between programs. These results may be skewed due to fewer students at CMC. Importantly, students from this single university received similar perceived program benefits, across the board, at two separate healthcare systems. This is promising news for schools or colleges dependent on unaffiliated facilities for experiential education.

A strength of this study was the assessment of students' perceived clinical and professional skills both pre- and post-completion of the concentrated learning experience. In this regard, the results reveal students' perceptions of the development of their professional and clinical skills during the APPE year, which is currently lacking in the literature. Experiential education is an ideal setting to employ self-reflection to support development in learning and allow students to witness their improvement in practice skills.

There are limitations to the study. Students without hospital experience may not easily adjust to the new environment and therefore may report a poorer baseline experience. Also, there was no assessment of how the preceptor evaluated the student and whether that may have led to a poorly perceived experience by the student. Thus, a student may be more likely to report a negative experience because of a poor grade received on rotation. Lastly, there was a difference in the number of participants at each site which may have led to variance between results.

Future analysis could include correlations of students' GPA, prior pharmacy experience, and grade on rotation to show the potential impact of students' perceived skill development. Likewise, further expansion of the current program to offer more IPPE and APPE partnerships could be explored. A prior study showed improved APPE performance for students assigned to the same facility during IPPE rotations, as compared to students assigned to separate facilities.¹¹ Lastly, a comparison of licensure pass rates in students participating in a concentrated program versus nonparticipants could yield interesting findings.

Conclusions

Students reported satisfaction and improved clinical and professional skill set development when completing

concentrated experiences at two different healthcare facilities. This study showcases multiple partnerships from a single university can yield similar positive experiential education experiences for students.

Declaration of Conflicting Interest

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