

## Does Team Based Learning (TBL) in the Pharmacy Classroom Foster Leadership Skills in the Workplace?

Robert C. Haight, PhD, MPA<sup>1</sup>; Marta J. Brooks, PharmD, MS<sup>2</sup>

<sup>1</sup>Assistant Vice Provost, University Assessment and Accreditation, Associate Professor of Pharmacotherapy, College of Pharmacy, The University of North Texas Health Science Center at Fort Worth, Fort Worth, TX

<sup>2</sup>Department Chair and Associate Professor, Department of Pharmacy Practice, Regis University, Denver, CO

### Abstract

**Objective:** A well-functioning healthcare team is important to optimizing the health outcomes of patients. As such, the use of Team Based Learning (TBL) in the education of health professionals has emerged as one of the more common active learning strategies. In various anecdotes with preceptors, it had been observed that student pharmacists educated in a TBL classroom exhibited increased skills in the affective domain. This qualitative pilot study begins to examine affective domain skills that are important to pharmacy practice and which of those skills may be developed uniquely through TBL.

**Methods:** Random samples of preceptors and students (first through fourth-year cohorts), were engaged using a predesigned interview protocol to guide the discussion. Ad hoc questions resulting from the interview were also captured. A grounded theory approach was utilized to develop an a priori theme codebook that was utilized to analyze the interviews with preceptors and focus groups with students.

**Results:** Nine preceptors were interviewed, and 23 student pharmacists participated in focus groups. Preceptors identified 1) communication, 2) emotional intelligence, 3) education, 4) time management, and 5) advocacy as the top themes important to being a leader. While students identified 1) communicate with or listen to others, 2) accountability/responsibility, 3) patience, 4) self-reflection / feedback as skills developed by TBL. Participants indicated that they believed that TBL was a contributor to the development of affective domain skills among student pharmacists.

**Conclusion:** Among preceptors and student pharmacists, this initial study found both alignment and divergence with identified skills in the affective domain related to the development of leadership skills. Additional research is needed to further explore and develop an instrument to measure the role of TBL in affective skill development, in the context of being a leader in the pharmacy profession.

**Keywords:** communication, leadership, pharmacy, pharmacy leadership, teams, team-based learning

### Introduction

A well-functioning healthcare team is critical to the improvement of the health outcomes of patients; such teams must be able to work-together, represent their individual perspectives, while ultimately problem solving together.<sup>1,2</sup> To train future healthcare providers to be members of the healthcare team, associated higher education institutions are utilizing Team-Based Learning (TBL) as an active learning strategy for their learners.<sup>3-5</sup>

During WWII, there was recognition of the need for an increase of interprofessional healthcare teams working to improve patient care.<sup>6</sup> Since the 1940s, we have seen a continual increased use of interprofessional healthcare teams in clinical and non-clinical settings. The inclusion of the pharmacist within the healthcare team has increased over the years after realization of improved cost-effectiveness and clinical outcomes.<sup>7,8</sup> For the pharmacist to be effective on the

healthcare team, they must have a number of knowledge, skills, and abilities, including the ability to be a leader and to collaborate on an interprofessional team.<sup>9,10</sup> A pharmacist, as a leader, allows them to aid the healthcare team in making the proper decisions related to medications to reduce medication errors and improve health outcomes. The pharmacist must also have the leadership abilities to work with their patients, to ideally lead them along a course to improving their health outcomes and overall wellness. Importantly, the development of leadership qualities promotes the health of an organization and improves the interpersonal relationships of individuals in that organization.<sup>11</sup>

Leadership has been a well-studied area of organizational behavior. There are numerous traits, characteristics, and behaviors that are highly desirable for a leader to develop over the course of their career to foster individual and team success. While there are admittedly many attributes that are desirable in a leader, it is debatable as to their relative importance and whether any one attribute is more important than another. In the profession of pharmacy, Zeeman and colleagues recently identified the top four leadership attributes (adaptability, collaboration, communication, integrity) and the top five professionalism attributes (accountability, communication, honor and integrity, respect for others, and trust) for pharmacy student development.<sup>12</sup>

**Corresponding author:** Robert C. Haight, PhD, MPA  
Assistant Vice Provost, University Assessment and Accreditation, Associate Professor of Pharmacotherapy, College of Pharmacy, The University of North Texas Health Science Center at Fort Worth, Fort Worth, TX  
Email: [robert.haight@unthsc.edu](mailto:robert.haight@unthsc.edu)

This need for pharmacists to possess various leadership and interpersonal skills has led to a recognition among the academy for additional education among student pharmacists within the affective domains.<sup>9</sup> Student pharmacists in a PharmD curriculum are typically provided didactic courses which include leadership, communication, and other affective domains, along with leadership opportunities throughout the co-curriculum and during experiential rotations.

Along with the understanding of the increasing role of the pharmacist and the need for leadership abilities among future pharmacists, the Regis University School of Pharmacy (SOP) adopted TBL as its main means of educating students. Team-Based Learning is a learning strategy designed to place the acquisition of knowledge in the hands of the students. TBL then places the application and synthesis of theories and concepts into the classroom, where students work together with the aid of faculty who facilitate the solving of complex problems which lead to expanding the students' knowledge, skills, and abilities.<sup>5</sup>

Inherently this teaching strategy and educational atmosphere creates an environment that requires students to work together as a team to solve problems with a greater understanding of the context. In the classroom students must work together to complete cases and solve many problems as a preassigned team. Students have the motivation to be collaborative on all team assignments, as students receive a group grade for their work. In this collaborative environment students have the potential to develop affective domain skills to be successful in the classroom. These skills are directly linked to how they will perform as professionals in any healthcare setting.

In conversations with external pharmacy preceptors there were anecdotes that indicated a "difference" in the students from Regis University compared with students from other schools of pharmacy. Regis University is a Jesuit, Catholic institution that holds several values central to the educational mission. These include: 1) *Cura personalis*, a Latin phrase meaning "care for the person", having concern and care for the personal development of the whole person. This implies a dedication to promoting human dignity and care for the mind, body, and spirit of the person, 2) *Magis*, Latin meaning the "more", magis embodies the act of discerning the greater good in a given situation, the value of striving for the better, striving for excellence.<sup>13</sup> Acknowledging these values, preceptors articulated a difference among these students that includes, but goes beyond the instilled Jesuit values. One such difference noted by the preceptors in the student pharmacists is a willingness to communicate and "jump in" with answers to questions. These students had a relatively easier time working with pharmacy and other healthcare professionals on rotation. In turn, conversations with various Regis alumni across many of the ten graduating classes had the opinion that leadership skills and attributes were essential to their success to date. Additionally, they linked part of their success to their experiences working

on TBL teams. These observations and conversations led the researchers to survey the literature for the relationship between the development of leadership skills/attributes and participation in TBL as a primary means of education.

While literature supports the need for effective leaders in healthcare, literature was scarce regarding this specific question and potential association. The literature indicates that TBL has a relationship with improving individuals' ability to work-together and solve problems<sup>14,15</sup>, little is known if TBL develops affective domain skills associated with being a leader. The purpose of this study was to determine what effect, if any, TBL has on the development of affective domain skills leading to leadership abilities among student pharmacists.

### Methods

This pilot study utilized a qualitative approach to explore the relationship between the development of leadership skills and being a student in a TBL-based Pharmacy curriculum at a private Jesuit, Catholic university. A qualitative approach was selected to elucidate the perceived factors associated with leadership and the relationship with a TBL-based Pharmacy curriculum. Both researchers taught in the Pharmacy curriculum utilizing TBL; to bracket themselves from the phenomenon of leadership and affective skill development, the researchers developed an *a priori* codebook. The codebook was established from existing literature around affective domain skills and leadership development. At the time of conceptualizing this research question, we used the following key words in our literature search: team-based learning, team-based learning and leadership, team-based learning and healthcare, TBL and leadership, TBL and healthcare, leadership and healthcare, and Jesuit values and leader. The databases searched included PubMed, EBSCOhost, and Google scholar. To confirm the authenticity and suitability of the themes in the inductive analysis, the researchers then took a grounded theory approach while analyzing the cases.<sup>16</sup>

To understand the perceived affective domain skills related to leadership that are necessary for a practicing pharmacist, pharmacy preceptors were interviewed individually over the phone. Student pharmacists were invited to join an in-person focus group to gain an understanding of what factors they believe are important to be a leader and which of those are honed by TBL. All qualitative data was analyzed utilizing NVivo (QSR International Pty Ltd.) where the codebook, interview responses, and focus group responses were loaded in the software program. The researchers independently coded the preceptor interviews and the student focus groups while holding neutral the beliefs and values they held related to TBL to further bracket them from the phenomenon. After both researchers coded the data, the coding results were aggregated and any misalignment in the coding was resolved through conversation and consensus.

### Preceptor Interviews

Pharmacy preceptors were selected to participate in the study through a randomized selection process. The researchers obtained a list of all preceptors that were actively precepting students at Regis University during the research period. The list was utilized to create an email distribution list, which was used to send a recruitment email to all preceptors; the email contained a description of the study and instructions on how to volunteer to participate in the study. After the predetermined reply to deadline, the researchers selected ten preceptors utilizing the randomization function in Microsoft Excel (Microsoft Corp., Redmond, WA). These preceptors were contacted via email and an interview meeting for each preceptor was scheduled. Each interview was conducted via Zoom (Zoom Video Communications, San Jose, CA) to facilitate communication and audio recording of the session. During the interviews, one researcher (MJB) was selected to facilitate the conversation while the other researcher (RCH) took notes of the interview. A predesigned interview protocol was used to guide the discussion (see Table 1), and ad hoc questions resulting from the interview were captured. The interview protocol was focused on determining leadership skills the preceptors felt were important in the workplace, their observations of the development of those skills in Regis SOP students, and their perception of what affective domain skills related to leadership were uniquely fostered by TBL. At the end of the interviews, preceptors were offered the opportunity to receive a copy of the findings of the research.

#### *Student Focus groups*

Student participants were solicited to participate in the focus group through an in-class presentation of the study topic to the first-year students (P1s), second-year students (P2s), and third-year students (P3s). A sign-up sheet was passed around the class asking for students to volunteer for the focus group. The fourth-year students (P4s) were recruited during a back-to-campus event. A randomization function was used to select 10 students from each of the P1, P2, P3 cohorts and a convenience sampling was selected with the P4s to participate in four separate focus groups, one for each cohort.

The four focus groups were scheduled, and the identified students were invited to attend focus groups by student cohort. During the focus groups, one researcher (same as during the preceptor interviews) was established as the interviewer and the other as the recorder. At the start of each focus group students completed a demographic information form.

A predesigned interview protocol was used to guide the discussion (see Table 1), and ad hoc questions resulting from the interview were captured. The interview protocol was focused on determining affective domain skills the students felt were important to being a leader and their observations of the development of those skills as Regis SOP students, in a TBL classroom. Students were then asked to vote (Yes/No) on all the affective domain skills they considered important to being a leader and whether they were influenced/honed or uniquely

fostered by being in a TBL environment. At the end of the interviews, students were offered the opportunity to receive a copy of the findings of the research.

This study was approved by the Regis University Institutional Review Board and all participants signed informed consent forms to participate in this study.

#### *Analysis of data*

The analysis of the data utilized NVivo (QSR International Pty Ltd) Qualitative Software to aid in the coding of themes in the cases. The researchers loaded all preceptor interviews and student focus groups into the software program, along with the *a priori* codebook. Both researchers, independently analyzed the datasets using the codebook to coding the transcripts. After all transcripts were coded, the researchers met together to combine their coding, using a consent model for agreement among coding.

## **Results**

### *Preceptor Demographics*

The researchers interviewed 9 pharmacy preceptors for approximately 1-hour during the 2018-2019 academic year. The majority were 26-35 years of age and female (Table 2). The preceptors were evenly divided in where they received their PharmD degree from; state vs private universities. They represented a variety of practice settings including ambulatory care, community, hospital outpatient, anticoagulation services, lab, and hospital administration/management.

The range of precepting experience was from 3-29 years, with an average of 10.5 years. The preceptors experience with Regis SOP was a range of 2-9 years (avg=5). In addition, these preceptors had worked with a total of 12 Regis students, on average. The majority had precepted students for five or more years and the majority precepted were P4 students, while two preceptors had worked with P1s, P2s, and P3 students.

### *Student Demographics*

Twenty-three students across four cohorts (P1-P4) participated in 1-hour focus groups during the 2018-2019 and 2019-2020 academic years. Most of the students (87%) were in the 18-35-year-old range, 65% were female, 87% Caucasian, and the largest group to be a part of the focus group was the P3s (Table 3). Most of the students had a degree prior to entering the Doctor of Pharmacy program with 61% having a BS degree. Degrees were obtained from community colleges to private universities with several state universities included. Students represented a variety of states prior to entering the program from east coast (Florida, New York) to west (California, Washington) as well in between (Minnesota, Missouri, North Dakota) with six Colorado natives.

The P4s were asked to comment on how much leadership education they experienced either in their schooling or work-related training prior to joining the Doctor of Pharmacy

program. All of the P4 students noted receiving minimal if any formal leadership education and what little they had was associated with co-curricular activities.

#### *Preceptor Results*

When the preceptors were asked about their own experiences with leadership training, the answers were widely variable. The majority had little to no leadership training while in their Doctor of Pharmacy program. Many stated their leadership skills were gained through experience on-the-job. Any post-graduate training in leadership were trainings either through an employer or self-identified advancement (e.g., additional education).

All preceptor interviewees stated that leadership skills are an important aspect of being a pharmacist. Leadership skills were identified as being of value to the pharmacy profession, that they are “extremely important, no matter the role, it is important”. A majority of interviewees stated that regardless of role, you need to be able to lead “no matter [the] position or where you are in [a] pharmacy”. Another interviewee also stated that “It is hard to be a pharmacist and not have a leadership role”. Leadership skills are crucial in the pharmacy workplace, “You will always be working with people, and it is important to have those skills and be a leader for better problem solving” another interviewee stated. It was also stated that it is important to have leadership skills when working on an interprofessional healthcare team.

With this identification of the importance and need of leadership among pharmacists, there were also some thoughts around the underdevelopment of leadership skills among student pharmacists. When preceptors were asked about their education around leadership, they responded that they had little to minimal leadership training while in pharmacy school and some leadership training post-graduation. One preceptor stated that there was “minimal [leadership training] in my schooling” they went on to state that “in my post graduate training and my residency I definitely feel like I had more [leadership training] from my preceptors” Another preceptor stated there was “not really any specific leadership classes”, another interviewee stated that they received leadership training during “post-graduate master’s and a few leadership courses through employers”.

These thoughts around the lack of leadership training received during their pharmacy education led preceptors to some mixed thoughts on where current students are positioned as related to their leadership development. One interviewee stated, “general leadership skills are grossly underdeveloped across the board” and that there is “not enough emphasis placed on leadership [in pharmacy school]”. Another preceptor stated that “leadership training is noticeable, and you can tell those who have and those who have not” had leadership training.

Preceptors were also asked to list the top five attributes they considered to be important to be a leader. The five most common responses were: 1) communication, 2) emotional intelligence, 3) education, 4) time management, and 5) advocacy (Figure 1). Of the themes that were identified by the preceptors, the focus of much of the responses were around that of communication. Preceptors discussed how “communication is fostered by TBL” and how “communication is fostered [by practice, through] seeing things from other’s perspectives.” One preceptor mentioned “Regis students as a whole, can read the room, know when to speak up and when to listen and allow others to form opinions” and that “communication has a couple of different aspects: listening, being good at providing feedback, and providing direction”.

#### *Student Results*

During the focus groups, students identified several leadership skills and attributes, then categorized whether they felt that any of those identified skills and attributes were developed to any level due to their experiences with TBL. Review of the coded data yielded four main themes that arose across the student cohorts as being in the highest agreement; 1) communicate with or listen to others, 2) accountability/responsibility, 3) patience, 4) self-reflection / feedback (Figure 1).

When asked why these themes were related to being influenced or honed by TBL (Table 4), the students discussed many reasons related to each of the themes. With discussion around communication, students noted that because TBL requires students to stand up, discuss and defend their answers to team application exercises, that they have much more of an opportunity to practice communication skills and discussion skills with peers and faculty, making them much more confident in their responses. “Communication is the actual forté for TBL. It is the most valuable skill we are learning; it is how to communicate with our peers, on a level that is appropriate and a way that is appropriate” stated one student. The students also noted the importance to listening to others, when working together on team quizzes and team application exercises, students learn how listening to their peers’ aids in arriving at the best answer.

Engaging in TBL, students need to be accountable to one another, which arose as a ranked theme. Unlike lecture courses, TBL places value in being accountable to your team members and being responsible for completing your portion of the work. These team assignments have a certain grade distribution associated with the different tasks.

Patience was another top theme identified by the students, they noted “that when you are on a team with differing personality types, it is important to have patience with one another to develop good working relationships”. Patience is an important factor in learning to work with different personality types as it affords each team member the time to develop their

means of contributing to the team. Patience is also needed to allow for peer feedback process to facilitate team interactions. The peer feedback process is administered twice per semester and is anonymous. The peer evaluation includes various behavioral questions designed to ideally help identify challenging habits/personalities of team members. It is especially helpful when team members are not willing/able to address these challenging behaviors directly. It was also noted that, one must have patience when working on a team, as not everyone works at the same pace as one another and thus being patient for each member of the team to complete a task is important. TBL relies on team formation which should include an evenly distributed number of talented people among them. According to Michaelsen and Richards, "most of the reported "problems" with learning groups (free-riders, member conflict, etc.) are the direct result of inappropriate group assignments".<sup>17</sup> Notwithstanding this underlying tenet of TBL, teams can still be challenged with communication issues that require patience to work through to ultimately reach a group consensus. Developing patience in this setting can have longer-term benefits in future pharmacist-patient, pharmacist-technician, or pharmacist-healthcare provider relationships.

The fourth theme that rose to the top, was related to self-reflection and feedback, through working with a team daily and receiving peer evaluations periodically through the semesters; students develop the understanding of the importance of receiving feedback from one another. The students learn how to apply that feedback to improve their interactions with other students. One statement that was made by a student was related to "not letting the negative stop you, what matters is how you use negative and positive feedback to move forward".

### Discussion

This pilot study begins to examine the influence that TBL has on the affective and leadership skill development of pharmacy students. The purpose of this study was to determine what effect, if any, TBL has on the development of affective domain skills leading to leadership abilities among student pharmacists. The researchers interviewed a small sample of preceptors and student pharmacists to begin to glean more around this topic. Preceptors in the study noted that they received little to no training around leadership during their time in pharmacy school, while at the same time also indicating that leadership is a very important component to being a pharmacist. Student pharmacists also identified the importance of leadership to their future professions.

The literature indicates an importance of leadership among pharmacists in influencing healthcare teams to make better medication decisions and to lead patients to improved outcomes.<sup>8</sup> However, through this study, preceptors generally saw the importance of leadership in the frame of managerial leadership. This frame may be due partially to the practice-setting of the preceptor and a focus on leading the internal pharmacy team. There could also be a relationship with

preceptors receiving little to no leadership training and not completely connecting with those outcomes (i.e., influence of leadership on optimal patient outcomes). Regardless, the importance of leadership in healthcare and the impact that leadership has on organizations, has led the academy to connecting the importance of improving knowledge, skills, and abilities around the affective domain.<sup>18</sup>

When preceptors and student pharmacists were asked to identify attributes important to being a leader, five common attributes were derived from preceptor responses and four common attributes were derived among the student pharmacist focus groups. The top theme to arise from both groups was around the concept of communication and its importance to leadership. Identification of communication aligns with one of the four leadership attributes central to the profession of pharmacy, identified by Zeeman, et.al.<sup>12</sup> Preceptors were able to illustrate several examples around communication that they had noticed from students that had participated in a TBL-based pharmacy curriculum. Preceptors were able to indirectly associate the influence that TBL had on student pharmacist's ability to communicate; listen, provide feedback, and provide direction to those around them. In a healthcare environment, regardless of practice setting, it is paramount that a pharmacist be able to communicate with all individuals around them to ensure patient safety and improve patient outcomes and satisfaction.<sup>19</sup>

Student pharmacists, from P1s to P4s, spoke to the importance of communication in healthcare. Student pharmacists related their perception of TBL developing their communication skills. The students were able to identify the opportunities that TBL presents them with, to practice their communication skills. One of the general premises of TBL is that students must discuss what they have learned with their teams to determine the best answer for the problem, situation, or case. This communication within teams, allows for the practice and development of a student pharmacist's ability to listen, provide their perspective, and provide direction to one another in a learning laboratory; being able to try different approaches to communication, differentiate/discern communication styles, and take on different roles within the team, while also giving and receiving feedback, which allows for the student pharmacist to be self-aware and identify communication approaches that work best for themselves. TBL allows students the opportunity to present their answer, verbally, to the entire class, including the professor, which can lead to improvement of students' own confidence in their ability to communicate with others while being confident in their answer. Anecdotally, the authors have observed the differences over time from the P1 to the P4 year with selected students and/or heard from students that they chose to come to Regis to improve upon their communication skills through TBL.

When examining the top attributes associated with affective domain skills, it was interesting that there were few areas of

alignment between preceptors and student pharmacists. This lack of alignment could be associated with the fact that preceptors and student pharmacists are in different places in their career, while the majority of preceptors have been practicing for greater than 5 years and understand what is important to leadership, from real-world experience. The student pharmacists may have some experience of leadership in different settings, however their experience of being the pharmacist leader is lacking by definition.

The four common themes (i.e., emotional intelligence, education, time management, and advocacy) identified by the preceptors could have potentially emerged from their experience and a self-awareness of their own encounters of becoming an effective leader.

On the student pharmacist side, additional themes that emerged (accountability, patience, and self-reflection) were associated more with the development of leadership. Students discussed the challenge of holding teammates accountable and the growth they experienced in figuring out how to create that balance of accountability while maintaining a communication flow amongst the team. Considering that each student learns in their own way and time, they will contribute to the team in different ways, the themes of patience and self-awareness are perhaps not surprising. The dynamics created because of TBL (as noted previously) cause students who are “faster” at getting to an answer to develop patience. One key Jesuit principle is that of being contemplative in action or being mindful of one’s actions. The skill of patience is one piece of being able to be contemplative, having the mindset to not rush into action. The emergence of reflection from the student perception is also most likely linked to the Jesuit nature of the institution. Being reflective in one’s life is embedded within the educational activities of the institution and is threaded throughout their experiences. It is likely natural that self-reflection is a key theme given the opportunities afforded in the curriculum and reflection is further supported through TBL.

The primary limitations of this pilot study are the small numbers of preceptors and students who participated and the restriction to one institution at present. An additional consideration is that student responses were limited to their PharmD experiences at Regis regarding TBL and thus lack any comparative experiences from which to judge the influence of TBL on leadership skill development. The themes that developed do provide a firm platform from which to take this work to another level and develop a quantitative tool for further exploration of the relationship between TBL and the development of affective domain and leadership skills.

### Conclusion

The results of this pilot study demonstrate a concordance between preceptors and students regarding the importance of affective domain skills in the development of pharmacy leaders. It also supports the premise that TBL fosters communication

and leadership skills in students exposed to the pedagogy, yet further validation is needed.

The opinions expressed in this paper are those of the author(s).

**Acknowledgments:** the authors wish to thank the preceptors and students that participated in the research for their time, energy, and enthusiasm, as well as Stephanie James, PhD for her critical review of the manuscript while in preparation.

**Funding/Support:** None

**Conflicts of interest:** None

**Treatment of Human Subjects:** Exempt from IRB review

### References

1. Mitchell P, Wynia M, Golden R, et al. Core principles & values of effective team-based health care. *NAM Perspect*. Published online 2012.
2. Rosen MA, DiazGranados D, Dietz AS, et al. Teamwork in healthcare: Key discoveries enabling safer, high-quality care. *Am Psychol*. 2018;73(4):433.
3. Reimschisel T, Herring AL, Huang J, Minor TJ. A systematic review of the published literature on team-based learning in health professions education. *Med Teach*. 2017;39(12):1227-1237.
4. Dearnley C, Rhodes C, Roberts P, Williams P, Prenton S. Team based learning in nursing and midwifery higher education; a systematic review of the evidence for change. *Nurse Educ Today*. 2018;60:75-83.
5. Michaelsen LK, Knight AB, Fink LD. Team-based learning: A transformative use of small groups in higher education. *Sterl Stylus*. Published online 2004.
6. Baldwin DWC. Some historical notes on interdisciplinary and interprofessional education and practice in health care in the USA. *J Interprof Care*. 1996;10(2):173-187.
7. Bjornson DC, Hiner Jr WO, Potyk RP, et al. Effect of pharmacists on health care outcomes in hospitalized patients. *Am J Hosp Pharm*. 1993;50(9):1875.
8. Viktil KK, Blix HS. The impact of clinical pharmacists on drug-related problems and clinical outcomes. *Basic Clin Pharmacol Toxicol*. 2008;102(3):275-280.
9. Accreditation Council for Pharmacy Education. Accreditation Standards 2016 and Guidelines for the Professional Program in Pharmacy Leading to the Doctor of Pharmacy Degree. Published 2016. <https://www.acpe-accredit.org/pdf/Standards2016FINAL.pdf>
10. Haines ST, Pittenger AL, Stolte SK, et al. Core entrustable professional activities for new pharmacy graduates. *Am J Pharm Educ*. 2017;81(1):S2.
11. Dyrbye LN, Major-Elechi B, Hays JT, Fraser CH, Buskirk SJ, West CP. Relationship between organizational leadership and health care employee burnout and satisfaction. In: *Mayo Clinic Proceedings*. Vol 95. Elsevier; 2020:698-708.

12. Zeeman JM, Kiser SN, Steeb DR, Hubal R. Identifying Priority Student Leadership and Professionalism Attributes Among Faculty, Preceptors, and Students via Modified Delphi. *Am J Pharm Educ.* 2020;84(11).
13. Regis University. Key Jesuit Values in Education | Regis University. Accessed March 10, 2022. <https://www.regis.edu/about/jesuit-education/key-jesuit-values>
14. Choi KO, Park YM. The effects of team-based learning on problem solving ability, critical thinking disposition and self-directed learning in undergraduate nursing students. *J East-West Nurs Res.* 2014;20(2):154-159.
15. Burgess A, Haq I, Bleasel J, et al. Team-based learning (TBL): a community of practice. *BMC Med Educ.* 2019;19(1):369.
16. Patton MQ. *Qualitative Research and Evaluation Methods.* 3rd ed. Sage Publications; 2002. <http://www.loc.gov/catdir/enhancements/fy0658/2001005181-d.html>
17. Michaelsen L, Richards B. Drawing conclusions from the team-learning literature in health-sciences education: A commentary. *Teach Learn Med.* 2005;17(1):85-88. doi:10.1207/s15328015t1m1701\_15
18. Medina M, Plaza C, Stowe C, et al. Center for the Advancement of Pharmacy Education (CAPE) Educational Outcomes 2013. *Am J Pharm Educ.* 2013;in press.
19. Augustine J, Slack M, Cooley J, Bhattacharjee S, Holmes E, Warholak TL. Identification of key business and management skills needed for pharmacy graduates. *Am J Pharm Educ.* 2018;82(8).

**Table 1. Interview Guide Questions**

Preceptor Questions	Student Questions
1. Based on your experiences, please describe the importance of general leadership skills in the workplace?	1. Based on your experiences, please describe the importance of general leadership skills in the workplace?
2. As a preceptor, what does TBL mean to you?	2. Describe the value that you place on leadership skills?
3. What attributes do you consider important to be a leader, list your top 5?	3. What attributes do you consider important to be a leader? a. Of the above, which do you consider have been influenced or honed by TBL for you? Why?
4. What leadership traits do you see in Regis students?	4. What skills /values do you feel are uniquely fostered by TBL? What traits have you developed?
5. What skills /values do you feel are uniquely fostered by TBL? Why?	5. Are there skills or attributes that are negatively influenced by TBL? Why?
6. How do these differ, if at all, from other students you precept?	

**Table 2. Preceptor Demographics**

Variable	N
Age	
18-25	0
26-35	5
36-40	3
41-40	0
51+	1
Gender	
Male	1
Female	8
Length of time precepting Pharmacy students	
1-3 years	1
3-5 years	1
>5 years	7
Number of Regis Students Precepted	
1-5	2
5-10	1
>10	6
Academic Year of Regis students precepted	
P1	2
P2	2
P3	4
P4	9
Additional Degrees	
None	7
MS	0
MBA	1
MHA	1
Practice Settings/Roles*	
Managed Care	2
Hospital	3
Clinic	2
Community/Retail	3
Management	3
How much leadership training have you received either in your schooling or in post-grad training^	
None in Pharmacy School	4
1 class in Pharmacy School	3
Residency	4
Advanced Degree Program	2



Table 3. Student Demographics

Variable		N
Age	18-25	8
	26-35	12
	36-40	2
	41-40	1
	51+	0
Gender	Male	8
	Female	15
Year*	P1	5
	P2	5
	P3	9
	P4	4
Other academic Degrees	Associates	5
	BS	14
	BA	2
	MS	2
	MPH	1

\*P1 = first-year student; P2 = second-year student;  
P3 = third-year student; P4 = fourth-year student

Figure 1. Top Leadership Skills per Preceptors and Students (placeholder)

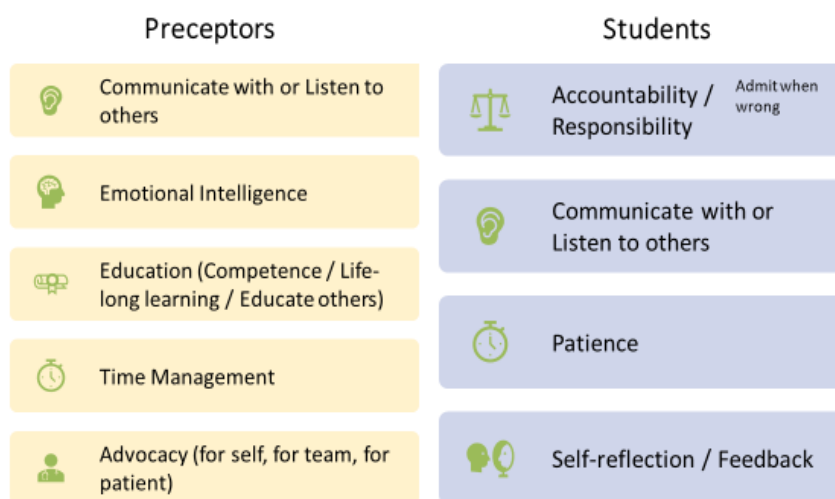


Table 4. Ranking of Skills/Themes Influenced or Honed by TBL

Skills uniquely fostered by TBL	Student Responses			
	P1	P2	P3	P4
Communicate with or listen to others	5	5	7	This ranking was not solicited of this group
Accountability / Responsibility	3	5	7	
Patience	5	-	7	
Self-reflection / Feedback	-	-	5	