STUDENT LEADERSHIP

An Elective Course in Leader Development

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Objective. To describe the design, implementation, and evaluation of a leader-development elective course.

Design. Students discovered, reflected on, and enhanced their leadership skills by participating in leadership quality presentations, selecting and facilitating team-building activities for pharmacy-based scenarios, creating a personal mission statement, maintaining a journal, creating pharmacy performance matrices, facilitating leadership discussions and activities, and completing a variety of leader-development inventories to identify their strengths and opportunities for growth.

Assessment. Students successfully completed 98% of the assignments. The most valued topics and assignments involved validated instruments, which promoted self-discovery and development. End-of-course survey results revealed all students agreed the course achieved all learning outcomes except preventing conflict from escalating (9% disagreed) and applying knowledge of core values to achieve greater effectiveness in interpersonal communication (4% disagreed).

Conclusions. Students perceived this leader-development elective course was effective in achieving learning outcomes. Assignments guided the creation of personalized leader-development tracks, ultimately promoting lifelong learning.

Keywords: curriculum, elective course, leadership

INTRODUCTION

The 1982 Argus Commission's report identified the need to build leadership skills in pharmacy students during challenging times.[1] Thirty years later, with healthcare reform challenges looming in the context of a difficult economic period, the need to build leadership skills in pharmacy students persists and is arguably of greater urgency.[2-4] For the profession of pharmacy to achieve the vision of shifting practice from an emphasis on product distribution management to patient-centered care, pharmacists need the skills to lead change effectively.[5,6] It is insufficient to only provide pharmacy students with the knowledge and skills required for contemporary pharmacy practice.[6,7] To equip pharmacists to lead change, pharmacy curricula must also provide pharmacy students with sufficient personal and professional leadership skills.[8]

The 2009 American Association of Colleges of Pharmacy (AACP) Curricular Change Summit Supplement included several recommendations related to leader-development: (1) providing graduates with the skills and confidence to adapt to changes they will encounter during their careers and to embrace life-long learning as essential to their roles as providers of pharmacy knowledge, services, and care; embracing their roles as agents of change and advancing new practice roles; (2) empowering graduates to take responsibility for their continuous professional development through mastery of self-assessment and self-efficacy; and (3) developing leaders and advocates, regardless of their positions or titles, for pharmacy and for advancing the diverse pharmacist provider roles.[2] In addition, this paper recommended students learn reflective practices, in relation to self-assessment of their strengths and weaknesses, to enhance their skills as life-long learners, ultimately leading to creating individualized plans for their continuous professional development.

The Accreditation Council for Pharmacy Education (ACPE) released revised guidelines (Standards 2007 Version 2.0) in 2011 that included a greater emphasis on leadership in the curriculum. Guideline 9.3, a new guideline, states "The college or school curriculum should foster the development of students as leaders and agents of change. The curriculum should help students embrace the moral purpose that underpins the profession and develop the ability to use tools and strategies needed to affect positive change in pharmacy practice and health care delivery." Additionally, the appendix B Practice Management

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competencies were revised to include "leadership development, management of transformational change, emotional intelligence for leaders, and creating/implementing shared mission and vision."[9]

This article describes an elective course designed to provide insights to help today's students become tomorrow's leaders – as pharmacists and in life. In addition to supporting the aforementioned recommendations and requirements from AACP and ACPE, this course also provides additional curricular emphasis in 4 areas highlighted by the 2009 AACP Curriculum Change Summit Supplement: (1) self-assessment and reflection, (2) leadership development and advocacy, (3) personal development, and (4) continuing professional development.[2] This article also provides research data addressing the achievement of the learning outcomes of this course and the placement of students on a development track to continue to grow as leaders.

DESIGN

Survey instruments and the research protocol were reviewed and approved as exempt by the institutional review board of Regis University. The 4-year doctor of pharmacy (PharmD) curriculum at Regis University School of Pharmacy is taught primarily using team-based learning.[10,11] Applied Leadership in Pharmacy Practice, was a 3-credit-hour elective course offered in 2011 (n = 8) and 2012 (n = 15) to pharmacy students who had successfully completed their hospital and community pharmacy practice introductory pharmacy practice experiences (IPPEs), which are completed in the second and third semesters of the curriculum.

The learning outcomes for this course are listed in Table 1. Enrollment was limited to 15 students to create an environment in which all students could contribute to faculty-led and student-led class discussions. Additionally, the small class size allowed for each student to lead a team-building activity and provide a leadership quality presentation within the course.

To ensure class participation, attendance was required. The small class size allowed for faculty monitoring of participation, and class activities were designed to foster student involvement (eg, faculty-facilitated random round-robin discussions, physical [correlated to cognitive] activities during class, and small-group case-study analysis).

This course focused on discovery and development within the classroom, while challenging students to apply what they learned outside the classroom in personal life, school life, work life, and IPPEs. Rather than focusing on leadership techniques (eg, how to run a meeting, setting expectations), the premise that discovering yourself is the first step in leader-development was emphasized. Instead of analyzing the external act of leadership, this course

Table 1. Learning Outcomes for a Pharmacy Elective Course in Leader Development

Upon completion of this course, the student will be able to:
(1) Define leadership.
(2) Recognize leadership is a choice, built inside out on a foundation of character.
(3) Recognize changing themselves is a process beginning with a desire to be teachable.
(4) Develop an understanding of the usefulness of failure by accepting negative experiences as learning elements of everyday life, learning from them, and then moving on.
(5) Recognize failure as a process that can ultimately lead to success.
(6) Conclude that leadership and influence principles are timeless and universal and provide the foundation for lasting effectiveness.
(7) Create a personal mission statement that expresses a personal sense of purpose and meaning in life.
(8) Develop an awareness of the way in which people communicate with others.
(9) Discover the importance of cultivating relationships in order to be an effective leader.
(10) Discover that habits of effectiveness only come from the committed use of integrated processes and tools.
(11) Apply leadership principles and tools to effectively lead change processes in pharmacy practice and in life.
(12) Apply knowledge of their core values and other people's core values to achieve greater effectiveness in interpersonal communication and conflict management.
(13) Complete the Emotional and Social Competence Inventory to identify their strengths as well as areas for growth and create an emotional intelligence competency development plan.
(14) Identify their preferred learning style, strengthen and develop learning style skills, and discover how their preferred learning style provides strengths to problem solving, teamwork, resolving conflict, and personal and professional communication.
(15) Differentiate the 5 levels of communication as described by John Powell.
(16) Create a pharmacy performance matrix to measure how well pharmacists and technicians are doing against expectations.
(17) Apply the concepts of the four pillars of Heroic Leadership (self-awareness, ingenuity, love, heroism) to personal growth and professional leadership.

endeavored to help students discover, reflect on, and enhance leadership skills expected of today's PharmD graduates. In-class discussions (facilitated by either instructors or students), in-class case studies, and journal entries emphasized emotional intelligence, timeless leadership and influence principles, interpersonal communication, embracing adversity, conflict management, leading change, positive reinforcement, strategic planning, and Jesuit leadership principles. Assignments included validated self-discovery, development, and application tools (ie, Conflict Management Scale, Emotional and Social Competence Inventory and Development Plan, Kolb Learning Style Inventory, Strength Deployment Inventory, and StrengthsFinder), writing a personal mission statement, student-led team-building activities, student-led leadership quality presentations, and student-led pharmacy performance matrix presentations. Several assignments (ie, journal entries, leadership quality presentations, relationship awareness and the Strength Deployment Inventory, StrengthsFinder, Emotional and Social Competency Inventory and Development Plan, and personal mission statement) included components that provided a structured framework for the creation of personalized leader-development tracks.

Journal Entries. Journal writing assignments were assigned throughout the semester when appropriate to the topic discussed in class. The purpose of journaling was to record and reflect on activities that contributed to leader development. Reflecting through journal entries formed the basis for identifying accomplishments and opportunities for growth.

Leadership Quality Presentation. Students were introduced to strategic planning using the Nominal Group Technique.[12] This technique fully engages all participants and equalizes influence among participants as goals are identified and participants provide anonymous feedback, ultimately leading to prioritization of common goals. Students applied this technique to identify and prioritize leadership qualities perceived as essential for effective leaders. Students were charged with creating a system to determine in a fair manner how to assign leadership quality presentations and the order of presentations. Each student developed a 5- to 10-minute presentation and handout on their assigned leadership quality, which included a personal story or reflection and an application in pharmacy practice. Presentations were shared throughout the semester at the beginning of class, and students observing the presentations reflected in their journals as to whether the leadership quality was a strength or opportunity for growth for themselves. If the leadership quality was an opportunity for growth, students also included the steps they would take to grow in this area.[13]

Team-Building Activity. A pharmacy-based scenario in need of leadership was randomly assigned to each student, and students selected a team-building activity pertinent to the scenario.[14,15] During the course of the semester, each student led a team-building activity, which included introducing their peers to the scenario, providing the take home points of the activity, and discussing the rationale for selecting the specific team-building activity for the given scenario.

Relationship Awareness and the Strength Deployment Inventory. The Strength Deployment Inventory (SDI) is a valid and reliable instrument that measures core values based on Relationship Awareness Theory.[16] Relationship Awareness Theory relates behavior to the motives that drive behavior, and as such, is effective in helping people understand and manage conflict and improve interpersonal relationships. The fundamental concept behind Relationship Awareness Theory is that people are motivated to behave in ways that achieve a sense of self-worth according to one's motivational value system (MVS). One unique quality of the SDI is that it assesses motivation under 2 conditions: when everything is going well and when conflict exists. Most individuals experience different motivations when they are in conflict. Class activities and discussions were selected to: (1) distinguish behavior from motivation; (2) experience how different perceptions can generate conflict; (3) appreciate different MVSs; (4) demonstrate how filters affect perception and judgment; (5) identify overdone strengths of different MVSs; (6) practice borrowing a different MVS's strengths to influence others; (7) discover the importance of self-worth as it relates to conflict; (8) identify conflict triggers for different people; (9) demonstrate the internal changes and related observable behavior as conflict progresses through 3 different stages; (10) identify strategies for improving effectiveness when approaching others during conflict; and (11) develop an action plan to apply relationship awareness to real-life situations.[16]

Pharmacy Performance Matrix. The first step to improve the effectiveness of compensation and appraisal systems is to pinpoint the results and behaviors needed for every job. An ideal format for this is the performance matrix, which allows measurement of every job and is ideal because it is flexible.[17] The performance matrix allows for measuring how well the performer is doing against expectations. Instructors used the results of students' SDI and StrengthsFinder to create teams of 3 or 4 students who collectively had strengths representing all 4 of the domains of leadership strength.[18] Each team also included individuals with different MVSs.[19] Students were challenged to focus their first team meeting on discussing their perception of why they were selected to be on that team and

determining the unique gifts each team member could contribute. Each team was randomly assigned to create a pharmacy performance matrix for (1) community pharmacists, (2) community pharmacy technicians, (3) hospital pharmacists, or (4) hospital pharmacy technicians. One class session was allocated for each of the teams to present their pharmacy performance matrix to their peers.

Kolb Learning Style Inventory. The Kolb Learning Style Inventory describes the ways each student learns and how they deal with ideas and day-to-day situations. An awareness of a student's learning style helped students better understand how they solve problems, work in teams, manage conflict, make career choices, and communicate in personal and professional relationships. Completing this inventory and class discussion allowed students to apply knowledge of their learning style to communication and conflict management case studies.[20]

Conflict Management Scale. As pharmacists collaborate with other healthcare providers and patients on a more frequent basis, there is an increased likelihood of interpersonal conflict. Therefore, understanding the nature of conflict in pharmacy practice and providing pharmacists with skills for managing interpersonal conflict are important for leader-development. The Conflict Management Scale prompts self-reflection, self-awareness, and discussion related to one's conflict management style.[21] Each student's conflict style was displayed to the class to reinforce the concept of variability in how individuals manage conflict and allowed for students to discuss and contrast their style of conflict management with their peers. In addition, students were placed into homogenous conflict style teams to demonstrate how different conflict styles manage the same conflict scenario case study differently.

StrengthsFinder. Leader development is a process that takes knowledge, skills, and practice, and it requires intentional use of and development of talents. Completing the StrengthsFinder instrument helped students develop as a leader by: increasing self-awareness; deepening knowledge and appreciation of others' talents; forming and maximizing teams; and helping others to affirm, develop, and apply their talents. Class activities and journal assignments were selected to include the 4 themes of the Strengths Development Framework.[22]

Emotional and Social Competency Inventory and Development Plan. Emotional intelligence refers to the capacity for recognizing one's own feelings and those of others, motivating oneself, and managing emotions effectively in oneself and in relationships. Class discussions on emotional intelligence competencies were conducted[23,24] and at their conclusion, an abbreviated version of the Nominal Group Technique was used to allow the class to collectively rank emotional intelligence competencies based on what they perceived to be most essential for a pharmacist.[12] Completing this inventory helped students identify their individual strengths as well as areas for growth. Students compared their individual results from this inventory with the class's ranking of emotional intelligence competencies essential for pharmacists. Each student selected 3 of their high-scoring competencies and 3 of their low-scoring competencies, and created an emotional intelligence competency development plan, including specific activities related to each competency.

Personal Mission Statement. Students created a personal mission statement that expressed their sense of purpose and meaning in life.[25,26] Creating a personal mission statement encouraged students to think deeply about their life, clarify what is really important to them, expand their perspectives, identify values, develop commitment to values, and make daily progress towards long-term goals. The deadline for completion of this assignment was intentionally set for the latter half of the semester to allow students to incorporate what they learned about themselves and about leadership into their personal mission statement.

Jesuit Leadership Principles. Regis University is a Jesuit university. Ignatian pedagogy, a model which promotes the goal of Jesuit education, strives to develop the whole person to the fullest degree possible. Given the focus on this course on personal development coupled with the Jesuit Mission at Regis University, the addition of material on leadership principles and concepts arising from Ignatian pedagogy was appropriate to include in this course. Specifically, 4 class sessions were devoted to reading assignments on the 4 Jesuit leadership pillars.[27] Students facilitated discussions and activities covering concepts of each pillar.

EVALUATION AND ASSESSMENT
Performance Assessment

Instead of focusing on the quality of each student's work, our approach to grading emphasized completeness and punctuality to model the importance of responsibility among leaders. For example, if a student submitted a completed assignment on time, the student earned full credit and received instructor feedback. If a student submitted a completed assignment late, the student earned zero credit but still received instructor feedback. A substantial portion of learning in this course included participation in class discussions and activities (eg, Jesuit Leadership Principles). One unexcused absence resulted in a 1-point reduction in the final grade; 2 unexcused absences resulted in a letter grade reduction in the final grade; and 3 unexcused absences resulted in failure of the course. The average attendance grade earned was 95%. Out of 23 students,

Table 2. Demographics of Pharmacy Students Enrolled in a Pharmacy Elective Course, N = 23

Gender, No. (%)	
Male	12 (52)
Female	11 (48)
Average age, Years (SD)[a]	26 (4)
Average number of years in college prior to pharmacy school[b]	4
Average number of leadership positions served in prior to this course[c]	3

[a] Not all respondents answered this item, n = 22.
[b] Responses of "5 Years or More" were converted to 5 to estimate an average.
[c] Responses of "$\geq$ 5" were converted to 5 to estimate an average.

17 students earned an A (94% to 100%), 4 students earned an A- (90% to 93%), and 2 students earned a B+ (86% to 89%) in the course.

Additional performance assessment included the Leadership Quality Presentation and Pharmacy Performance Matrix. Leadership Quality Presentations were graded based on appropriate inclusion of all of the required elements, and the average grade earned was 97%. The Pharmacy Performance Matrix was graded based on appropriate selection and inclusion of required elements and delivery of the presentation, and the average grade earned was 100%.

Attitudinal Scales

An end-of-course survey instrument was administered on the last day of class to assess students' perceived value of topics and assignments. The instrument also included 14 items rated on a 4-point Likert scale to assess course design and achievement of learning outcomes, and an open-ended question for students to indicate the most helpful component of the course. Instructors were available during survey administration to answer questions or provide clarity if needed.

All 23 students (100%) completed the survey instrument. Demographic characteristics are included in Table 2; student ranking of topics and assignments are included in Table 3 and Table 4, respectively; results from the 14 Likert-scale survey items are included in Table 5.

Performance on Course Assignments

Journal entries were graded based on completion, and the average grade earned was 92%. Team-building activities were graded based on appropriate selection and delivery, and the average grade earned was 98%. Relationship awareness was graded based on completion of the Strength Deployment Inventory, and the average grade earned was 100%. The Personal Mission Statement was graded based on completion of the stepwise prewriting exercise and the completed Personal Mission Statement narrative, and the average grade earned was 100%. The Emotional and Social Competency Inventory and Development Plan was graded based on completion of the inventory and a written individualized development plan, and the average grade earned was 93%. The Kolb Learning Style Inventory, StrenghsFinder, and Conflict Management Scale were graded based on completion, and the average grades earned on each were 100%.

DISCUSSION

Inspiration for developing a course of this nature occurred through attending a Leader-Development Seminar hosted by the Pharmacy Leadership and Education

Table 3. Topics Ranked According to Student-Perceived Value and Linked to Course Learning Outcomes

(1) Applying the Results of the Strength Deployment Inventory to Self-Worth and Communication (8, 9, 12)[a]
(2) StrengthsFinder Activities (3, 11)
(3) Overview of the Kolb Learning Styles and Applying Knowledge of Learning Styles to Communication and Working with Others (8, 14)
(4) 7 Habits of Highly Effective People (2, 6, 10, 11)
(5) Failing Forward (4, 5)
(6) Overview of Emotional Intelligence (13)
(7) Heroic Leadership (Jesuit 4 pillars of leadership) (2, 9, 17)
(8) Qualities of a Leader Using the Nominal Group Technique to Prioritize Goals (1)
(9) Leading Change (9, 11)
(10) Applying Positive Reinforcement to Bring Out the Best in Others (16)
(11) Finding Your Voice (Vision, Discipline, Passion, Conscience) and Inspiring Others to Find Their Voice (7)
(12) Defining Leadership (1)
(13) Interpersonal Communication (8, 15)
(14) Sweet Stories Team-Building Activity (9)
(15) Increasing Participation Through Delegation (9)

[a] Numbers in parentheses correspond to the course learning outcomes in Table 1.

Table 4. Assignments Ranked by Student-Perceived Value and Linked to Course Learning Outcomes

(1) StrengthsFinder (3,11)[a]
(2) Strength Deployment Inventory (8, 9, 12)
(3) Kolb Learning Style Inventory (8, 14)
(4) Conflict Management Scale (12)
(5) Personal Mission Statement (7)
(6) Team-Building Activity (9, 11)
(7) Emotional Competence Inventory and Development Plan (13)
(8) Leadership Quality Presentations (1, 6)
(9) Pharmacy Performance Matrix Presentation (16)
(10) Journal Entries (1, 2, 3, 4, 5, 6, 8, 9, 10, 12, 15)

[a] Numbers in parentheses correspond to the course learning outcomes in Table 1.

Institute (PLEI). The focus of this course was on pharmacy students' professional and personal development in the context of leadership best practices. The content and activities in this course were broad in scope to parallel the broad understanding of leadership, offering each student a menu of tools and concepts related to leadership. This allowed for each student to personalize his/her own leader-development plan. The interactive nature of the course was a perceived strength, resulting in class sessions in which students used leadership tools, applied leadership concepts, and participated in facilitated discussions by the instructors. An additional perceived strength of this course was that it inspired students to continue their development as leaders after its completion.

Use of the SDI has been described in the medical literature; however, to the authors' knowledge, this is the first course described in the pharmacy literature to use the SDI.[28] The use of the StrengthsFinder in leader-development has been well described in the pharmacy literature.[6,8,29-31] Although SDI and the StrengthsFinder both include the word "strength," they offer distinct advantages. Several advantages of StrengthsFinder are described above; however, it can be challenging to relate with others who have not completed this inventory. StrengthsFinder contains 34 unique strengths, and it can take time to learn specifically how individuals with different strengths can provide added value to a team. The SDI is easier to remember because there are 7 MVSs, which can be further simplified into 4 primary MVSs and 3 MVS blends. With practice, one can even determine another person's MVS and conflict sequence by observing language used in communication and behaviors, such that the SDI may be applied to relating with others who have not completed the inventory. The SDI also helps one to increase effectiveness when communicating with others and has applications to conflict management. However, a strategy

for further developing one's MVS is not applicable to the SDI. Therefore, StrengthsFinder and the SDI offer unique advantages and complement each other well for leader-development.

A perceived weakness of this course was the limitation on enrollment size because of the design of the course (eg, the inclusion of student-led presentations and discussions). Another perceived weakness was that completion of the course assignments did not guarantee achievement of learning outcomes. Faculty members placed a considerable amount of trust in students to give their best effort when completing the assignments.

There are several potential barriers to the successful implementation of this course at other institutions. The broad content of this course resulted in a substantial investment of faculty time for instructors to research the content included, master the concepts, and develop the course. In the absence of course release accommodations, it may take several years for instructors to become well versed in the content. Development of the initial course design and content, a 2 credit-hour elective offered at Palm Beach Atlantic University Gregory School of Pharmacy, occurred gradually over 3 years by studying a variety of leadership books and seeking guidance from mentors. Development of the course design and content described in this article occurred over another 2 years. A related potential barrier is the financial cost of developing faculty members to teach the content. Faculty development included support (approximately $3,500) to attend the Leadership Can Be Taught Symposium and a Level 1 SDI Certification Course. Regis University supported the acquisition costs (approximately $30 per student) for the SDI and StrengthsFinder. Students were required to purchase the remaining leader-development inventories and 4 required books (approximately $80 per student).[13,14,27,32] Instructors having leadership experience is also valuable when teaching a course of this nature, so they can share examples of challenges faced, real-life applications of leadership concepts, and personal successes and failures. The lack of examinations may present a potential barrier to implementation if an institution's assessment philosophy calls for traditional examinations in all courses. Rather than deliver traditional lectures, the instructors served as facilitators who guided students in the discovery, development, and application phases of leader-development. This could be a potential barrier to implementation for faculty members who prefer a concrete classroom experience. Finally, the small class size necessitated by the course design may be a potential barrier to implementation as a required course.

With regard to adaptation of this course by other institutions, the authors recommend that faculty members modify portions of the course content to achieve

Table 5. Students' Responses to Survey Items Assessing Course Design and Achievement of Learning Outcomes

Survey Item (Linked to Course Learning Outcomes from Table 1 and/or Course Design)	Responses (N=23), %			
	Strongly Agree	Agree	Disagree	Strongly Disagree
This course helped me learn more about aspects of my character that are essential for leaders. (1, 2, 7, 13, Course Design)	21 (91)	2 (9)	0	0
Learning more about aspects of my character that are essential for leaders helped me develop as a leader. (2, 3, 7, 13, Course Design)	20 (87)	3 (13)	0	0
The facilitated class discussion format of the course did not add value to the course. (Course Design)	0	0	9 (39)	14 (61)
This course would be more valuable if content was delivered via structured lectures without class discussions. (Course Design)	0	0	3 (13)	20 (87)
As a result of this course, I know what I can do to further develop as a leader. (1, 3, 6, 7, 9, 13, 17, Course Design)	18 (78)	5 (22)	0	0
I intend to use what I have learned about myself and how to develop as a leader to increase my effectiveness as a leader. (2, 6, 7, 9, 10, 13, Course Design)	18 (78)	5 (22)	0	0
As a result of this course, I am better equipped to serve as a leader. (1, 3, 4, 5, 6, 8, 9, 13, 15, 16, 17, Course Design)	16 (70)	7 (30)	0	0
As a result of this course, my intentions to pursue leadership positions as a pharmacist have increased. (7, Course Design)	14 (61)	9 (39)	0	0
As a result of this course, I know leading change is a process. (5)	15 (65)	8 (35)	0	0
As a result of this course, I am better equipped to succeed at leading change. (4, 8, 9, 11, 17, Course Design)	15 (65)	8 (35)	0	0
As a result of this course, I am better equipped to use my strengths to lead others. (8, 9, 11)	12 (52)	11 (48)	0	0
As a result of this course, I can apply knowledge of my core values and other people's core values to achieve greater effectiveness in interpersonal communication. (3, 6, 8, 9, 12, 14, 15)	14 (61)	8 (35)	1 (4)	0
As a result of this course, I have a better understanding of how people manage conflict differently. (6, 8, 12, 14)	19 (83)	4 (17)	0	0
As a result of this course, I am better equipped to prevent conflict from escalating. (4, 6, 8, 12, 14)	10 (43)	11 (48)	2 (9)	0

alignment with their institution's mission, vision, and values. For example, when the course was offered at Palm Beach Atlantic University Gregory School of Pharmacy, where integrating faith into the classroom is an added priority, students created and led leadership quality devotions drawn from the Bible instead of leadership quality presentations.[33]

Several measures appeared to demonstrate achievement of the learning outcomes by students. Average performance assessment results were $\geq$97% for all students with respect to major assignments (Leadership Quality Presentation and Pharmacy Performance Matrix) and nearly all students (91%) earned an A- or higher (the 2 exceptions earned a B+). Attitudinal data supported achievement of the learning outcomes as evidenced by all but 1 or 2 students agreeing or strongly agreeing with survey items linked to learning outcomes. Of particular importance, all students agreed or strongly agreed that as a result of this course they knew what they can do to further develop as a leader; they

intended to use what they learned about themselves to develop as a leader and increase their effectiveness as a leader; they were better equipped to serve as a leader; their intention to pursue leadership positions as a pharmacist increased; and they were better equipped to succeed at leading change. One limitation of this attitudinal data is its dependence upon self-perceptions, which may not represent actual achievement of learning outcomes. Interestingly, the 3 topics and assignments most valued by students involved inventories in which students learned about their and others' MVS, strengths, and learning styles, and how to apply this knowledge to increase effectiveness as a leader. Observational data appeared to demonstrate mastery of learning outcomes as evidenced by appropriate completion of nearly all assignments by all students. Journal entries scored the lowest for both completion (92%) and student ranking of assignment preference. This is likely because of waiting until the end of the course to collect all journal entries, although additional factors may have

contributed, such as a lack of comfort and skills among pharmacy students to reflect. The high student performance in this course may have been related to self-selection bias as this was an elective course. For example, all of the students enrolled indicated they served in one or more leadership positions (mean = 3) prior to the start of the course (Table 2). Prior experience in leadership positions may positively affect the motivation to succeed in a course of this nature. If implemented as a required course, the same results might not be obtained. Additionally, if grading was based on quality rather than on completion, different results might be obtained.

Data presented in this paper and additional data obtained from future course offerings will be used for continuous quality improvement of this course. For example, in 2011, 25% (2/8) of students disagreed they were better equipped to prevent conflict escalation. In the 2012 course offering, conflict management case study work was enhanced, resulting in all students agreeing they were better equipped to prevent conflict escalation. Furthermore, quality improvement will be achieved by the continual development of the course instructors by staying abreast of new leader-development material, attendance at leader-development conferences, regular review of pharmacy leader-development literature, and maintenance of relationships with leader-development organizations (eg, PLEI).

SUMMARY

This leader-development elective course appeared to be effective in placing pharmacy students on a track to continue to grow as leaders and also to inspire students to continue their development beyond the course. The most valued topics and assignments involved validated instruments, which promoted self-discovery and development. Course assignments guided the creation of personalized leader-development tracks, ultimately promoting lifelong learning.

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