



COMPLETED GRANT SYNOPSIS

How Student Pharmacists Can Develop Leadership Skills and Expand Community Pharmacy Based Services through Curricular and Co-Curricular Activities

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Objectives

The overarching goal of this collaborative leadership curriculum is to provide all student pharmacists currently enrolled in Doctor of Pharmacy programs in Washington State the opportunity to develop the key competencies needed to innovate and advance practice based on the following themes:

- *Leadership*: Develop high-impact skills as front-line leaders and contribute to positive change.
- *Strengths*: Identify strengths, learn how to develop strengths, and apply within a team.
- *Teamwork*: Collaborate with others to achieve shared goals with structured tools and opportunities for reflection and feedback.
- *Real World Application*: Create an authentic leadership experience in developing or enhancing a patient care service in a community pharmacy setting.

Methods

Design	<ul style="list-style-type: none"> • Curriculum is composed of 5 Modules delivered over 10 weeks. Modules 1, 2, and 3 discussed the need for pharmacist leaders, identifying your own leadership strengths and how to apply your strengths to maximize a team’s potential. During these modules, students are preparing a proposal for a clinical community pharmacy project, which will enhance or create a new service. Module 4 and 5 relate to pitching the project idea effectively. • Our primary methods of assessment of the overall innovation was a pre-course assessment and post-course assessment to compare change in leadership knowledge and confidence in making change.
Study endpoints	<ul style="list-style-type: none"> • Students report on their confidence in a number of areas related to leading change. On the pre-course assessment, students rated their confidence at that moment in time (PRE). On the post-course assessment, students rated their confidence at the end of the course (POST). They were also asked to think back to the beginning of the course and, knowing what they knew at the end of the course, rate how confident they felt they were at that time (THEN). • Our goal in asking for students to report their pre-course confidence at the end of the course was to account for response-shift bias that may have occurred between the PRE and POST scores due to student learning and a deeper level of conceptual understanding developed over the course of their participation in these modules and activities.

Results

Table 1. Leadership confidence responses based on pre, post and then assessments.

Question (n = 404)	Then (SD)	Pre (SD)	Post (SD)	P
Confidence in Leading Change	56.436 (2.113)	62.97 (2.072)	72.153 (1.661)	p < 0.001
Confidence in Identifying & Describing Personal Strengths	64.109 (1.938)	73.094 (1.959)	80.421 (1.516)	p < 0.001
Confidence in Identifying & Fostering Strengths in Others	62.797 (2.014)	68.317 (1.858)	75.965 (1.705)	p < 0.001
Confidence in Identifying New Services	55.594 (2.151)	60.272 (2.035)	73.144 (1.636)	p < 0.001
Confidence in Developing a Plan	55.396 (2.258)	59.257 (2.1)	73.342 (1.693)	p < 0.001
Confidence in Implementation	56.064 (2.251)	61.51 (2.093)	74.233 (1.691)	p < 0.001
Confidence in Creative Decision-making	59.307 (2.196)	64.579 (2.074)	76.089 (1.664)	p < 0.001

For all seven confidence questions, an increase was found between the mean of PRE scores and POST scores along with a decrease in the THEN score from the PRE score. This indicates that students felt more confident in their ability to lead change at the end of the course than at the beginning. The change from PRE to THEN also can be an indicator that students' understanding of these concepts changed during the course, as well. All three means were compared via ANOVA and the relationships were found to be statistically significant.

Table 2. Student pharmacists reporting improvement and confidence in areas in leading change based on Kotter's 8 steps of change

Step (n=420)	Improvement		Confidence	
	Number	%	Number	%
Create Urgency	122	29.04	161	38.33
Form a Guiding Coalition (team)	228	54.29	230	54.76
Create a Vision	270	64.29	237	56.43
Communicate Decisions	305	72.62	317	75.48
Empower others to act on the vision	207	49.29	218	51.9
Create Quick Wins	120	28.57	146	34.76
Build on the Change	194	46.19	203	48.33
Institutionalize the Change	95	22.62	100	23.8

Students were also asked in the pre- and post-course assessments to indicate how important they feel it is to continue improving on their skills in leading change. While the mean response from the pre-course to the post-course assessment decreased slightly, the response started high (84.98%) and the relationship was not found to be statistically significant.

In the post-course assessment, students were asked to reflect on Kotter’s 8 Steps of Change, which were introduced during the course. Students were asked which of the areas they felt they had improved on since the beginning of the course and which areas they would say they felt comfortable applying in the community pharmacy setting.

The areas that students felt had improved the most and felt most comfortable applying to a community pharmacy setting were Communicate Decisions (72.62%/75.48%), Create a Vision (64.29%/56.43%), and Form a Guiding Coalition (54.29%/54.76%).

Conclusion

We believe this leadership and project based curriculum is an innovative model helping students use the **foundational knowledge** and concepts learned in the course (e.g. Kotter’s model of change and the IHI Triple Aim goals) which are **applied** it to address real challenges in the community setting (**integration**) resulting in students seeing the relevance and importance of their learning (**caring**). Completing leadership development with StrengthsQuest™, reflection papers, and receiving feedback from peers, faculty, and community practitioners helped them also understand the critical role of interpersonal relationships, how they could be an effective leader, supportive team member (**human dimension**), and a self-directed learner (**learning how to learn**). All of these elements are essential to **“significant learning”** which has been outlined as **Fink’s Taxonomy**.

