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Jane R. Mort

Joe D. Strain

David L. Helgeland

Teresa M. Seefeldt

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Perceived Impact of a Longitudinal Leadership Program for All Pharmacy Students

Jane R. Mort, PharmD; Joe D. Strain, PharmD; David L. Helgeland, BS Pharm, MBA, EdD; and Teresa M. Seefeldt, PharmD, PhD
South Dakota State University College of Pharmacy

Key Words: Leadership; Longitudinal; Pharmacy Students; Curriculum

Abstract

Objective: To describe a longitudinal leadership program involving all students and report the perceived impact.

Design: The program included a first year Leadership Interview, a third year Report of Leadership, and a fourth year Professional Business Meeting Attendance. Activities involved guided reflection. **Assessment:** Students (n=138) indicated the activities helped them recognize the importance of leadership and their leadership potential (e.g., 72.5% and 62.3% of students due to meeting attendance, respectively). Students participated in leadership activities that they would not have pursued otherwise, either in response to the activity (27.7% due to interview) or as a requirement of the activity (51.1% for leadership report). Students reported developing specific leadership skills through the activities. Most students planned to be involved in a district/regional (72.5%), state (84.1%), and national (51.4%) meeting in the five years following graduation. **Conclusion:** Students reported a positive impact on leadership perceptions and participation. The report is a preliminary step in the development and assessment of a longitudinal curricular initiative involving all pharmacy students.

Introduction

With the proposed expansion of healthcare coverage, evolving models of pharmacy practice, and continual efforts to improve healthcare safety and quality, there is a critical need for leadership in pharmacy to guide the profession through these opportunities for growth and change. It is also critical that schools and colleges of pharmacy continue to develop student pharmacists as leaders in order to meet present and future challenges within the profession.

The need for development of leadership activities within pharmacy curricula is reflected in the 2008-2009 Argus Commission's report entitled "Building a Sustainable System of Leadership Development for Pharmacy." This report emphasized the responsibility of all pharmacists to be leaders, proposed a three tier model for teaching leadership, and specifically suggested the need for strategically placed co-curricular leadership activities. Tier one contains activities for all students, tier two focuses on activities for the majority of students, and tier three outlines specific activities for a few students (10 to 20%). More specifically, tier one activities include didactic course work, observation of leaders, mentoring, committee work, service activities, and professional organization participation. Tier three activities focus on programs such as elective courses for students seeking additional leadership training.¹

The importance of including leadership components in the pharmacy curriculum is also supported by the Accreditation Council for Pharmacy Education (ACPE) Accreditation Standards 2007 version 2.0, which addresses the development of leadership skills. Specifically, leadership is included: as a skill to develop in students (Standard 22: "Student Representation and Perspectives"), as a role to foster among students (Standard 23: "Professional Behavior and Harmonious Relationships"), and as a foundational content area in Appendix B (under "Practice Management," "Social and Behavioral Aspects of Practice," and "Medication Safety").² The 2013 Educational Outcomes from the Center for the Advancement of Pharmacy Education (CAPE) also emphasize the importance of leadership skill development for student pharmacists; specifically, the CAPE outcomes state that students should "demonstrate responsibility for creating and achieving shared goals, regardless of position."³

Despite the importance of leadership in pharmacy curricula, limited information exists in the literature on educational approaches, courses, or programs designed to develop leadership skills among student pharmacists. Within pharmacy curricula, reports of leadership programs have included elective courses, a co-curricular leadership development program, and a leadership retreat.⁴⁻⁹ These leadership activities yielded positive student feedback, although faculty workload and self-selected student participation were drawbacks. Questions remain about the best methods to incorporate leadership and professional engagement into pharmacy curricula. Specifically, strategies that would expose all student pharmacists to leadership principles and the importance of professional engagement (Tier 1 Argus Commission activities) need to be explored.¹

Corresponding author: Jane Mort, PharmD
South Dakota State University, Box 2202C, Brookings, SD
57007; Phone: 605-688-4237, FAX: 605- 688-6232
E-mail: Jane.Mort@sdstate.edu

This case study describes a required leadership curriculum for student pharmacists implemented at one College of Pharmacy. This program serves as a beginning effort to design a framework to encourage all students to recognize the importance of leadership and consider their role as a leader.

Design of Leadership Activities

In order to develop leadership skills and an understanding of professional engagement in our students, South Dakota State University College of Pharmacy designed a leadership curriculum with required activities and a longitudinal co-curricular design. The design of the leadership curriculum is consistent with the Argus Commission's leadership development report and has an emphasis on tier one activities. The definition of leadership provided by the Health Systems Pharmacy Executive Alliance was used when designing the individual activities as paraphrased below.¹⁰

A leader is more than a manager or person who completes assigned tasks. A leader is one who can create ideas and visions to motivate others to share and act on that vision. A pharmacy leader is driven by the mission of the organization/activity (patient care/outcomes), rather than by personal motivations and continually strives to improve. (Definition adapted from the Health Systems Pharmacy Executive Alliance)

The activities were designed to meet the following curricular outcomes: "demonstrate an understanding of the concepts of leadership and social responsibility and apply these concepts to personal and professional life" and "understand the role and value of professional organizations and the importance of individual participation."

The program entailed three projects including: a Leadership Interview, Professional Business Meeting Attendance, and a Report of Leadership Activities. The leadership activities were designed based on three guiding principles. First, the activities were founded on the premise that effective leaders are generated from an awareness of the importance of leadership. This was deemed necessary since leadership is often a role assumed in addition to a person's assigned work duties and, therefore, requires a high level of commitment. Second, leadership is a skill set that is best developed through practice. Third, if graduates are to be involved in pharmacy organizations, they must be exposed to opportunities and reflect upon the potential benefits of future activities.

The program was implemented in a cross-sectional manner in 2008/2009 in an attempt to avoid delaying exposure of

students to the program (Table 1). The 2012 cohort was the first group of students to complete all three components of the program. The placement of the projects within the curriculum evolved over time to optimize the impact of the activities. Table 1 contains the activities, placement within the curriculum, timeframe of adjustment, and reason for the adjustment. In addition, students received didactic instruction on leadership in a course (Professional Resources Management) during the fall semester of the third professional year; this course included readings on leadership principles and two hours of lecture on concepts, including leading change, leadership styles, leadership behaviors, and qualities of a successful leader.

The first step in becoming a leader is to recognize one's responsibility to serve as a leader and the benefits of serving as a leader. The Leadership Interview was designed to foster understanding of these aspects by requiring students to interact with a leader in pharmacy. Within the first year pharmacy practice course (Table 1), students formed groups of four and were required to identify a state or national pharmacy leader to interview. The leader had to have served in the last five years, be elected to the position, and be approved by the instructor prior to the interview. Each leader could only be interviewed by one group of students each year. Students within the group were required to participate equally and at a minimum, ask a set of required questions (Table 2). Students wrote a summary of the leader's responses to the interview questions as a group. In addition, each student answered a set of reflective questions (e.g., how the interview influenced the student's perception of leadership activities) and identified one leadership position in a pharmacy organization the student might consider pursuing either while in college or after graduation (Table 2).

In the second step of the program, students had until the latter portion of the third professional year of the pharmacy program to serve in two pharmacy leadership roles and then report on their personal leadership experience (Report of Leadership Activities). The requirement was decreased to one leadership role after the first year of program implementation based on difficulties in having sufficient leadership opportunities for 80 students. Examples of leadership options available to the students are listed in Table 3. The students were required to complete a reflection on these pharmacy leadership experiences initially as a co-curricular requirement in the P4 year and later as a requirement in the third year course Pharmacy Practice VI (Table 1). The reflection included why the specific leadership roles were chosen, one positive outcome, and one challenge. Students were also asked to discuss the effect of leadership

on the pharmacy profession and the effect of the leadership experiences on their future leadership plans (Table 2).

The final activity involved students attending a national or state pharmacy organization's business meeting, during their fourth year of the pharmacy program (Professional Business Meeting Attendance). Students were required to attend one of the business meetings from a list of approved meetings (exceptions are allowed with faculty approval). At the meeting, either a faculty member or the meeting leader signed a verification form. Following the meeting, the student completed the reflection and posted the document to his/her electronic portfolio. The portfolio entry was subsequently reviewed by a faculty member. Students were required to reflect on the experience by: 1) explaining their reasons for choosing to attend this particular organization's meeting, and 2) comparing the organization they attended with another organization. They also discussed how the organization impacts pharmacy practice, how a person can get involved in the organization, what transpired at the meeting, who led the meeting, and membership costs (Table 2). This was initially a requirement of the P3 course, Pharmacy Practice VI, but was later moved to a P4 year co-curricular requirement (Table 1).

There are several unique features to the design of this leadership curriculum. First, the leadership activities were required for all students in the professional program. The current literature describing leadership activities in pharmacy education has focused on participation by self-selected students (e.g., elective courses).⁴⁻⁹ Our design is consistent with the tier one leadership activity recommendations from the Argus Commission Report involving leadership activities for all students.¹ Another unique feature is the longitudinal design allowing students to develop their knowledge of leadership and professional engagement over time. The Leadership Activities Report included both positional and non-positional leadership activities. This feature is important in that it demonstrates to students that one does not need to be in a titled leadership role to have an impact; this is also consistent with the 2013 CAPE outcomes that state that students should engage in leadership irrespective of their roles.³ Finally, the design of the leadership curriculum exposes students to the importance of professional engagement as pharmacists through participation in a professional association's business meeting. A limitation to the design is the self-directed nature of the curricular thread. However, since leadership requires self-motivation and is a very individual experience, this was part of the specific intended design.

Evaluation of the Leadership Curriculum

In an attempt to determine students' perceptions regarding the program, a survey was administered to students during the month preceding graduation in 2012 and 2013. The survey sought to: 1) describe the impact of the program on the students' perceived value of leadership and their own leadership potential (6 items); 2) ascertain students' self-reported participation in leadership activities in response to the program (3 items); 3) identify which leadership skills students felt changed in response to the program (1 item with 9 skills); and 4) describe students' leadership plans after graduation (5 items). The survey was administered via an online survey tool (QuestionPro™) that was distributed to students via an e-mail invitation. The invitation included the purpose of the study, anticipated duration for completion, absence of known risk, lack of benefit to participants, and options regarding consent. Data was analyzed using Microsoft Office Professional Plus 2010, Excel (Version 14.0.6129.5000, Redmond, WA) and VassarStats:Web Site for Statistical Computation, Concepts & Applications of Inferential Statistics Textbook, (Lowry R, Vassar College, Poughkeepsie, NY).

While completing the survey was required, students could choose not to have their data included in the research project. The SDSU Institutional Review Board approved the study as exempt. All 138 students completed the anonymous survey at the end of the Doctor of Pharmacy program and consented to include their data.

Perceived Importance of Leadership and Their Leadership Potential. The perceived impact of the leadership activities was evaluated by asking students their agreement or disagreement with statements regarding the influence of the activity on the students' perception of the importance of leadership and their awareness of their own leadership. The largest percentage of students identified the Professional Business Meeting Attendance activity as helping them to recognize the importance of leadership (72.5%, n=100) and their personal leadership potential (62.3%, n=86). This is compared to a smaller percentage of students (responses ranging from 42 to 50%) who perceived the Leadership Interview or Report of Leadership Activities as helping them recognize the importance of leadership and their leadership potential (Figure 1).

Leadership Participation in Response to Program. Over one-quarter (27.7%, n=38) of the students reported actually engaging in a leadership role because of the Leadership Interview, and 39.7% (n=54) planned to take on a leadership role at a later date because of the interview. In contrast, approximately half of the students (51.1%, n=70) indicated that they participated in a leadership role specifically to

satisfy the Report of Leadership Activities requirement (“non-volunteer leaders”). The remaining 48.9% (n=67) of students would have pursued a leadership experience even without the requirement (“volunteer leaders”). No statistical difference existed in the students’ recognition of the importance of leadership and their leadership potential between students who pursued leadership only because of the requirement (“non-volunteer leaders”) to students who would have chosen leadership without the requirement (“volunteer leaders”) (Table 4, chi-square for recognizing leadership importance 42.0% “non-volunteer leaders” versus 46.3% “volunteer leaders”, $p=0.72$; recognizing their own leadership potential 44.3% “non-volunteer leaders” versus 54.5% “volunteer leaders”, $p=0.30$).

The reflection papers were examined to evaluate the types of leadership opportunities pursued as part of the Report on Leadership Activities. Based on this review, 61% of the students (84 of 138) reported at least one leadership activity associated with a pharmacy student organization (i.e., any leadership activity under the direction of a pharmacy organization), and 57% of students (79 of 138) reported on a positional leadership role (i.e., elected or appointed positions within a professional organization).

Perception of Leadership Abilities Improvement in Response to Program. Students were asked “which of the following abilities did you improve from the leadership experience?” Multiple responses were allowed (Table 5). Improvement in communication aspects were reported by the largest portion of the students.

Planned Leadership after Graduation. Students’ leadership and participation plans are highlighted in Figure 2. A majority of graduates anticipated participation in a meeting (national, regional, state) in the five years following graduation. In addition, 17.4% (n=24) had interest in being a state pharmacy organization officer.

Discussion

The profession of pharmacy needs able leaders to guide the evolution of pharmacy practice during this time of healthcare transition.¹¹⁻¹² While leaders often naturally emerge, a systematic approach that fosters leadership growth early in a person’s career will have the potential to accelerate development and even ignite unknown passion for this role. The basic tenets of the leadership curriculum in this project are that all students should be exposed to leadership development and leadership development is best achieved through a sequential reflective set of experiences. This framework is consistent with the 2008-2009 Argus Commission Report on developing leadership.¹

Professional Business Meeting Attendance was the most successful component of the program in helping students recognize the importance of leadership and their own leadership potential (72.5% and 62.3%, respectively). In evaluating these results, one must be aware that this requirement occurred in the fourth year when students are more mature and the activity most closely simulated post-graduation leadership work. The intent of this requirement was to set a pattern of behavior in students prior to graduation that includes service to the profession through organizations. The fact that 84.1% of the students plan to attend a state pharmacy organization annual convention and nearly three quarters (72.5%) plan to participate in a district or regional meeting provides encouraging evidence of future plans. While it is not possible to attribute these plans to the leadership program, the survey sought to examine whether students anticipated any future leadership involvement. Absence of future leadership plans would have suggested a grave failure in the program and results indicate that was not the case.

Components of the leadership curriculum caused students to participate in leadership roles, and students subsequently gained a greater appreciation of leadership. In fact, half of the students (51.1%) indicated that they participated in a leadership role to meet the Report of Leadership Activity requirement, and more than one-fourth (27.7%) sought a leadership role because of the Leadership Interview. While the impact of required experiences may be debated, nearly half of the students felt the Leadership Interview and Report of Leadership Activities helped them recognize the importance of leadership (49.3% and 44.2%, respectively). Motivation for participation in the leadership role did not appear to affect perceived benefit. While a smaller portion of the students motivated to lead due to the required assignment (“non-volunteer leaders”) recognized the importance of leadership (42.0%) and their leadership potential (44.3%) compared to students motivated by other factors (“volunteer leaders”) (46.3% and 54.5%, respectively), the difference was not statistically significant (Table 4, chi-square analysis). This suggests the activities are perceived to be beneficial to a similar portion of the students regardless of their motivation. However, a large sample may have avoided a potential type II error. Additional research is needed to determine whether pharmacy students who do not choose to lead on their own gain as much from leadership requirements as students who choose to lead. If the results from this report are substantiated, then requiring leadership of all students should be fully embraced. However, further research in this area is needed.

Students recognized they had developed specific leadership skills from the experiences. This is consistent with Janke et al.'s research showing that the majority of students recognize "leadership can be learned."⁶ The largest portion of students identified improvement in communication skills (e.g., listening) as a result of the leadership experiences. This was followed by systems skills, such as taking responsibility and organizing. While between 24.1 and 30.7 percent of the students felt they improved in these areas from the leadership experiences, we must consider confounding variables, such as professional development activities that occur throughout the curriculum and in extracurricular activities that may impact perception.

Results of this project may have been influenced by the time elapsed between leadership experiences and the time of the survey in the fourth year of the program. However, the intent was to determine the long-standing impact of the program, and therefore, a delay in survey administration may be beneficial. Students were required to complete the survey, but were aware that their responses were anonymous and data would be used in aggregate. Students' responses may have been influenced by leadership activities that occurred in addition to the required components. While items were designed to avoid this phenomenon (excluding five year plan items in Figure 2), participants' responses may have been influenced by these activities.

This Case Study has several strengths, including examination of a longitudinal program which takes significant time to implement and study. In this case, five years of experience (program implemented in 2008; first graduates in 2012; additional data 2013) are reported, including curriculum revisions. The sample size was large (138) and involved two P4 classes. An additional strength is 100% participation in the survey which avoided any selection bias in the sample. Also, survey results were anonymous, and students had no motivation to not candidly answer the questions.

Implications and Future Research

Limited information exists on leadership programs, especially programs involving all students in longitudinal leadership development. The program described in this Case Study Report included three projects (i.e. Leadership Interview, Report of Leadership Activities, and Professional Business Meeting Attendance) spanning four years of the curriculum. Results indicate that the activities within the leadership program helped students recognize the importance of leadership and their leadership potential. In addition, half of the students pursued leadership activities to satisfy the Report of Leadership Activities, but 44.3% of these leaders, motivated by the requirement (non-volunteer), indicated that

they came to recognize their leadership potential through the activity. Students also reported developing their communication and organizational skills from the leadership activities. Finally, the majority of students planned to be involved in regional, district, state, and national organizations in the next five years following graduation.

This program serves as a beginning effort to design a framework to encourage all students to recognize the importance of leadership and consider their role as a leader. Further research on leadership training in pharmacy is needed both from a standpoint of where leadership is being taught in curricula. Two recent publications have provided additional input on developing leadership curricula in pharmacy programs.¹³⁻¹⁴ Educational research to evaluate the effectiveness of leadership programs is needed. Additionally, the impact of leadership curricula on leadership and professional engagement after graduation needs further study. Our results indicate that students planned to be involved in professional organizations following graduation; however, the actual involvement of graduates will need to be tracked to demonstrate the effectiveness of leadership instruction.

Conclusion

This Case Study Report describes a leadership curriculum designed to build leadership awareness and experience for all students through required leadership activities. Students perceived this program to have positive results. These preliminary findings set the stage for continued research on the development and evaluation of pharmacy leadership programs.

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Table 1. Evaluation of Curricular Placement of Leadership Activities

	Initial Placement 2008-2009	Subsequent Placement (Academic Year)	Basis for Move
Leadership Interview	P2 Pharmacy Practice Law	P1 (2010-2011) Pharmacy Practice I	This activity was designed to increase students' perceived value of leadership. Therefore, placement early in the curriculum was chosen to enhance participation in student organizations.
Professional Business Meeting Attendance	P3 Pharmacy Practice VI	P4 (2011-2012) Co-Curricular Requirement	This activity was moved to the final year of the curriculum to help students get into the habit of attending a meeting as they transitioned into their practice habits.
Report of Leadership Activities	P4 Co-Curricular Requirement	P3 (2010-2011) Pharmacy Practice VI	This activity was moved to the P3 year because students did not have time during their Advanced Pharmacy Practice Experiences to engage in leadership roles. Therefore, completion of the reflection was more readily achieved when the deadline was moved to a time that corresponded with the completion of the leadership work.

Table 2. Leadership Reflection Prompts**P1 Leadership Interview***Group Assignment*

In essay format, discuss the leader's responses to the following questions and any other questions you asked.

Questions:

- A. Why did you become a leader?
- B. Why did you choose this specific pharmacy organization to serve as a leader?
- C. What do you find most challenging in your organizational leadership role?
- D. What do you find most rewarding?
- E. Do you think your leadership activity has had an impact on pharmacy or health care in general?
- F. What advice would you give someone who is beginning their career regarding leadership in pharmacy organizations?

Individual Assignment

Write your personal responses to the following questions in essay format:

- A. How did this interview influence your perception of leadership activities? Explain.
- B. Identify one leadership position in a pharmacy organization you may consider pursuing either as a student or after graduation. Do not list a position that you already hold or have held or a position you will assume in the next officer transition for your organization. List a specific position that is available in a specific pharmacy organization. (For instance, do not say that you would like to be a committee chair. State that you would like to be the Chair of the Social Committee.) Do not include a position on a Board of Pharmacy.
 - i. Explain why you would like to be elected or appointed to that specific position.
 - ii. Explain why you chose that specific organization.

P3 Leader Report Reflection

You must include the following information in the reflection paper:

- A. The organization(s), your leadership role, how long you were in that role, and what specific activities you completed as a leader.
- B. Discuss why you pursued these leadership opportunities.
- C. Identify and reflect upon your positive (and negative) experiences of these leadership experiences (professionally and personally) and any effect they had on others.
- D. Describe how these experiences have influenced your future plans for pursuing leadership opportunities.

P4 Pharmacy Organization Business Meeting Attendance

Students must type a reflection paper on this activity that included the following:

- A. Identify two organizations of interest and describe your comparison of the two organizations and why you chose one over the other to attend.
- B. Describe how the organization you chose impacts the practice of pharmacy.
- C. Describe the cost of membership to the organization.
- D. State who the leader of the meeting is and what position she/he holds in the organization.
- E. Summarize what transpired in the meeting.
- F. Outline how a person can get involved in the organization.
- G. Identify the involvement that most appeals to you.

Table 3. Examples of Leadership Roles Available to Students

- Professional Pharmacy Organization Leadership
 - Holding an elected office in APhA-ASP, Kappa Psi, etc.
 - Serving as an elected board member of a state or national organization
 - Serving as the chair of a committee for a health professional organization (Example: Chairing a committee or sub-committee for APhA-ASP, Kappa Psi, etc)
 - Holding a national office for a health professional organization

- Coordinating/Developing/Leading a new initiative for the profession of pharmacy and/or the public
 - Organizing an event for an organization that serves the public/profession
 - Smoking cessation awareness program
 - Fundraisers for patient advocate organizations
 - Meals on Wheels, soup kitchens, Habitat for Humanity, etc.
 - Health screenings for the public
 - Professional etiquette session
 - Young pharmacy mentor program
 - Patient advocacy programs

- Leading professional policy development at either the local, state, or national level
 - Serving as a state delegate for a national pharmacy organization
 - Creating dialog and opportunities for pharmacists via legislators
 - Wal-Mart Summer Leadership Internship

- Coordinating/Developing/Leading a research protocol/procedure
 - If research is used as the leadership activity, this leadership experience must be explicitly explained (type of involvement that shows your leadership) and the student would also be expected to have presented their work in a poster/abstract format or as a peer reviewed presentation/paper.

Table 4. Comparison of Student Motivation for Pursuing Leadership Activities and Recognition of Leadership Importance and Potential from the Leadership Activity

	Leadership Because of Requirement ("Non-volunteer Leaders") 51.1% (n = 70 of 137)	Leadership Regardless of Requirement ("Volunteer Leaders") 48.9% (n = 67 of 137)	P value*
Recognize Importance of Leadership	42.0% (29 of 69)	46.3% (31 of 67)	0.72
Recognized Leadership Potential	44.3% (31 of 70)	54.5% (36 of 66)	0.30

* chi-square

Table 5. Percent of Students Reporting Improvement in Leadership Abilities*

Leadership Aspect	% of Students
Communicate	30.7%
Listen	29.9%
Take responsibility	25.5%
Organize	24.1%
Share enthusiasm/passion	21.9%
Lead by example	21.9%
Delegate	19.0%
Use honesty as a leadership asset	18.2%
Be a follower	14.6%

*Students could indicate multiple skills had improved and therefore, the sum exceeded 100%.

Figure 1. Impact of Activities on Students' Perceptions Regarding Leadership (Students Agreeing or Strongly Agreeing)

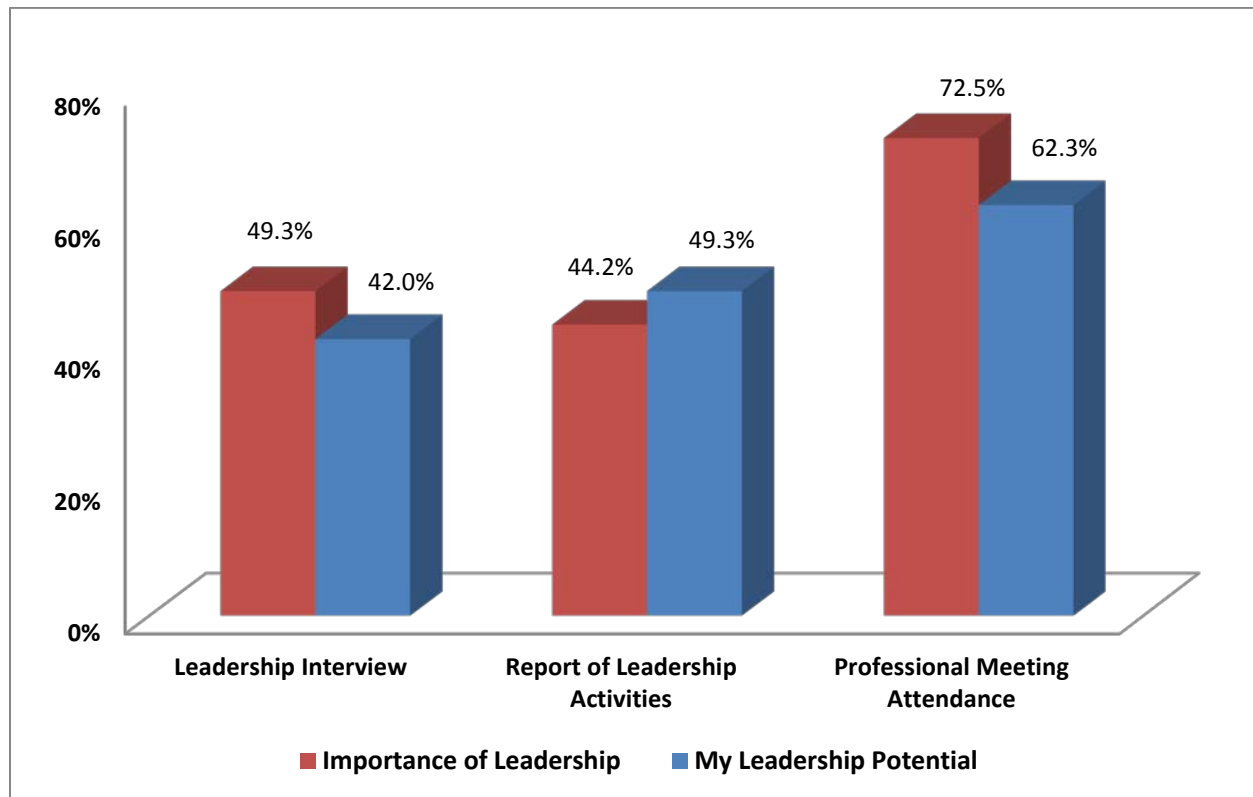


Figure 2. Students Five Year Leadership Plans (Students Agreeing or Strongly Agreeing)