

2008-9 District V NABP/AACP Study Grant Report

“Developing and Assessing an Innovative Model of Pharmacy Student Led Elementary Science Education” in the category of Innovation in Pharmacy Education (Slide handout also available)

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Many colleges of pharmacy across the United States are concerned about the shortage of motivated community pharmacy faculty in academia. The American Association of Colleges of Pharmacy (AACP) has identified faculty recruitment and retention as a top priority. To address shortages, service experience models based on community-academic partnerships may raise interest in teaching careers and develop community-oriented health care professionals in the student populations. However, developing and assessing innovative service experience based models of education; especially those led by the students themselves are rare in professional pharmacy programs. Therefore, our study objectives were to develop and assess the general attitudes to and specific outcomes of a community-service model of pharmacy student led science education of diverse elementary students.

Guided by faculty two pharmacy student coordinators developed the UNMC pharmacy student-led science educational program with Lothrop (a science magnet center) having a diverse elementary student population. The student coordinators developed lesson plans and schedules with the Lothrop coordinator. Then they recruited UNMC pharmacy student volunteers, and oriented them to the program. First- and second- year pharmacy students volunteered to provide weekly interactive science education lessons to kindergarten-4th graders from January to May 2008. Lesson topics included nutrition, physical science, anatomy, chemistry, and botany. The student coordinators reflected on the challenges of starting the program, organizing schedules and lessons, and recruiting and orienting volunteers. However, they found beneficial the influences of pharmacy students on Lothrop students, the influence of Lothrop students on pharmacy students, and the program's influence on future career plans as pharmacy educators. The UNMC-Lothrop collaborative experience is continuing with new student coordinators preparing and scheduling lessons on health care.

With faculty the two student coordinators assessed the innovative model of pharmacy student led elementary science education. For this objective, the IRB approval was obtained from UNMC for analyses of Pharmacy student volunteer responses on assessment tools. The assessment tools were the 25 item Rural Health Education Network/Area Health Education Center's General Service Learning Survey before and after the Lothrop service experience and the 23-item Lothrop Survey developed for this study. Majority of the 19 volunteering pharmacy students were female, aged 20-25 years old, and Caucasian. Student volunteer's attitudes significantly ($p < 0.05$) increased "after" compared with "before" the service experience. More students became "aware of community needs" and more students thought "the program should be voluntary or elective than a course requirement". Students' agreement was highest (mean > 3.5 out of 5) for specific outcome-related items across 3 domains. For the context of Lothrop experience, the students "volunteered" because of desires to help elementary students, and "volunteered" because their previous teaching experiences encouraged them to do more. From Lothrop experience the students "improved" their practical teaching skills, and their comfort in working with diverse populations. Because of the Lothrop service experience, students said they "would like to teach as a preceptor in a practice site," and were "encouraged to explore public health positions" as future career direction in pharmacy.

Self-report bias, small sample size, and absence of longitudinal assessment may have affected our study estimates. However, this innovative community-service model of pharmacy student led elementary science education showed student awareness of diverse community needs, comfort in diverse community engagement, and commitment to include teaching and public health in future careers. Development and assessment of such a pharmacy student led elementary education program could serve as a potential model for other pharmacy colleges in the United States to encourage academic careers and community engagement in pharmacy students.