

Collaborative Learning of Diabetes with Graphic Design Communication Students and Student Pharmacists

Introduction

In fall 2018 at Thomas Jefferson University, an opportunity for collaboration was identified and coordinated by Beth Shirrell, MFA in Graphic Design and Interactive Design and assistant professor in the Kanbar College of Design, Engineering, and Commerce; and Amy Egras, Pharm.D., BCPS, BC-ADM and associate professor in the Jefferson College of Pharmacy. The collaboration included 27 senior graphic design communication students from the Systems Design Integration course at the Kanbar College of Design, Engineering, and Commerce and 12 third-year student pharmacists from the diabetes elective course entitled Diabetes Immersion at the Jefferson College of Pharmacy. The System Design Integration course is taken the first semester of senior year within the graphic design communication curriculum. The graphic design students are required to work in groups on a design problem for an external client arranged by the faculty. The challenge is open-ended and complex, requiring problem identification through primary and secondary research, collaboration, original content and visual creation, physical prototypes and professional presentations. This year the client was the 1889 Jefferson Center for Population Health, located in Southwestern Pennsylvania. This semester long, team-based project challenged students to develop a design system that would provide information, tools and resources to the rural community about type 2 diabetes prevention and disease management. Since the large-scale, multi-component design project for the fall 2018 System Design Integration course centered on providing diabetes education to the community, it was decided that these senior graphic design communication students could work with the third-year student pharmacists who were enrolled in the diabetes elective course entitled Diabetes Immersion.



Background

The 1889 Jefferson Center for Population Health is an innovative research center, aiming to improve the health and wellness of individuals living in Cambria and Somerset Counties through the implementation of innovative, population-based health interventions. Located in Southwestern Pennsylvania, Cambria and Somerset Counties are areas that face challenges in addressing the social determinants of population health. Vital health factors like tobacco use, diabetes and obesity prevalence are worryingly above the state and national averages ("Data USA Johnstown, PA," 2019). Primarily acting as a facilitator, the Center brings together other community organizations that work towards a healthier region. They focus on lowering tobacco and obesity rates, as well as raising awareness of

mental health issues, with diabetes control and prevention being the Center's top priority.

Description

The first step in the collaboration of the graphic design communication students and student pharmacists was providing some education to the graphic design communication students on type 2 diabetes. Dr. Egras gave a presentation to the students that provided a comprehensive overview of diabetes from diagnosis to management, treatment, and prevention. This helped the students understand the problem better.

The next step was the first of two in-person meetings between the graphic design communication students and student pharmacists. The students came together for a design-thinking workshop. One aspect

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of design-thinking workshops is to bring two different groups together on common ground and allow for interprofessional interaction and teamwork. For this activity, an empathy map was utilized. Student groups used patient personas to move through a sequence of design-thinking methods to gain a better understanding of the impact type 2 diabetes has on patients' everyday lives. This helped to build empathy for people with diabetes and better understand behavioral drivers.

At the last in-person meeting, the graphic design communication students presented their project prototype to a small group, which included the Executive Director at the 1889 Jefferson Center for Population Health, as well as faculty, student pharmacists, and their peers. Student pharmacists, along with the other audience members, provided feedback to each group as they worked to finalize their projects.

The graphic design communication students created some unique resources that could be utilized in Cambria and Somerset Counties. Some examples included:

- **Trek:** Utilizes pre-existing hiking trails to create an awareness campaign that encourages family bonding through physical activity
- **On Site:** An initiative that works with employers to deliver healthy, delicious, and affordable meals to their employees through the use of a food truck
- **Sprout:** A diabetes prevention program that encourages elementary age kids to eat healthy and be active through games

Methods

Quantitative and qualitative data were collected to evaluate students' attitudes, knowledge, and skills in regards to the interprofessional collaboration. For the quantitative assessment, students filled out the Interprofessional Socialization and Valuing Scale-9A (ISVS-9A) and the Interprofessional Socialization and Valuing Scale-9B (ISVS-9B) pre- and post-surveys. For the qualitative assessment, students

filled out pre-and post-meeting surveys. Some questions in the pre-meeting survey queried what each group of students knew about the other's profession. The post-meeting questions inquired as to what each group learned from each other, what they learned from the interprofessional experience, and what thoughts they have for future collaboration. Results are pending; several excerpts from the qualitative assessment are highlighted in the Discussion section.

Discussion

Both groups of students brought different skillsets to the table and both groups embraced this collaborative opportunity. This was observed during the empathy map activity. Design-thinking is a very common learning approach amongst those working in graphic design. However, it was a very different way to learn for the student pharmacists. This allowed a successful partnership to emerge, as the graphic design communication students led the process of the activity and the student pharmacists were the content experts. Anecdotally, students enjoyed working with others studying professions that seemed vastly different from theirs. Furthermore, they realized how their two professions could work together for the good of the population.

Comments from the graphic design communication students included:

- "It was an awesome experience collaborating with non-designers and working with them to mind-map diabetes."
- "I think both sides learned new things from each other and we learned how to utilize everyone's skills."
- "Working with people outside and within your field of study can be challenging, but as long as you keep everyone on the same page and communicate, you will succeed."

Comments from student pharmacists included:

- "I was absolutely blown away by the graphic design students' creativity and

innovation when it came to design thinking, problem solving and creating their deliverables. I believe having more collaboration with diverse disciplines would be extremely beneficial to our pharmacy profession."

- "Typically, we think of interprofessional education being with other healthcare providers. This helped add a refreshing view that interprofessional can mean so much more."
- "I learned that non-healthcare professions often have different ways of thinking about problems and that their strategy combined with my baseline knowledge can be powerful."

Once the data analysis is conducted, we are hoping to see that the students found value in this collaborative experience. Looking at the qualitative assessment, we hope to gain a better perspective on what the students learned from each other and how this might benefit them in the future. In regards to the quantitative data, we are hoping to see that the students found this collaboration to be a valuable and positive interprofessional experience.

Conclusions/Next Steps

Because the client for the graphic design communication students changes each year, there may not always be the opportunity for this exact collaboration amongst students. However, in the future, faculty are hopeful to find other unique collaboration opportunities to broaden student perspectives.

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REFERENCES

1. Data USA Johnstown, PA. (2019, May 13). Retrieved from <https://datausa.io/profile/geo/johnstown-pa/#health>