

Assessing the Impact of Virtual Versus In-Person Learning on Pharmacy Student's Communication Skills

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Introduction

Utilization of virtual learning has increased considerably since the beginning of the COVID-19 pandemic. Now virtual learning days are commonplace in settings when in-person education cannot occur, such as inclement weather days. The main concern with this increase in virtual learning is will students learning virtually perform at the same level as those who learn in the traditional in-person format?

One of the skillsets pharmacy students must develop during their curriculum is proper communication skills. Practicing pharmacists must be able to effectively communicate with patients and health care practitioners alike to deliver patient care. Virtual learning may make it more difficult to properly practice communication skills when compared to in-person learning. This could negatively impact students when training to become pharmacists. This study's goal is to assess how pharmacy students' communication skills development and preparation for their performance-based assessment (PBA) were impacted by their learning environment.

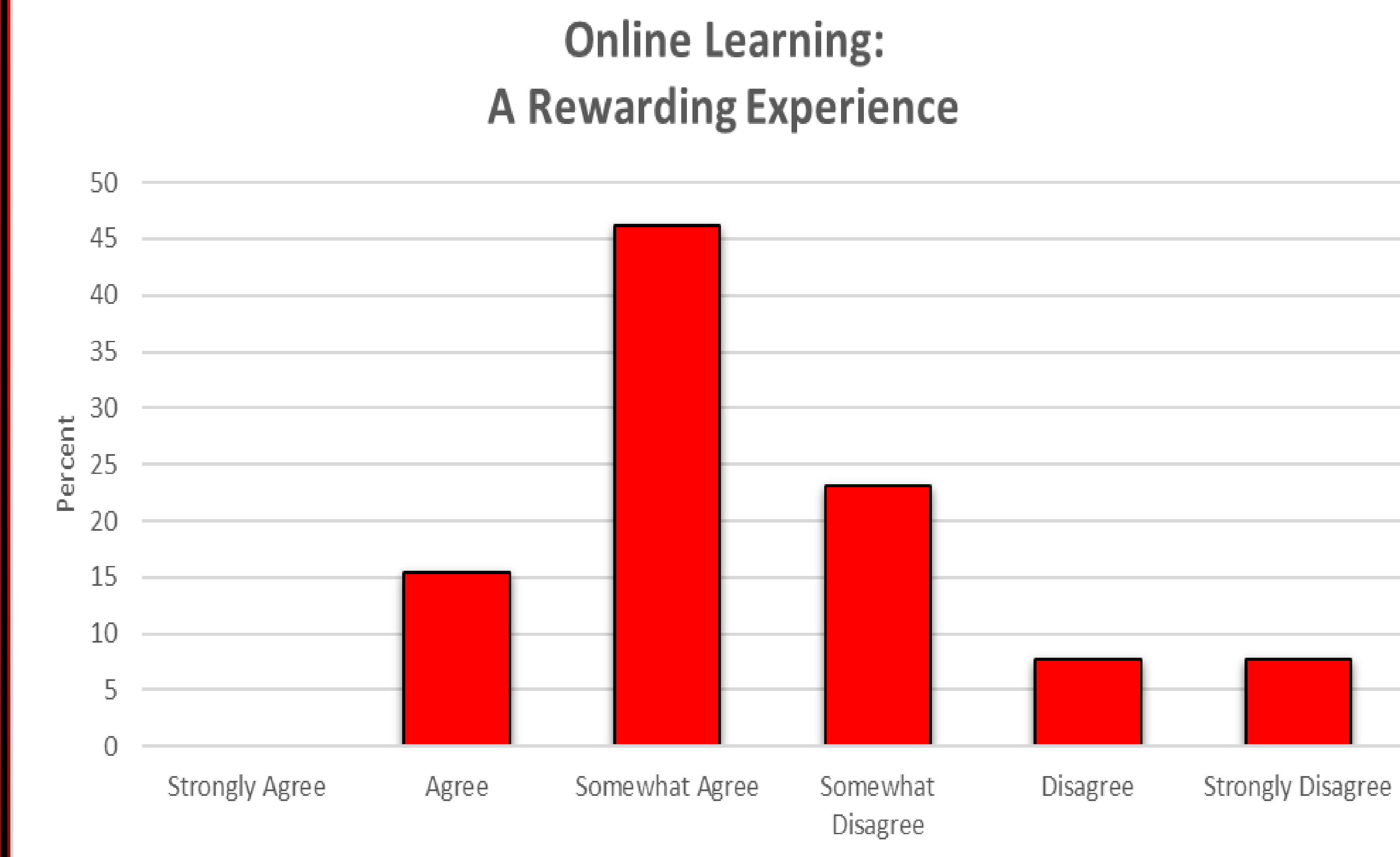
Methods

- Study participants were SIUE School of Pharmacy students in their second or third professional year of study (P2 and P3 respectively)
- The In-Person cohort was developed from P2 students while P3 students formed the virtual cohort
- Survey Design
 - Demographics
 - Assessment of Learning Environment
 - 6-point Likert scale ranging from Strongly Agree to Strongly Disagree that focused on their cohort's specific environment and how it prepared them for their PBA
- Median values assessed for each domain between cohorts.
- Statistical analysis of each domain with Mann-Whitney U test with a standard alpha value of 0.05.

Results

- 28 students were recruited for this study
 - 15 In-Person (P2)
 - 13 Virtual (P3)
- Demographics evenly split between both cohorts.
 - Previous pharmacy work experience
 - Completed 1-2 online college courses previously
 - Did not previously earn a college degree prior to enrollment.
- Most students preferred in-person learning over virtual learning.
 - In-person students: Agreed or Strongly Agreed that their environment prepared them appropriately
 - Virtual students: Somewhat Agreed or Somewhat Disagreed that their environment prepared them
- Statistically significant finding that if given chance to repeat their learning, students would not prefer virtual learning
- No significant difference in assessment performance between cohorts. (91% pass rate virtual vs. 94% pass rate in-person)
- The virtual cohort was asked if they believed virtual learning was a rewarding experience, majority somewhat agreed

Domain Assessed	Virtual	In Person	p-value
My learning environment was beneficial to learning and helped best prepare my communication skills for the PBA.	3	1	0.132
My learning environment improved my ability to establish rapport in communicating with patients.	4	1	0.107
My learning environment improved my control of volume and speed in communicating with patients.	3	1	0.308
My learning environment improved my non-verbal communication skills in talking with patients.	4	1	0.175
My learning environment better prepared me to show empathy when communicating to patients.	4	1	0.190
My learning environment better prepared me to conduct a smooth and organized patient communication session.	4	1	0.246
There was clearer communication skill development in my learning environment versus the other.	5	1	0.057
Many barriers prevented me from proper learning in the virtual setting.	3	3	0.577
There was greater stress with my learning environment compared to the other.	3	4	0.199
If repeated, would prefer in person learning.	2	1	1
If repeated, would prefer virtual learning.	5	5	0.019



Discussion

There were many limitations in this study. The main ones include the small sample size and the timing of recruitment.

- Small sample size could be overcome if this were to be repeated by attaching recruitment documents to the PBA wrapper, the post assessment document completed by students within the week of their PBA.
- Study recruitment in the Spring 2022 semester while the PBA and curriculum block relating to communication occurs in the 2nd professional year Fall semester
- Recall bias may have affected answers. P2 students were recalling from a few months. P3 students were recalling from over a year prior
- This may have prevented students from answering accurately or kept them from enrolling at all.

Conclusion

Pharmacy students were shown to prefer in-person learning over virtual learning in learning and developing their communication skills. While there were a few weaknesses to this study, there was still a statistically significant showing that students would not prefer virtual learning if given the chance to repeat their learning again.