Empathy, Confidence, and De-Escalation: Evaluating the Effectiveness of VR Training for Crisis Communication Skills Development Among LIS Graduate Students

Rachel D. Williams,[a] Catherine Dumas,[b] Lydia Ogden,[c] Luke Porwol,[d] Joanna Flanagan,[e], Julia Tillinghast[c]

[a]University of South Carolina, USA, [b]State University of New York at Albany, USA, [c]Simmons University, USA, [d]University of Galway, Ireland, [e]College of the Holy Cross, USA

rw63@mailbox.sc.edu, cdumas@albany.edu, lydia.ogden@simmons.edu, porwol@gmail.com, jflanaga@holycross.edu, julia.tillinghast@simmons.edu

ABSTRACT

This research analyzes the results of a study that is part of a larger, interdisciplinary, and multi-institutional project that examines the usability and effectiveness of VR training for library and information science (LIS) graduate students and professionals in gaining skills for interacting effectively with patrons in crisis. This paper reports on the findings related to the effectiveness of VR training for teaching empathy, confidence, and de-escalation skills for LIS graduate students. The findings illustrate that VR has the potential to impact LIS graduate education by reaching a wider audience that introduces training in low-stakes, immersive environments and that does not pose harm to patrons in crisis. This study also contributes innovative approaches that support training in skills including empathy, confidence, and de-escalation.

ALISE RESEARCH TAXONOMY TOPICS

public libraries; online learning; students

AUTHOR KEYWORDS

virtual reality; patrons in crisis; usability; LIS graduate education; crisis communication and de-escalation

INTRODUCTION

Recent trends in library services have increasingly centered on addressing the needs of patrons in crisis situations. The emphasis on developing services for patrons experiencing trauma of some kind means that library staff, and future librarians who are in LIS graduate programs, need to develop crisis communication skills. Training and professional development are crucial for supporting current and future library workers so that they have the knowledge, skills, and confidence to support patrons in crisis successfully. This project considers that need in the context of virtual reality (VR) training, which has gained popularity as an approach for higher education in the past few years.

This study considers the following questions:

1. How effective is VR for teaching LIS graduate students basic de-escalation skills? What crisis response skills do participants successfully implement when interacting with an avatar depicting a patron in crisis in a virtual library environment?
2. Does the VR training positively impact LIS graduate student perceptions of mental illness and confidence/empathy?

LITERATURE REVIEW

Public Libraries Respond to Patrons in Crisis.

Public libraries have increasingly become a place where patrons experiencing mental health crises, housing insecurity, substance use disorders, and other crises come to find safety, shelter, and health information in an openly accessible space (Elia, 2019; Hall & McAlister, 2021; Provence, 2019). As Pressley (2017) noted, libraries have "been regarded as safe havens" and provide an important service in meeting the information needs of patrons with mental illness to help them engage with resources and care (p. 74). Many librarians take seriously their responsibility to provide effective information and want to meet patrons in crisis with empathy and support (Phillips, 2017; Pressley, 2017). However, public libraries and their staff face challenges in meeting patron needs that have escalated due to changing mental health policies (Torrey, 2009) and the United States opioid crisis (Feuerstein-Simon, 2022; Real & Bogel, 2019). Patrons in crisis may be dubbed "problem patrons" and experience hostile attitudes from library staff (Ferrell, 2010; Hersberger, 2005; Provence, 2019). Library staff express frustration when they are expected to take on work that seems more appropriate for social workers (Westbrook, 2015) and when they feel they do not have adequate training to respond to the complex needs of their patrons (Williams and Ogden, 2021).

Use of VR Training in Higher Education.

Using VR in higher education has become increasingly popular over the past several years, and some of those uses indicate the possibilities for implementing VR in LIS graduate education. VR training provides a safe place to learn where one can repeat scenarios as needed and receive immediate feedback in a low-stakes environment (McGarr, 2020). Implementing training early on in LIS programs can support emerging professionals in developing the skills necessary to help them mitigate crises and recall skills when needed.

The literature indicates that VR is a viable approach for training, education and professional development in social work or teacher education. Similarly, VR has great potential

for LIS education. When examining adjacent fields and their implementation of VR, there were not many commonalities in approaches, goals, or outcomes. However, one trend that is present is that the use of role-play in the virtual environment is effective in students achieving the desired learning outcomes (Hadley et al., 2019; Levine & Adams, 2013; Rogers et al., 2022; Wilson et al., 2013). Similarly, in our study we leveraged roleplay along with traditional instruction in the virtual environment.

METHODOLOGY

This paper reports findings of a usability study of VR training approaches using Oculus Quest 2 head-mounted displays (HMDs) and the social VR platform, Mozilla Hubs, for training LIS students in de-escalation skills. The participants consisted of 10 students recruited from the LIS graduate program at the authors' university (6 female, 2 male, 1 non-binary, 1 unsure between male and non-binary). The study consisted of an individual training session with each of the participants in a public library virtual environment created by the researchers. Each session included pre-and post-session questionnaires on communication skills, usability and effectiveness of VR. The questionnaires address the following: demographic data; experience in crisis management and communication/de-escalation skills; and experience with different technologies, effectiveness of training, the usability of VR headsets and the SVR platform, and the potential of VR for education in library and information science. The exercises implemented in VR have been used by two of the authors during in-person and Zoom-based training workshops with staff at libraries throughout the Northeastern United States.

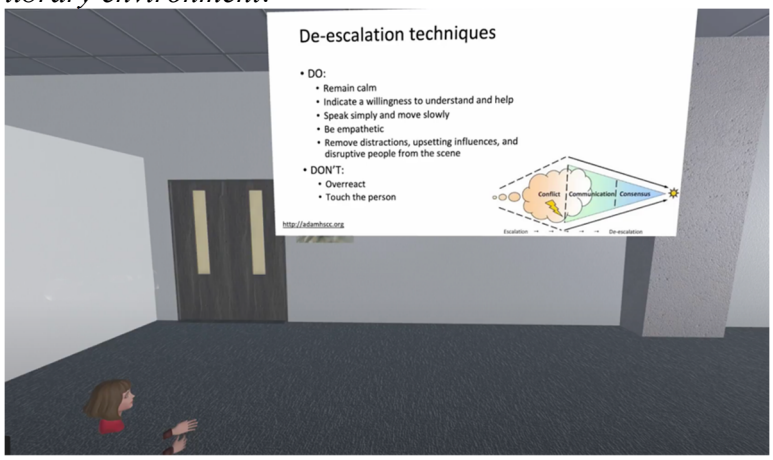
Analysis of the study data involved both the questionnaire data and the behavioral data of participants in VR. First, analysis of the questionnaire data involved assessing basic measures of central tendency for pre- and post- tests and comparing participants' scores before and after the training to look for trends. Second, to analyze the participants' use of crisis response skills, the original training video was reviewed to identify key skills discussed in the training. The identified skills were then grouped by common theme into a checklist. Two researchers independently reviewed the video recordings of the research sessions. After watching the recording, each researcher also reviewed the transcript of the session and noted behaviors in the transcript. Then, both reviewers met to discuss and compare their findings. They reviewed transcripts and video recordings as needed and reached consensus on their observations.

Study Design

Participants sent a profile picture to the researchers one week before their session. The researchers created avatars for the participants using their pictures and ReadyPlayerMe (https://readyplayer.me/). One participant participated in the study at a time in the researchers' lab, and sessions took about one hour total. Prior to the session, participants completed an informed consent form and pre-session questionnaire. Next, participants were given instructions on how to use the headset and enter the virtual public library environment created by the researchers. In a study session, the participant watched a video of the instructor presenting a training session on implementing TACOS (Threaten/Argue/Challenge/Order/Shame), a set of de-escalation skills, in the virtual library environment (see Figure 1, a screenshot of a participant watching the tutorial video in VR). Participants then watched a roleplay enacted by the researchers which was recorded

in VR, and finally participated in a roleplay as library staff with a patron in crisis that was played by the researchers.

Figure 1. *Screenshot of a video of a participant watching the training video in the virtual public library environment*.



FINDINGS AND DISCUSSION

Mental Illness, Confidence, and Empathy.

These questions tested baseline knowledge on mental illness, confidence and empathy. Post-test measures allowed insights into how the VR experience changed participants' knowledge, confidence, and empathy. At baseline, all participants reported wanting to learn effective methods for directly addressing library patrons with mental illness. On the post-test measure, all but one person probably agreed, agreed, or strongly agreed they had a better understanding of mental illness as a result of their VR experience. In terms of confidence, at baseline, 9 out of 10 participants endorsed some lack of confidence in their ability to work with library patrons with mental illness: Only 1 person agreed they were confident in working with such patrons. The average for the group was a 3.6– in between "not sure but probably disagree" and "not sure but probably agree." This was especially notable in light of the fact that all participants agreed or strongly agreed "how [they] interact with a library patron with mental illness can make a difference to them," suggesting a mismatch between their role definitions and their perceived abilities to perform the duties of their role. The posttest measures showed positive results: 9 participants agreed or strongly agreed that they were more confident working with patrons with mental illness, while only one now "probably agreed."

Pre- and post-test measures of knowledge of and misconceptions towards mental illness found important changes as well. On the pre-test, 3 out of 10 participants disagreed that mental illness is "an appropriate topic to discuss directly with library patrons." At post-test, only one disagreed with that statement, suggesting that the VR experience was able to change perceptions about their role at work. In terms of empathy, prior to the VR experience participants were mixed in terms of whether they believed themselves to "often have tender, concerned feelings for people less fortunate." Four agreed or strongly disagreed, four were "not sure but probably agreed" and the other 2 "probably disagreed" or disagreed. The average score for that item was 4.2, "not sure but probably agree" to "agree." After the session, one person continued to disagree with the statement. Notably, however, the number of those who "probably disagreed" shifted to zero, and

the number of participants who only "probably agreed" decreased from 4 to 2. A full seven now agreed or strongly agreed that they often experienced empathy. The average score was now a 4.9, much closer to "agree."

The VR experience helped improve participants' confidence by showing them they could remain self-regulated and act skillfully in an emergency situation, by placing them in just such a situation. At pre-test, 3 participants agreed that they were "usually pretty effective in dealing with emergencies, but 7 probably agreed or probably disagreed, for an average response of 4, "probably agreed." Once again at post-test there was improvement: All but two agreed or strongly agreed that they felt more effective in dealing with emergencies, and the other two were in probable agreement as well, with an average response of 5, "agreed."

Demonstration of De-Escalation Skills During Librarian-Patron Interaction

Overall, the 10 participants successfully demonstrated a good number of the de-escalation skills when they interacted with Michael, a patron experiencing an undisclosed crisis. Findings suggest that participants were successful in demonstrating a host of positive skills related to communication, empathy, and de-escalation. Almost all participants (9/10) demonstrated an ability to identify options and let people choose for themselves. When interacting with Michael, participants offered to call a family member, move to a different area, or suggested options such as sitting down and taking a moment, or taking a deep breath. A handful of participants (3/10) identified that there was a crisis, for example by saying something such as, "it sounds like something is going on." No participants referred the patron to resources, although this may be the result of the very short interaction. Empathy was evaluated by considering whether the participant displayed an ability to listen non-judgmentally; offered to help; gave reassurance; and validated Michael's feelings. All 10 participants offered to help Michael during the interaction, some right away, and others later on in the interaction, and many (8/10) displayed reassurance to Michael through the tone of their voice or statements such as "no worries." Less than half (4/10) attempted or successfully validated Michael's feelings. For example, one participant said, "that sounds very distressing" in response to Michael's situation. Another participant was less successful, but told Michael that if he wanted to leave the library, he was welcome to do so. Participants' ability to de-escalate the interaction was evident in their respecting personal space and speaking simply, which were two behaviors that all 10 participants displayed. Participants also verbally communicated their respect for Michael's personal space by asking if they could approach him, or letting him know that they're going to back up a little bit to give him more space. Overall, the majority of participants were also focused on Michael (9/10), recognized that he was overwhelmed (7/10) and shared that they were there to help (7/10). Over half (6/10) moved slowly, and almost half (4/10) removed distractions by moving to another location, asking Michael questions, or helping him pick up the books that the patron in crisis, Michael, dropped once he started to display confusion).

While less frequent, three participants also displayed some negative skills related to body language and verbal communication. One participant stared at Michael from behind the desk, and another participant expressed some sarcasm and perhaps impatience (which may also be the result of anxiety during the interaction). One participant loudly and repeatedly told Michael to calm down and sit down. Another participant appeared to almost agree with Michael's delusional statements, and a third participant laughed a bit and seemed uncomfortable during the interaction. Although these three participants did display some negative skills, they also displayed positive ones, by attempting to reassure the patron, offering to help, and respecting his autonomy and space.

CONCLUSION

Preliminary findings show that training LIS graduate students in crisis communication skills using VR has positive impacts on their ability to display increased knowledge of mental illness and de-escalation skills when interacting with a patron in crisis. Our study also shows that LIS graduate students display greater empathy and confidence in interacting with patrons in crisis after participating in the VR training. Our future studies will focus on the following areas. First, we will continue exploring the potential for VR in training students in crisis communication skills, including a continued focus on de-escalation as well as boundary setting and the reference interview. Additionally, we will introduce these training opportunities to public library workers to get a better sense of the possibilities for implementing VR training in the context of professional development. Overall, VR presents an engaging, low-stakes, immersive, and innovative opportunity for expanding LIS graduate education in a way that can positively impact emerging and current library professionals. Additionally, if this paper is accepted, we will bring Oculus Quest 2 headsets to the paper session so attendees can interact with our training session and virtual public library environment.

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