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Article abstract

In this study, we aimed to examine graduate students' experience when working with peers to complete a learning task focused on conducting a program evaluation in a qualitative research course. A generative artificial intelligence (GenAI)-powered platform was incorporated to support an experiential learning activity designed by the instructor-researcher. A collaborative action research approach was employed through the planning, enactment, and reflective phases of the study wherein four graduate students who engaged with the platform were interviewed to help improve the next iteration of the learning activity in future courses. This study contributes to the pedagogical discourse about the use of experiential learning for teaching and learning qualitative research methods.

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APPLYING INTERVIEW-RESEARCH METHODS USING GENERATIVE AI TECHNOLOGY: AN ACTION RESEARCH STUDY WITH GRADUATE STUDENTS IN MOCK RESEARCH TEAMS

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ABSTRACT

In this study, we aimed to examine graduate students' experience when working with peers to complete a learning task focused on conducting a program evaluation in a qualitative research course. A generative artificial intelligence (GenAI)-powered platform was incorporated to support an experiential learning activity designed by the instructor-researcher. A collaborative action research approach was employed through the planning, enactment, and reflective phases of the study wherein four graduate students who engaged with the platform were interviewed to help improve the next iteration of the learning activity in future courses. This study contributes to the pedagogical discourse about the use of experiential learning for teaching and learning qualitative research methods.

KEY WORDS: Experiential learning; Higher education pedagogy; Research-interview skills; Research methods pedagogy; Research- skill development

INTRODUCTION

The integration of advanced technologies into higher education has been a transformative force, reshaping teaching methodologies, learning experiences, and the overall educational landscape. In recent years, the proliferation of artificial intelligence (AI) technologies, especially generative AI, has begun to play a pivotal role in this evolution (Bahroun et al., 2023; Rudolph et al. 2023). Generative AI (GenAI) generally refers to a subset of AI technologies capable of generating human-like content, including text, images, and simulations, based on learned data patterns and serving to support teachers in developing engaging learning activities (Escotet, 2023; García-Peñalvo & Vázquez-Ingelmo, 2023; Grassini, 2023). These AI systems

have shown remarkable potential in customizing and enhancing learning experiences, offering innovative solutions to longstanding educational challenges.

GenAI, with its capability to simulate complex scenarios and generate rich, interactive content, offers a particularly intriguing prospect for educational technology. This form of AI can provide students with simulated, realistic learning experiences that were previously impractical or impossible (Bahroun et al., 2023). For instance, GenAI can create simulated environments for research training, allowing students to engage in experiential learning without the limitations of traditional settings. Furthermore, the inclusion of GenAI in educational settings aligns with contemporary pedagogical theories that emphasize active learning and student-centered approaches. By simulating real-world scenarios or cases, GenAI supports experiential learning, allowing students to apply theoretical knowledge in practical settings, thus bridging the gap between theory and practice (Kolb, 2015).

GenAI can have an impact on the way research skill development is taught in higher education. Traditional methods of teaching research skills often rely on textbooks and hypothetical examples, which may not fully engage students or prepare them for real-world research challenges. GenAI, by creating simulations of research scenarios, allows students to gain hands-on experience in a controlled environment. This experiential approach is particularly valuable in qualitative research, where understanding the nuances of human interaction and data interpretation is crucial (Kocaballi, 2023; Wang et al., 2023). One of the significant challenges in educational research is bridging the gap between theoretical knowledge and practical application. GenAI can provide a seamless transition from understanding research concepts to applying them in simulated settings. For instance, AI-generated simulations of interviews or focus groups enable students to practice and refine their qualitative research skills, such as question formulation and data analysis, in a realistic yet risk-free environment. Conducting research with human subjects often involves ethical considerations and logistical challenges, such as obtaining consent and ensuring participant diversity. GenAI can simulate a wide range of participant profiles, enabling students to practice their skills on a diverse set of virtual subjects with little ethical concerns. Integrating research skill development in the curriculum not only expedites the learning process but also ensures that students are exposed to a variety of research scenarios, enhancing their ability to adapt and their preparedness for real-world research (Willison, 2012).

In graduate-level courses, students are also required to develop research skills and often have limited experiences practicing with data collection methods. Challenges in practicing research skill development with peers include the time needed to complete appropriate ethics applications in order to practice with human participants. Another challenge is the limited amount of time in a semestered course to conduct data collection and access a diverse range of participants. These constraints for data collection can prevent instructors from designing learning activities whereby students can engage in peer learning to practice the development of research skills, such as conducting a qualitative research-interview with a human participant and then analyzing the interview data with a peer group.

Despite these challenges, the opportunities presented by GenAI in educational research are substantial. GenAI technologies can provide students with experiential learning opportunities that were previously unattainable (Bahroun et al., 2023). The integration of GenAI into teaching can engage students through simulation of real-world situations (Dogru et al., 2023). GenAI simulations can offer students a concrete experience with a diverse range of research scenarios, enhancing their ability to adapt to different research contexts and populations (Wang et al., 2023).

Working collaboratively with peers is also an important competency for students and there is a lack of research that focuses on peer learning in technology-mediated experiential learning (Mayer & Schwemmle, 2023). Technologies designed with GenAI capabilities can be used to promote peer learning, and GenAI-powered platforms can be leveraged to help orchestrate peer learning experiences. Working with peers and engaging in collaboration is considered a crucial employability skill for graduates, so examining GenAI-powered platforms to support peer learning in online graduate courses is a worthwhile endeavor. In this study, we examined how a GenAI-powered platform was used in a research course to help students develop the skill of working with an online peer group (mock research team) to practice interviewing simulated participants using a GenAI-powered platform to act as the interview participant.

PEARL

The Persona Emulating Adaptive Research and Learning bot (PEARL) is a GenAI-powered platform, developed by the second author that leverages OpenAI's GPT-4-Turbo API to create an interactive, conversational AI experience. The platform allows instructors to define personas with specific backgrounds, experiences, and characteristics, which are then used to guide the AI's responses during simulated interviews. When students interact with PEARL, they select a persona and engage in a text-based conversation, asking questions related to the research topic. The AI generates responses based on the persona's predefined characteristics and the conversation history. This allows students to practice conducting interviews and asking follow-up questions in a controlled environment. These personas are not mere automated responses but are embedded with memories and lived experiences, making them remarkably life-like in their interactions. One of the key features of PEARL is its ability to facilitate realistic and nuanced research interviews. Students engage with these GenAI personas and with their peers (mock research team) to practice data collection, an experience that closely mimics real-world researcher-participant interactions as shown in Figure 1.

Study Rationale and Focus

This study involves the use of PEARL to facilitate peer learning experiences. By using PEARL, the study aims to investigate how technology can be used not only as a tool for individual learning but also as a means to enhance group dynamics and collaborative skills. One of the key aspects of this study is to examine the impact of PEARL on the development of collaborative research skills in an online graduate research course. The course requires students to work in mock research teams, simulating the collaborative environment they are likely to encounter in their professional lives. PEARL serves a dual purpose: firstly, as a facilitative tool allowing students to practice interviewing skills with simulated participants (i.e., personas),

and secondly, as a medium for students to experience and navigate the dynamics of working in a team-based research setting. This approach provides students with an opportunity to practice and refine their interviewing skills in a controlled yet realistic setting. A significant aspect of this study is exploring how students navigate the complexities of working within a mock research team in an online environment. With the increasing prevalence of remote learning and work, understanding how to effectively collaborate in a virtual space is essential. This study seeks to uncover how GenAI-powered platforms, such as PEARL, can support and enhance these virtual collaborative experiences, providing insights into the best practices for orchestrating effective online teamwork.

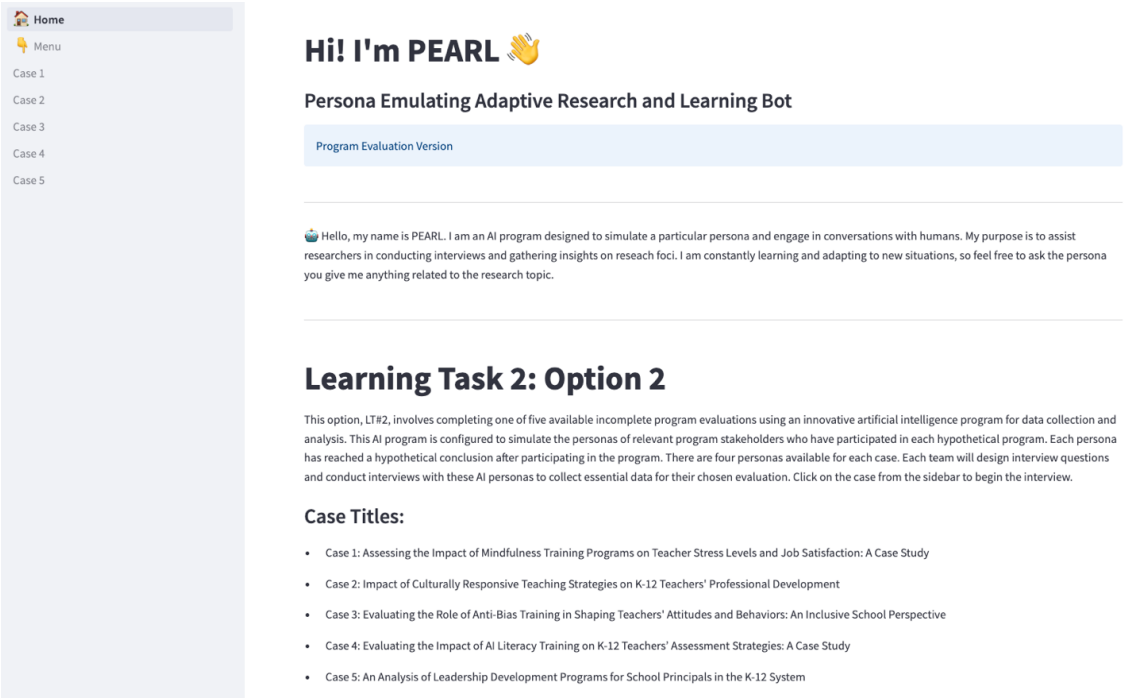

Figure 1. Screen Capture of PEARL Website

Central to this study is the exploration of how GenAI-powered platforms, when used to simulate research participants, can enhance the peer learning experience in a graduate research course. This inquiry is encapsulated in the research question: How does the utilization of a GenAI-powered platform used to simulate research participants bolster peer learning experiences within a graduate research course?

Literature Review

Experiential learning has been defined as a human-centred activity and often involves the use of technology-mediated platforms to help students develop essential skills for the profession (Kolb, 2015). Working with peers and engaging in professional collaboration is a needed skill for professions (Oyarzun & Martin, 2023; Read et al., 2022). Therefore, it is imperative for instructors in higher education to design human-centred learning tasks that involve experiential learning and peer learning. Using collaborative approaches in teaching and organizing peer groups certainly has benefits and drawbacks in learning environments presenting

challenges for instructors and students alike (Brown et al., 2018; Hartwell et al., 2024; Wagner et al., 2019).

Technology is not required for experiential learning; however, technology mediated platforms have been shown in various studies to contribute to experiential learning experiences for students (Mayer & Schwemmle, 2023). For example, professional programs use virtual reality for students to experience microteaching and reflect on their practice in preparation for field-based practicum placements (Walshe & Driver, 2019). Virtual reality immersive experiential learning is gaining popularity in many fields. Asad et al. (2021) conducted a systematic literature review of immersive technologies and found virtual reality can strengthen experiential learning. GenAI-powered platforms are also emerging as a way to contribute to experiential learning opportunities for students (Mayer & Schwemmle, 2023; Ouyang et al., 2022). Adaptive learning systems and natural language processing tools are being adopted in education settings across the globe to augment teaching and learning experiences (Rudolph et al., 2023).

Pedagogic Practices for Developing Students' Research Skills

Research in pedagogic practices relative to the development of research skills is an underexplored area (Nind et al., 2015; Nind & Lewthwaite, 2018; Wagner et al., 2019). Literature on research methods pedagogy is sparse (Wagner et al., 2019). Nind and Lewthwaite (2018) argued that "building capacity in research methods requires building the pedagogic culture surrounding the field" (p. 399) and research in this area should aim to understand the pedagogical approaches used to help students develop research-based skills. Some methods, such as expert panels, video simulated dialogue, and group diary, are strategies that have been found useful when teaching research methods (Nind & Lewthwaite, 2018). Hypothetical design projects have been conducted using ChatGPT to generate personas and simulate interviews (Kocaballi, 2023). However, there remains a gap in the literature with a limited number of studies discussing the teaching of qualitative research methods and particularly studies that include students' perspectives and experiences (Wagner et al., 2019). Although limited, experiential learning is a reported practice for teaching qualitative research methods with advantages (Hopkinson & Hogg, 2004). One such advantage using experiential learning is that students could practice in a low-risk environment through role-playing with the following caveat (Wagner et al., 2019): "Prior to students' conducting their own research, they should have some background in qualitative research and/or the specific technique that they would be using, for example, interviewing" (p. 14). Another advantage is that students experience the complexity and ambiguity inherent in conducting research (Hopkinson & Hogg, 2004).

GenAI Tools for Research-Interview Skill Development

The emergence of GenAI tools like ChatGPT amplifies existing educational issues and dangers, emphasizing the importance of ethical, safe, and inclusive development and the necessity of interdisciplinary co-creation to ensure the responsible deployment of AI in education (Alier et al., 2024). Privacy and data security emerge as concerns when deploying GenAI tools in education. The collection and processing of personal data by these models raise issues regarding the protection of sensitive

information and the risk of privacy breaches (Baidoo-Anu & Ansah, 2023). Ethical considerations also extend to the biases present in data, which can lead to unfair treatment and discrimination, necessitating transparency in information generation and the establishment of clear policies for GenAI-generated content in academic settings (Dogru et al., 2023). GenAI models like ChatGPT have limitations in their contextual understanding and personalization abilities, which can hinder their effectiveness in educational settings (Baidoo-Anu & Ansah, 2023). These limitations manifest as difficulties in providing tailored explanations and generating responses that lack originality and creativity. The dependency on the quality and quantity of data for model performance further exacerbates these challenges, with biases in training data leading to unfair treatment and potentially inappropriate responses (Baidoo-Anu & Ansah, 2023). The disruptive potential of GenAI in education is not solely negative; it also offers opportunities for instructors to design authentic learning experiences that can support students with skill development. However, this potential must be balanced with the need for relentless study, design, experimentation, and evaluation to ensure that the excitement surrounding these technologies does not overshadow critical concerns (Alier et al., 2024).

While GenAI is a flourishing area of study (Bahroun et al., 2023; Rudolph et al., 2023), there is limited research and much less attention paid to the methodological potential for developing research practice and skill development within experiential learning activities. Some scholars argue for the use of technology to provide access to qualitative research content, such as using mobile instant messaging for interviews (Kaufmann et al., 2021). GenAI-powered applications can also provide qualitative research content and offer an experiential learning opportunity for students to practice conducting research-interviews. There is a need to develop research methods pedagogy and, in this study, we focused specifically on methods used to teach research-interview skills using GenAI.

THEORETICAL FRAMEWORK

The Research Skill Development (RSD) framework by Willison and O'Regan (2007) was used to guide the initial design and subsequent curriculum review of the research courses in the Master of Education program (Brown et al., 2021). The RSD framework outlines six facets of key research skills that can be incorporated when designing learning activities and a developmental approach for research thinking (Willison & O'Regan, 2007):

- Facet 1: Embark and Clarify for Purposive Thinking
- Facet 2: Find and Generate for Informed Thinking
- Facet 3: Evaluate and Reflect for Astute Thinking
- Facet 4: Organise and Manage for Harmonised Thinking
- Facet 5: Analyze and Synthesize for Insightful Thinking
- Facet 6: Communicate and Apply for Externalised Thinking

The RSD framework was used to design the peer learning task used in the research course and as a lens for analysis of the data in this study. Using this framework helped us examine the research skill development in using a technology-mediated, AI-powered platform for a learning task in a graduate research course.

METHODOLOGY AND METHODS

In this study, we used an action research approach (Hendricks, 2016; McNiff, 2017) to help develop a holistic understanding of students' experiences using PEARL in a graduate level research course. As researchers and pedagogues (authors), we aimed to understand and reflect on students' experiences to inform our teaching practice and future iterations of this type of peer learning activity. The course instructor, who is also an investigator for the study, developed PEARL and designed the peer learning activity. The course instructor worked collaboratively with a co-investigator who also used PEARL in an earlier course and together the researchers and authors of this manuscript engaged in the planning, enactment, and reflective phases of the action research study (Hendricks, 2016).

The research course took place online during the Summer 2023 term during a six-week course for students in the Master of Education program at a Canadian University. The research course (Program and Practice Evaluation) is one of four required research courses in the Master of Education program. This course is offered online, and the curriculum focuses on cultivating the understanding of evaluative thinking logic. The learning outcomes include the development of knowledge and skills required to become novice evaluators of a program within a professional context. For most of the students, this is their first research course, so it is important they also start to practice beginning research activities, such as conducting an interview with a participant. In program evaluations and other types of qualitative studies, a research-interview is a common method used for data collection (Bloomberg & Volpe, 2019; Merriam & Tisdell, 2016). Using PEARL in the course provided the instructor and students an opportunity to engage in peer learning and negotiate the complexities of collecting information from simulated participants to complete a learning activity (program evaluation inquiry).

PEARL was used to support graduate students in developing peer learning and research skills in the course. The platform used has a unique feature allowing the instructor to program memories and lived experiences to the GenAI personas to align with the program evaluation learning activity. Conducting interviews with simulated personas provides students with an opportunity to generate questions and ask the personas about their experiences in a safe and controlled environment while simulating a real-world research-participant interview. Furthermore, interacting with simulated personas provides students with an interactive tool to help develop and refine interview questioning skills in a low-risk setting. Students were provided with the option to engage in the simulated learning experience and work alongside peers to conduct the interviews and analyze interview transcripts similar to the ways a research team would work together.

The mock research teams were provided with the learning activity: to complete one of five incomplete program evaluation cases developed by the instructor. These cases presented students with an opportunity to use PEARL to collect data using research-interviews with simulated participants to complete the case. The learning activity included an option for an alternate activity for any students who did not want to use the GenAI-powered platform to complete the learning activity. In two classes with a total of 38 students, there were eight groups formed for the activity and four peer learning teams opted to use PEARL for the activity. Alternate materials

(i.e., the analysis of an existing program evaluation) were provided to peer learning teams who did not use the platform. The objective of the learning task was to offer students with an authentic and simulated experience when conducting a program evaluation, that is to collect interview data from participants and to use the input for completing a report. The six facets in the research skill development framework are used to describe the learning design as shown in Table 1. The learning design helps illustrate how the sequence of activities correspond to the intended outcomes in helping students become scholars of the profession and develop research skills starting with the first facet of embarking in research and clarifying purpose through to the sixth facet of communicating the results of the research with a peer learning team.

Table 1
Research and Skill Development Framework used to Describe Learning Activity

RSD Facet Willison and O'Regan (2007)	**Description of Learning Activity:**
Facet 1: Embark and Clarify for Purposive Thinking	The instructor prepared five hypothetical cases that were incomplete program evaluations. The cases were organized with an executive summary, introduction, purpose, guiding questions, and methodology. Each peer learning team selected one of five cases and worked together to clarify their understanding of the gaps in the program evaluation.
Facet 2: Find and Generate for Informed Thinking	Peer learning teams who opted to use the GenAI-powered platform designed an interview instrument with questions that would help guide the completion of the program evaluation. They worked collaboratively to determine what questions would help uncover critical data essential for the selected evaluation. They conducted the interviews with the simulated personas to collect missing information for the evaluation. Verbatim transcripts with the text responses were generated by PEARL and were collected by the peer learning teams.
Facet 3: Evaluate and Reflect for Astute Thinking	Following the interviews with the personas, each peer learning team reviewed the transcripts and analyzed the content to complete the evaluation.
Facet 4: Organise and Manage for Harmonised Thinking	This learning activity required peer learning teams to work together to organize and extricate data that aligned with the gaps in their case. Peer learning teams discussed together to reach agreement.
Facet 5: Analyze and Synthesize for Insightful Thinking	Peer learning teams worked together to develop insights that could be added to the evaluation in the form of recommendations.
Facet 6: Communicate and Apply for Externalised Thinking	The peer learning teams completed the missing parts of their report using the interview data collected to inform the results of their analysis and communicated the results in their written report and during a class presentation.

The co-investigator who was not involved in teaching the course or assessing student assignments invited the students to participate in the study following the enactment of the learning activity. Four students from the four peer learning teams (n=13) reached out to the co-investigator and agreed to participate in a semi-structured interview to discuss their experiences using PEARL to complete the learning activity. The interviews with the four graduate students focused on three main areas: (1) understanding the perceived influence of interacting with the GenAI persona on the students' comprehension of program evaluation methods and concepts; (2) gaining insights into the students' impressions about the authenticity of the GenAI persona interactions and how it affected their overall peer learning experience; and (3) identifying any challenges or facilitators the students encountered while using the GenAI-powered platform in their coursework. The semi-structured interviews included questions, such as:

(1) Can you describe any specific ways in which interacting with the GenAI personas affected your understanding of program evaluation concepts and techniques? Did you find it easier/more difficult to apply these concepts as a result?
(2) Do you believe your ability to evaluate programs has improved after interacting with the GenAI personas? If so, could you provide any specific examples of this improvement?
(3) How would you describe the authenticity of your interactions with the GenAI personas? Did you feel like you were interacting with a real program participant?
(4) In your opinion, how did the perceived authenticity (or lack thereof) of the GenAI personas impact your learning experience? Were there moments when you felt the GenAI personas were beneficial or detrimental to your learning?
(5) Were there any challenges or barriers you faced while interacting with the GenAI personas in the course? If so, could you describe them?
(6) What aspects of interacting with the AI-personas in this course did you find particularly helpful or facilitative to your learning? Are there any features or elements of the GenAI persona interactions that you would want to see enhanced or improved?

Drawing on coding methods for qualitative researchers (Saldaña, 2021), the researchers reviewed the four transcripts from the interviews with students and derived codes inductively from participant's responses to the questions. Data extracts that were related to the codes were collated and served to help identify key themes that provided a representation of the data in response to the research question: How does the utilization of a GenAI-powered platform bolster students' learning experiences within a graduate research course?

RESULTS

The interview data were thematically analyzed to reveal three primary themes: (a) the importance of research-skill development in program evaluation; (b) the impact of GenAI personas on peer learning; and (c) the importance of developing and asking nuanced, follow-up questions during program evaluations for an authentic learning

experience. The first theme highlights the unique opportunity the GenAI-powered platform provided for experiential, real-world practice in data collection and program evaluation that simulates aspects of a researcher-participant interview. The GenAI-powered platform bypasses traditional hurdles of ethical considerations and participant accessibility, enabling students to work with peers to focus more on refining their research skills in a practical, low-risk, and ethical environment. The second theme articulates both the benefits and limitations of utilizing GenAI personas in pedagogical settings. Students reported that they saved time and were able to practice interviewing techniques with their peers. However, they also noted that the GenAI-powered platform was not always capable of capturing the intricate complexities encountered in real-life interactions and dialogue with experienced educators. The third theme underscores the importance of formulating and posing comprehensive, follow-up questions for a more complete evaluation, thereby enhancing students' critical thinking and questioning skills for an authentic learning experience.

Theme 1: Research Skill Development

The participants described how the experience interviewing GenAI-powered personas helped them develop their confidence and comfort in conducting a research interview with a participant in an ethical manner. They noted how this experiential learning opportunity provided a near equivalent to conducting “real” interviews with human participants. The following excerpt from one of the participants helps capture this sentiment:

> We wouldn't be able to go interview real life participants. And so, this was like the most parallel equivalent. For engaging in that process and doing that in an ethical way and ethical considerations without interviewing living humans. And so that was our motivation for selecting this because this would give us the most practical real-world practice at program evaluation without using real humans. (Student 1)

Students discussed how they prepared for the interviews with their peer groups and prepared introductory comments together to help the persona understand the process and to provide the persona with an opportunity to give consent before commencing the interview. The following reflection underscores the careful thought and rigorous approach that the students adopted, ensuring that the GenAI personas were not reduced to mere tools but were interacted with ethically.

> If we were in a room with these personas, we would want to introduce ourselves, have space for them to introduce themselves, like how they're doing, like a check-in, explain the process to them, like what we're doing, what the purpose is, and before we like start to interview, do we have their consent? We built that into one of our questions with our AI persona because we know it's not a real human, but we're going to treat it as if it were one. We built that in and then even after the responses we would say, “thank you, Pierre for sharing that.” (using names to humanize the experiences) (Student 1)

The students practiced ethical processes for conducting an interview and treated the persona similar to how they would treat a "real" interview with a human participant. Participants were aware of the importance in clearly communicating the purpose of the interview and ethical processes and recognized that practice matters in developing research-interview skills. In the following excerpt, one of the participants shared their experience about how the mock research team "played" with the questions as they learned how to interact with the persona:

> It wasn't just like, hey, tell me more about…we played around to tell me more about yourself. And then the persona was telling us this is who I am, this is what I like, this is my area of interest, so we got to know them a little bit. (Student 4)

In some cases, the peer groups conducted the interviews multiple times to practice their research-interview skills.

> I think a lot of it has to do with the practice. You can practice it so many times. So, this is the best rendition of it. You can do mock interviews prior to the one that will be recorded so this can boost your confidence. With AI, you don't have to worry about temperaments or scheduling, timing, and all of that. (Student 2)

Participants also noted the structure of the questions mattered. "We have to frame it in a way to meet the objective of the assessment." (Student 4). Their reflections showed a commitment to ensuring that research, even with GenAI personas, included quality questions and upheld ethical standards. The following participant recounted their experience working with their peer group to plan and test the interview process with four different personas:

> We had created the general broader questions to give us a similar set approach, to the four different personas...Then the testing, like the demographic questions, the program related questions, we did that on Zoom just to assess, will they answer these questions? Will the personas be able to give us more information, beyond the experiences of their program? So, we did that together on Zoom and we're like, oh my goodness, yes, they answer the question. (Student 1)

This quote shows how the peer group intentionally tested questions with the personas to see if they would answer their questions. Participants said they appreciated the opportunity to practice and test the interview multiple times and to practice without the pressure of feeling they only had one chance to ask the questions.

Theme 2: Peer Learning

An interesting aspect of the learning activity was the peer learning that occurred. Participants discussed how they worked in their peer groups to prepare for the interviews, to conduct the interviews, and for sense making when reviewing the interview transcripts. Similar to what would be expected when working on a research team, the peer groups needed to work together to complete the program evaluation. For example, one of the participants discussed how one of the personas

provided a response that seemed inaccurate when they responded to a question asking the amount of time that they were involved in the program that was under evaluation. The peer team discussed this problem and determined it would be necessary to go back to the participant and ask for clarification regarding their response during the interview. The team discussed how a similar situation could occur in a "real" interview with a research participant and follow-up interviews or member checking is a helpful approach to make any corrections.

> I would say that it helped in that case. And then when we did identify the themes and our group met. We're like, so what does this mean? What information are we missing? And then we were talking about how it is possible in the real world to have a secondary interview with participants, to seek further clarification or elaboration of questions. Could we go back to the participants, to ask these questions? (Student 1)

The possibility of revisiting the data source (in this case, the GenAI personas interview transcripts), reflected the students' maturation in the process and a deeper appreciation of the intricacies of data analysis in program evaluation. Peer teams discussed their experiences together as a mock research team, and how they reviewed results, and worked together to make sense of the responses to complete the evaluation reports. The following excerpt helps illustrate how peer learning contributed to the development of research skills when coding the qualitative data from the interview transcripts with the personas: "I was able to see how to code data in a semi-structured interview and the importance of working with a team to analyze that data" (Student 3). When the participants described their experiences working with their peers to review the interview data, they expressed this as a learning experience and recognized they were conducting qualitative analysis using coding methods as shown in the following excerpt:

> I was thrilled to find all that we could use for the qualitative analysis and we were able to find all the codes and everything. So, it made me learn a lot. It was also easier because finding people [human interview participants] might be difficult because of the short term. (Student 4)

Theme 3: Authentic Learning Experiences

One of the participants discussed how the responses seemed unnatural and the language used by the persona was perfectly articulated. The peer teams wondered how this might be different when transcribing audio interviews conducted with human participants. They wondered how conversational utterances, repetition of words, and incomplete sentences or pauses, for example, would be handled in the interview transcripts.

On the other hand, one of the participants described how interacting with the persona felt like a live interaction and even wondered if the instructor was behind-the-scenes and typing responses to their questions. However, another participant expected the persona to have more in-depth memories or experiences. The participants agreed the experience provided learning practice for working with a mock research team and conducting a research-interview that would otherwise not be possible with the time constraints during the course. Participants discussed how

this experience provided time to practice formulating questions and generating follow-up questions.

Despite the limitations for authenticity when using an GenAI-powered platform, the participants appreciated the opportunity to be involved in a simulated interview experience and learn from working with peer groups to analyze the transcripts, discern themes, and complete the hypothetical program evaluation. As one participant pointed out: "The nature of [this task] provided insight as to how to conduct an actual program evaluation, and thus the AI technology helped" (Student 3). This sentiment emphasizes the valuable learning experience gained through interviewing the GenAI personas for an authentic learning experience. The students viewed the learning task and the ways they engaged in the work with their peers as a way to develop critical thinking and questioning skills for an authentic learning experience. Conducting a hypothetical program evaluation with a mock research team, developing research-interview questions, practicing their interviews with GenAI personas, refining questions, generating transcripts from the interviews, analyzing the transcripts using a coding process, and then synthesizing results in a report provided students with an opportunity to develop many research skills with their peers.

DISCUSSION

The data analysis from four students who used the GenAI-powered platform in the research course to practice conducting research-interviews helped us understand student's learning experiences when working in peer groups as a mock research team. Using PEARL in an authentic learning activity provided students with an opportunity to work with peers and to develop research-interview skills. However, we recognize that interviewing GenAI personas did not provide an exact replica of a "live" interview with a human participant. Students noted the communications lacked the authenticity of unrehearsed verbal interactions when the personas responded in complete sentences and paragraphs.

Another consideration is how informal language during interviews could influence participants to respond in a particular way. For example, in Roulston and Shelton's (2015) study, they included excerpts from the student-researcher's reflections following research interviews where the students wondered how their complimentary responses to the participant may have impacted the conduct of the interview (e.g., well said, I like it a lot, good answer, etc.). However, the advantages of efficiency, accessibility and repetitive practice are consistent with other studies (Chan, 2023; Wang et al., 2023). Authenticity critiques and limitations in fully capturing human complexity are noted in the literature (Kocaballi, 2023). This tension between the use of GenAI-powered platforms as an asset for learning with the constraints mirror the ongoing debate around replacement versus enhancement framings in academia (Brew et al., 2023). In a practice scenario, is it necessary to replace a "live" research interview and conduct research with a research team? Arguably, in this study, the use of an GenAI-powered platform provided students with an opportunity to work with peers and engage in research practice relative to the use of interview methods. This collaboration as part of a mock research team provides empirical support for AI's role in collective knowledge building, as suggested by Chan (2023).

Unique to this study was the focus on developing research skills using hypothetical cases situated in program evaluation contexts. Thematic analysis conducted in our action research study revealed the potential for using platforms like PEARL to help students gain practice with research methods and develop practical research skills, which affirms claims of augmented experiential learning (Bahroun et al., 2023). At the same time, students' desires for collecting more data beyond the information provided by the personas during the interviews highlight the importance of a researcher's foundational domain knowledge, a novel insight. In other words, the hypothetical cases for the program evaluations resonated with the students' professional experiences as practitioners in the field and this foundational domain knowledge helped students assess the quality of the responses provided and whether follow-up interviews were required with the personas to seek clarification. Overall, while the findings demonstrate the educational promise in using GenAI-powered platforms for teaching research-interview methods, they also showcase some limitations for consideration in future iterations of this type of experiential learning activity for novice researchers.

LIMITATIONS AND FUTURE RESEARCH

Despite its innovative application, GenAI-powered platforms are not devoid of limitations. It was observed that some responses provided by the personas were overly structured and somewhat lacking in the authenticity of unrehearsed human verbal communication. These drawbacks indicate the need for further refinement of GenAI-powered platforms. Additionally, the study was constrained by a limited sample size, suggesting that more expansive research with diverse participants is warranted to extend the findings. Despite the limitations, this study provided student perceptions of their experience and we posit that GenAI-powered platforms such as PEARL have the potential to impact pedagogical practices, streamline traditional methods used to practice qualitative research methods, and can contribute to the development of research-interview skills through peer learning in teacher education programs. We advocate for ongoing investigations into the ethical and practical aspects of incorporating GenAI-powered platforms in teaching educational research, emphasizing the need for larger, more varied samples to extend these initial findings. Future research should particularly focus on evaluating the ethical implications and the degree of authenticity achievable through GenAI-powered platforms in simulated and experiential learning educational scenarios. From a methodological perspective, we also advocate for instructors to use an action research approach to inform planning, enactment, and reflective inquiry, and enhance learning designs using GenAI-powered platforms used to teach students how to employ qualitative research-interview skills.

CONCLUSION

The integration of GenAI's Persona Emulating Adaptive Research and Learning bot (PEARL) in graduate education represents an advancement in augmenting learning experiences. This study highlights GenAI's role in transforming how research skills, especially in qualitative methods like interviews, are taught. PEARL's AI-generated personas provide realistic research interview simulations, enhancing students' practical skill development. Findings show that embedding GenAI tools like PEARL in a learning design can boost critical research abilities and peer learning in

graduate courses. Students experienced confidence in conducting interviews, a better grasp of ethical practices, and enhanced teamwork skills. Despite these benefits, the study notes limitations like GenAI's sometimes rigid responses, differing from human interactions. In future iterations, incorporating more diverse and complex GenAI personas, expanding the sample size, and continuing to refine the AI technology will enhance the authenticity and educational value of such platforms. As AI technology and experiential learning designs using AI technology continue to evolve, its application in educational settings offers a promising avenue for developing practical, ethical, and collaborative skills essential for future researchers.

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