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Role-playing and Experiential Learning in a Professional Counseling Distance Course

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Abstract. In this paper, we explore role-playing and experiential learning approaches applied in an immersive virtual environment for a professional counseling distance course. Training professional counselors requires practice and therefore possesses a challenge for the distant education. Although both counseling professionals' codes of ethics provide guidance for the ethical practice in difficult situations, the prevailing response among many of these professionals tends to be ambivalent. We explored conditions that influenced knowledge acquisition of graduate rehabilitation counseling students who role-played two challenging scenarios and then had a possibility to review the performance. The data were collected using questionnaires and interviews. The potential of the teaching method and the supporting technology are discussed. The findings indicate that role-playing and experiential learning are valued by the participants as a teaching method in a distance course.

Keywords: experiential learning; role-playing; professional counseling; distance education; immersive virtual environments;

1. Introduction

Commitment to ethical practice distinguishes rehabilitation counseling professionals (Commission on Rehabilitation Counselor Certification (CRCC 2017). Further, the Council for the Accreditation of Counseling and Related Educational Programs standards (CACREP 2015) require training programs to ensure that counselors-in-training develop a professional counselor identity and master the knowledge and skills needed to practice ethically and effectively. Toward the goal of progressing from conceptual and concrete issues from lectures and assigned readings, rehabilitation educators involve students in reflective/experiential instruction. Numerous pedagogic modalities (e.g., role-plays, small group and class discussions, case analyses, group and individual presentations) are used to prepare students to develop a deepened understanding applicable to current or future ethical decision-making.

Online education in rehabilitation counseling at the graduate level has increased over the past decade. While distance education has offered new opportunities for non-traditional students to pursue higher education, rehabilitation educators are faced with the challenge of selecting appropriate tools that ensure positive learning outcomes and quality of learning comparable to traditional classroom settings.

In order to address these challenges, we propose an educational technology design that applies experiential and reflective learning, role-playing and an immersive virtual environment. Educational role-playing provides opportunities for getting practical experience and can be supported by several technologies in distance learning settings. In comparison to video-conferencing, role-playing even in simple three-dimensional virtual environments has the potential to improve learning by more realistic experience, sense of presence and consequently - being better immersed into the play or task. Moreover, introducing the experiential learning approach supported by dedicated features of the immersive virtual environment provides an additional learning opportunity. We propose that capturing role-playing experience of students will enhance their learning by allowing to observe and review their performance.

The objective of the study presented in this paper was to apply the proposed approach with a small group of students and evaluate the pedagogical and the technological components of the design.

The contribution of this paper is the design of a technology-enhanced learning approach combining three major components (1) educational role-playing, (2) reflective and experiential learning and (3) immersive virtual environment with rich activity capturing and re-enactment features. In this paper, we report the results of the evaluation of this design in a professional counseling distance course. We discuss the three major components of the suggested approach and their combination in one design. The major target audiences for this paper would be instructional designers, distance learning educators, and teachers of professional counseling.

The rest of the paper is structured as follows. In the next section, we present background on the pedagogical and technological approaches used in the study. Section 3 presents the study settings, followed by section 4 that presents the methods. In section 5, we present the data collected and the results of the study. In section 6, we discuss the results and draw conclusions on the use of the suggested pedagogical and technological design in professional counseling education.

2. Background

2.1 Reflective learning

Reflective learning implies that students learn by reflecting on relevant experiences. The reflective learning model contains three components representing acquiring experience, reflective process, and outcomes (Boud et al. 1985). The *experience* component describes active behavior, cognition/ideas, and emotions/feelings of a learner. The *reflective process* component describes returning to experience, attending to feelings, and analyzing and re-evaluating experience. These two components repeat iteratively, producing *outcomes* that consist of new perspectives on experience, change in behavior, readiness for application, and commitment to action (Fig. 1).

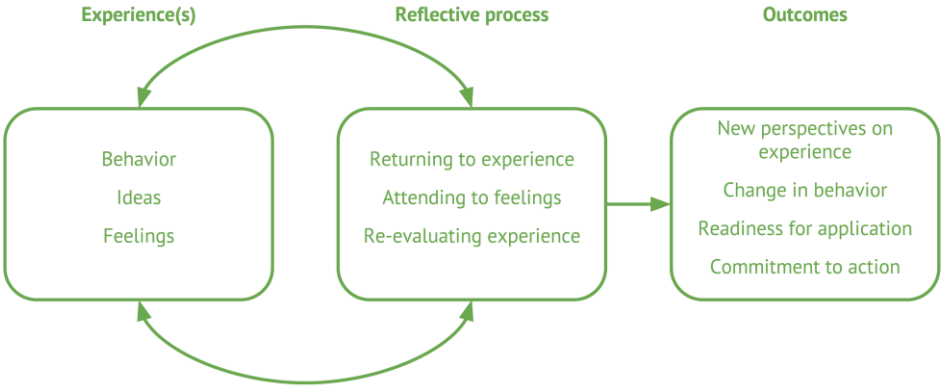

Fig. 1. Reflective learning model

2.2 Experiential Learning

Reflection is a major component of *experiential learning*, the process of learning through experience. Experiential learning model describes a four-step cycle an individual goes through when learning from experience (Kolb and Fry 1975). The cycle starts with *concrete experience*, when a learner tries to perform a certain activity. Next, it goes to *observations and reflections*, when the learner looks back at the experience and reflect on it. Next, the learner goes to a cognitive process of *formation of abstract concepts and generalization* to understand how to perform better. On the final step, the learner is *testing implications of concepts in new situations* applying new ideas gained from the experience (Fig. 2).

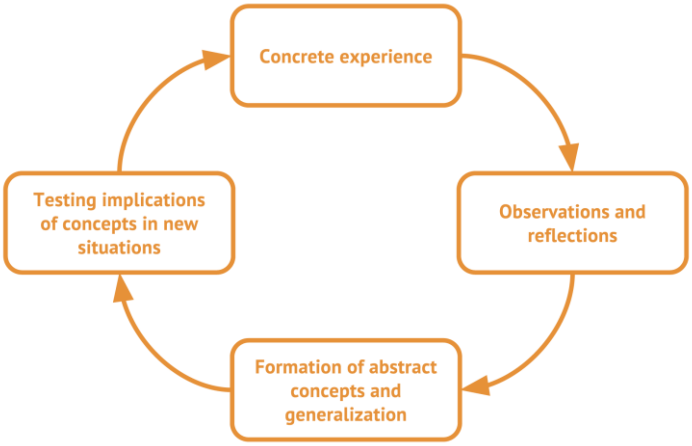

Fig. 2 Experiential learning model

2.3 Role playing in immersive virtual environments

Role playing is a widely used and effective learning and teaching method. It implies an active behavior in accordance with a specific role (Yardley-Matwiejczuk 1997; Craciun 2010). Role playing in immersive virtual environments (or 3D virtual worlds) has been, on several occasions, reported to provide a cost-efficient and user-friendly alternative to real-life role-plays and distance education programs (Lowes et al. 2013). For example, it was used to provide healthcare students with the necessary practical experience of interaction with patients and other professionals, when the traditional programs did not provide enough time on task (Kleven et al. 2014). Another example reports the use of role-playing as a practical supplement to a traditional classroom course on cultural awareness in military operations (Prasolova-Førland et al. 2013a). Other studies report benefits such as task immersion enabled by virtual reality environments and important for educational role-playing, for example in training dialog skills (Fowler 2015).

2.4 Performance capturing and reflection in immersive virtual environments

Experiential learning requires means for observation of the performed activities and reflection on the acquired experience. Role-playing performance needs to be captured to enable learning from reflection. Capturing performance at the right level of abstraction, while retaining all relevant detail is a complex task, not only from the technological point of view, as a significant part of the actual experience has to be subducted in the process (Fominykh et al. 2015). Conventional approaches such as video recording or screen capturing provide only limited points of view, significantly reducing the wealth of information available from direct experience (Morozov et al. 2012). Such approaches map activities performed in the real world or in a three-dimensional virtual world to flattened representations with limited affordances.

Experiential learning needs more than that. *Concrete experience* step requires contextualized performance information to be measured, captured and stored. *Observations and reflections* step requires this information to be fed back to the individual to enable *Formation of abstract concepts and generalization*.

An earlier suggested method of 3D-recording captures performance in an immersive virtual environment and allows to re-enter it for observation and reflection (Prasolova-Førland et al. 2013b). It allows to observe and analyze all the actions and conversations that take place during a live activity.

3. Study settings

The study presented in this paper is based on the data collected during the distance-learning course Ethics in Rehabilitation Counseling. The course was taught at a small university in a southern urban setting of the United States in two iterations (i.e., 2013 and 2015). We focus on one of the practical exercise newly designed for the course.

The participants included a group of 14 students in 2013 and another group of 19 students in 2015. The participants were from diverse backgrounds and life situations, ranging from full-time study from recent undergraduate college graduates to part-time and distance learning programs for working adults, individuals with a wide range of disabilities, and representatives from culturally / linguistically different groups.

The practical exercise was initially designed in 2013. Based on the feedback, it was refined and improved for the second iteration in 2015.

3.1 Pedagogical design

The two main objectives of the practical exercise were to provide experiences of dealing with typical counselling situations and an opportunity to reflect on these experiences and learn from them. The pedagogical design of the practical exercise is based on reflective learning and experiential learning approaches. The design includes two experiential learning (Fig. 2) cycles conducted one week apart from each other. The *Testing implications of concepts in new situations* step of the first cycle is the *Concrete experience* step of the second cycle (Fig. 3).

Role-playing method was applied as means for the students to get the concrete practical experience. In cycle 1, the students played scenario 1, and in cycle 2 - scenario 2 (section 3.2). The role-plays and the observations were conducted in an immersive virtual environment of vAcademia (section 3.3).

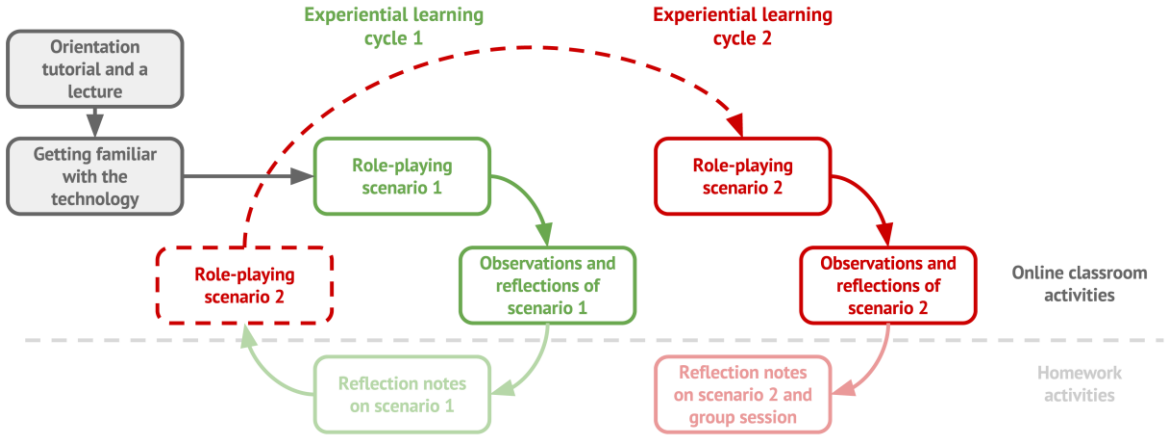

Figure 3. The design of the practical exercise

3.2 Ethics in professional counselling

We designed two challenging but typical scenarios for the students to play.

3.2.1 Scenario 1: Receiving Gifts

In this scenario, we explore the conditions that influenced graduate rehabilitation counseling students' decisions to accept or decline gifts in a virtual counseling setting. Students role-played a case scenario involving a client giving a gift to her counselor and the counselors' responses.

It is not uncommon for clients to give gifts to mental health professionals (Spandler et al. 2000). The current versions of the Code of Professional Ethics for Rehabilitation Counselors and the American Counseling Association's Code of Ethics provide guidance for the ethical practice of receiving gifts, including recognition of cultural and community standards, monetary value, therapeutic relationship, and the motivation of both the client for giving and the counselor for receiving or rejecting the gift (ACA 2014; CRCC 2017). However, many counseling professionals are ambivalent on how to respond to clients' gift-giving behavior. Many see accepting gifts as *crossing* boundaries and point out that this is often against agency policy. As a result of these concerns, Corey et al. suggested addressing this issue in the counselor's personal disclosure statement (Corey et al. 2015).

3.2.2 Scenario 2: Difficult Diagnosis

In this scenario, we explore the conditions that influenced graduate rehabilitation counseling students' decisions on how to express a genuine expression of compassion and caring when clients are experiencing emotional distress in a virtual counseling setting. Students role-played a case scenario involving an emotionally distressed client sharing the news with her counselor that she has just learned that she must undergo a mastectomy and the counselor's responses.

Nonsexual touching should be evaluated in the context of client factors, including gender, age, personal history with touch, presenting problem, as well as the professional setting, the counselor's theoretical orientation, and

the quality of the counseling relationship (Corey et al. 2015). Additionally, counselors must be sensitive to client's readiness for physical closeness, the client's cultural understanding of touch, the client's reaction, the impact such contact is likely to have on the client, and the level of trust that he/she has built with the client. Counselors must formulate clear guidelines and consider appropriate boundaries when it comes to a hug versus offering tissues to clients facing difficult diagnoses.

3.3 Technological design

The activities observed in the present study were conducted in the immersive virtual environment vAcademia, while the course was customarily taught synchronously using the Blackboard Collaborate learning management system. Unlike other education-focused virtual platforms, vAcademia afforded the opportunity to make 3D recordings of the activities in the virtual environment (Prasolova-Førland et al. 2013b).

For the role-playing of scenario 1, the students were invited to a virtual environment which had simple open offices. The students were split into pairs, and each pair was assigned an office. The offices had sound-proof effect, so that we could conduct multiple role-plays simultaneously. The role-playing session was captured using the 3D-recording feature.

Following the experiential learning approach, the next exercise for the students was to observe their own performance. All the students were invited to the 3D recording of the role-playing session. Each pair of students was sent to the same virtual office, where they could observe themselves performing the play (Fig. 4).

Figure 4. Students observe themselves performing role-plays inside a 3D recording

In the second class, the students were invited to the same virtual environment, split into pairs and given scenario 2 to play. The subsequent observation phase was organized differently. The teacher selected the most interesting role-play performance, and all the students gathered in the same virtual office to observe it together (Fig. 5). The teacher played a small part of the 3D recording, paused it and asked questions the entire group of students. After a short discussion, the teacher played the next part of the recording and continued until the end of the play.

Figure 5. Group reflection session - observing one of the role-plays in the virtual environment

4. Methods

The data in this study was collected from several sources. The role-plays and other activities in vAcademia were 3D-recorded to be available for replay and observation.

We conducted three interviews with students in 2013 and three in 2015. The interviews consisted of 10 general questions with some follow-up sub-questions and open questions. In addition, we conducted an interview with the instructor of the course. This interview contained 14 general questions, overlapping with those ask to the students. We conducted three interviews with students in 2013, one interview with a teacher in 2013, and three interviews with students in 2015. The interviews were voice-recorded in different online platforms. Due to low sound quality in the recording, we could not transcribe one student interview from 2013. Six interviews in total were transcribed. The interviews were analyzed using Constant Comparative method independently by two co-authors.

In addition, two questionnaires were given the students after the role-playing session and after the reflection session. It included multiple-choice questions using a five-level Likert scale, 'check-box' questions allowing to select multiple answers from a list of options and open questions.

Questionnaire 1 covered role-playing in an immersive virtual environment with 41 questions (29 Likert-scale; 6 demographic; 6 open-ended). Questionnaire 2 contained 29 questions (18 Likert-scale; 6 demographic; 5 open-ended) covering the observation of role-plays in an immersive virtual environment and reflection. Some demographic information was collected in both questionnaires. The relatively low number of participants did not allow to use statistical methods for data analysis, but some general conclusions were made from the tendencies and trends.

5. Results

The participation in both interviews and questionnaires was on a volunteer basis. From 2013 to 2015, we improved the settings of the exercise, but the essential aspects remained unchanged. Therefore, we consider the data collected in 2013 and in 2015, as a single data set. We used the same general questions to guide the interviews. interview questions and the same questionnaire 1. In 2015, we collected additional data with questionnaire 2.

5.1 Qualitative data from interviews

Performing the analysis of the interviews, two co-authors independently identified general, most frequent themes. These themes were compared, and five overlapping themes were identified (with sub-themes in brackets):

1. Interaction during the role-play (interaction is more real, communication, interaction, voice, facial expression did not matter)
2. Technology-enhanced role-play (preparation for a face-to-face one, anonymity behind the avatar)
3. Technology challenging but overall positive experience (technology is easy to learn, Steep learning curve; technical difficulty)
4. Learning with technology (positive experience, can learn more from VR experience than from brick and mortar/ face-to-face)
5. Review of learning experience (advantage to go back and be able to review, self-review and learning from observations)

From these general themes, we selected three that are central for the topics addressed in this paper: theme 1 Interaction during the role-play, theme 2 Technology-enhanced role-play, and theme 5 Review of learning experience.

5.1.1 Interaction during the role-play

For theme 1 Interaction during the role-play, we collected 32 codes from which several sub-themes emerged. The most strong and frequent sub-theme was that the interaction in an immersive environment is more real than either other online mediums or even the face-to-face classroom mode. The fact that the students were practicing in an environment that visually simulated a simple office environment was the strongest factor, especially when comparing to other online collaboration modes. For example:

- "*It made it more real, because I was sitting in a chair across from another person. That person was talking back to me.*"

- "*Actually, you felt like you were conducting a real and live counseling session even though it was virtual.*"

Some students compared educational role-playing with face-to-face classroom practice. It was mentioned that the virtual environment provides an abstract version of reality, where some of the information sources are not available (such as body language, appearance and facial expression). This required the students to concentrate on only one or two sources available (such as what the other person was saying and emotions transferred via voice communication). For example:

- "*I could not see the other person necessarily or how they were reacting so I had to listen more directly to what was going on versus using other methods. So, I do think that it is a great counseling piece.*"

- "*I think this made it more real for me cause I actually had to rely more on getting to know the person versus trying to just profile the person and automatically draw a conclusion.*"

Another recurring sub-theme was related to facial expressions and gestures which are very limited in the virtual environment we were using. Avatars are automatically animated when the user turns on the microphone (and there is some sound registered not distinguishing human voice and background noise) and when the user is typing in text chat. Some additional gestures could also be activated manually, but very few students used them. During the interviews, it appeared the students felt that the limited facial expression and gestures of the avatars did not affect their role-playing experience. It was important although that they could indicate who is sending a message. For example:

- "*I don't think that the facial expression had any impact on me. All it did for me is to indicate they were speaking or typing.*"

- "*... in a groups of four or five people, I'd probably wanted to know who was talking*"

5.1.2 Technology-enhanced role-play

For theme 2 Technology-enhanced role-play, we identified 19 codes. We focused only on how the platform supported role-playing, excluding phrases on learning how to use the technological platform and technical difficulties. Several codes contained various views on the role-playing exercise. Most of the phrases presented a positive view on the exercise and on the technological medium with a remark that either technical errors or difficulties negatively affected the experience.

- "*vAcademia escalated my learning style. I thought in the beginning of this course that I am more a brick and mortar student, that I had to go to a classroom to learn, and vAcademia showed me that I could learn as much if not more through technology*."

- "*The interaction with peers and the professor, the exercise it was great... on paper.*"

Another popular sub-theme that emerged was the anonymity behind the avatar. All participants mentioned that they liked such anonymity, and it made them more comfortable performing the role-play.

- "*I did feel very comfortable in my interactions. Probably more so than if I would have face to face… I wasn't as nervous.*"

- "*I believe after this experience if I have to do a role-play in a room with an actual person sitting across from me, I would be less intimidated*."

Discussions with several students went further and highlighted that a role-play in a virtual environment could be an effective way to prepare for a role-play in the face-to-face mode. Some students also suggested that role-playing is an immersive environment can help to prepare for professional practice. For example:

- "*I believe that a f2f role-play would be better because it is more realistic. But I think it is a good warm up to get a good feel for how it is going to work.*"

- "*... virtual environment would even be more conducive to the client in being able to open up to their counselor.*"

5.1.3 Review of learning experience

For theme 5 Review of learning experience, we identified 24 codes. Most of the students appreciated the possibility to perform self assessment. For most of them, it was the most important benefit of the possibility to review the role plays. The technological medium was referred as means to see yourself from a third-person point of view. Among these codes, many but not all were related to students spotting their own errors, for example:

- "*... learned that my tone was sometimes inappropriate and also that my speech, you know just like right now, I keep saying uh and uhm and uhm over and over again, and then I kept apologizing like uncontrollably*"

- "*... ability to go back and critique yourself and really get an idea of how you come across to other people was very valuable.*"

However, some students had more balanced perspective. They stated that observing own performance was useful for getting a third-person view. One of the students mentioned that it helped to be less self-critical. For example:

- "*I think it really helps us to learn what our clients are going to hear from us and it helps us.*"

- "*I guess in my mind it was kind of like a terrible session, like I paused a lot and I stumble a lot, but when I went back and listened to it, it wasn't that bad as it was in my mind.*"

Another sub-theme that emerged was peer learning. The participants mentioned that it was valuable to both work together in pairs and observe the performance of other students.

"*... he [another student] gave some great suggestions that I used on my next sessions which I did a lot better.*"

"*I learned a lot by listening to other more experienced counselors. Ones that had a different perspective and different solutions and so it was a good learning experience for me to allow me to see how other counselors would handle the same type of scenario or situation differently than what I had.*"

One more recurring sub-theme we identified was experiential learning - applying knowledge from a review session in the next role play. Several students recalled what they learnt from the first role-play and applied in the second one. These codes were related to both improving general conversation skills and the acquiring professional knowledge and skills. For example:

- "*I did learn something in each of the exercises, but specifically in roleplay 1, I did learn to listen better and I was able to apply that into the second roleplay.*"

Overall, the review of the role-plays was seen and discussed very positively by all participants, except those who were affected by technical difficulties. For example:

- "*I definitely think observing was more helpful than actual doing the roleplay.*"

5.2 Quantitative data from questionnaires

We collected 17 responses for Questionnaire 1 and five responses for Questionnaire 2. Prior to any data analysis, we transformed negatively phrased items to ensure comparability of data. Overall, participants were very satisfied with their role-play experience in 3D virtual worlds.

Table 1 provides the mean scores of the three survey questions designed to measure participants' satisfaction level with an average satisfaction score of Mean 4.16 ± SD 0.22

Table 1. Satisfaction with role play in 3D virtual world

Survey item	M ± SD
I enjoyed participating in this role-play activity in a 3D virtual world	4.41 ± 1.06
I found this role-play in a 3D virtual world activity to be a personally rewarding educational experience	4.00 ± 1.06
I would recommend this role-play activity in a 3D virtual world to other students	4.06 ± 1.14
Average satisfaction score	4.16 ± 0.22

Participants' high level of satisfaction with their 3D role-play experience was surprising in light of the fact that they found it rather challenging to perform role-play in 3D virtual world (see Table 2).

Table 2. Ease of use with role-play in 3D virtual world

Survey item	M ± SD
I found it easy to navigate in a 3D virtual world	2.76 ± 1.52
Communicating with others in a 3D virtual world is relatively easy	2.94 ± 1.56
I found it easier to participate in a role-playing activity in a 3D virtual world than in real life	2.76 ± 1.48
Average ease of use score	2.82 ± 0.10

This discrepancy between the high level of satisfaction and low ease-of-use score could be attributed to other factors such as the immersiveness of the 3D virtual world. Leong (2011) found that students' satisfaction with their online learning environment is positively related to their self-reported cognitive absorption scores.

To study the level of immersiveness of participants' experience when performing role-plays in a 3D virtual world, we used Agarwal and Karahanna (2000) validated instrument to measure the five dimensions of the cognitive absorption construct: temporal dissociation, focused immersion, heightened enjoyment, control, and curiosity. Cognitive absorption, 'a state of deep involvement with software' (Agarwal and Karahanna 2000), is derived from Csikszentmihalyi's theory of flow (Csikszentmihalyi 1990). Table 3 summarizes the mean scores of the cognitive absorption constructs. Overall, these scores suggest that participants were moderately immersed in their 3D role-playing experience.

Table 3. Cognitive absorption during role-play in 3D virtual world

Dimension	Survey item	M ± SD
Temporal Dissociation (TD)	Time appears to go by quickly when in 3D virtual world	3.94 ± 1.30
	Lose track of time when in 3D virtual world	3.18 ± 1.24
	Time flies when in 3D virtual world	3.53 ± 1.23
	End up spending more time than planned when in 3D virtual world	3.29 ± 1.36
	Often spend more time in 3D virtual world	2.88 ± 1.22
	Average TD score	3.36 ± 0.40
Focused Immersion (FI)	Able to block out most distractions while in 3D virtual world	3.53 ± 1.42
	Absorbed in what one is doing while in 3D virtual world	3.24 ± 1.35
	Immersed in task being performed while in 3D virtual world	3.18 ± 1.38
	Easily distracted by other attentions while in 3D virtual world	3.41 ± 1.23
	Attention does not get diverted easily while in 3D virtual world	3.53 ± 1.18
	Average FI score	3.38 ± 0.16
Heightened Enjoyment (HE)	Have fun interacting in 3D virtual world	3.94 ± 1.14
	3D virtual world provides a lot of enjoyment	3.06 ± 1.34
	Enjoy using 3D virtual world	3.76 ± 1.35
	3D virtual world bores user	2.94 ± 1.71
	Average HE score	3.43 ± 0.50
Control (CO)	Feel in control when using 3D virtual world	3.59 ± 1.23
	Have no control over interaction in 3D virtual world	2.94 ± 1.48
	3D virtual world allows control over computer interaction	2.82 ± 1.38
	Average CO score	3.12 ± 0.41
Curiosity (CU)	Using 3D virtual world excites curiosity	3.35 ± 1.06
	Interacting with 3D virtual world makes one curious	3.00 ± 1.27
	Using 3D virtual world arouses imagination	3.71 ± 1.16
	Average CU score	3.35 ± 0.35

Additionally, we wanted to measure participants' satisfaction with reviewing the 3D recording of their role-plays in vAcademia. Table 4 shows that participants were overwhelmingly satisfied with this aspect of their role-playing experience.

Table 4. Satisfaction with reviewing 3D recording of role-plays in vAcademia

Survey item	M ± SD
I enjoyed reviewing the 3D-recording of the role-plays in vAcademia	5.00 ± 0.00
Reviewing the 3D-recording of the role-plays in vAcademia was a personally rewarding educational experience for me	5.00 ± 0.00

I would recommend reviewing 3D-recordings in vAcademia to other students	5.00 ± 0.00
Average satisfaction score	5.00 ± 0.00

This could be attributed to two critical factors. Firstly, participants found it easy to review 3D recording of their role-plays (see Table 5). More importantly, participants overwhelmingly felt that reviewing 3D recording of their role-plays in vAcademia helped them improve their ethical decision-making skills (see Table 6).

Table 5. Ease of use with reviewing 3D recording of role-plays in vAcademia

Survey item	**M ± SD**
Reviewing the 3D recording of the role-plays in vAcademia was easy for me	4.20 ± 0.84
I found it easier to review role-plays using the 3D recording than in real life (e.g., audio or video recording)	4.60 ± 0.89
Average ease of use score	4.40 ± 0.87

Table 6. Impact of reviewing 3D recording of role-plays in vAcademia on ethical decision-making skill

Survey item	**M ± SD**
Reviewing the 3D recording of the role-plays in vAcademia helped improve my ethical decision-making skill	4.60 ± 0.55
Using the 3D recording to watch how other students performed the role plays helped improve my ethical decision-making skill	4.60 ± 0.55
I discovered or learned more about ethical decision-making after reviewing the 3D-recording of the role plays	4.60 ± 0.55
Using the 3D-recording to watch how my partner and I performed the role plays helped improve my ethical decision-making skill	4.60 ± 0.55
In my opinion, other students could improve their ethical decision-making skills by reviewing 3D-recordings of our role-plays in vAcademia	4.60 ± 0.55
Average impact score	4.60 ± 0.55

6. Discussion and Conclusions

The technology-enhanced learning approach we present in this paper combines three major components (1) educational role-playing, (2) reflective and experiential learning and (3) immersive virtual environment with rich activity capturing and re-enactment features.

Role-playing facilitated by an immersive virtual environment, as a teaching method, provides an excellent opportunity for enhanced student engagement. Overall, participants were very satisfied with their role-play experience in 3D virtual worlds. Participants practiced dealing with real-life ethical dilemmas, being fully immersed into the situation. These active learning experiences helped improve communication skills, reduce anxiety, and increase students' confidence to use basic counseling skills as a foundation for future practice. The participants valued the possibilities to try and fail in a safe environment and to learn from each other.

Reviewing the role plays, as part of experiential learning process, provided significant added value. Participants were overwhelmingly satisfied with reviewing the 3D recording of their role-plays in vAcademia. They found it easy to review 3D recording of their role-plays. More importantly, participants overwhelmingly felt that reviewing 3D recording of their role-plays in vAcademia helped them improve their ethical decision-making skills.

This modality allows for self-review, focused on skills training and the client's experience, to consider what might be done differently to improve the outcome.

The participants in multiple occasions reported that they learnt from observing their own performance and performance of others. Overall, the observation and review of role plays received a more positive feedback, as an educational activity, than the actual role-playing. The individual observation was mostly appreciated as a means for self-assessment, while the group observation with all students and a teacher was valued for the possibility to observe how other people handle the same situation and learn from them.

Immersive virtual environment, as a technological medium, provides a valid alternative or a supplement to both online conferencing tools (such as Blackboard Collaborate) and face-to-face classroom setting. Mean scores of participants' self-reported cognitive absorption dimensions (temporal dissociation, focused immersion, heightened enjoyment, control, and curiosity) suggest that participants were moderately immersed in their 3D role-playing experience in vAcademia.

The anonymity provided with avatars appears to assist in avoiding stereotyping and drawing pre-conceived conclusions, often found in face-to-face sessions. However, considering that nonverbal interactions are essential in counseling (e.g., gauging how clients are feeling, pointing out discrepancies between verbal and non-verbal behaviors), counselor educators are encouraged to experiment with different ways of conveying non-verbal behaviors. For example, counselors-in-training might intentionally write thoughts and feelings with popular online abbreviations such as LOL (laugh out loud) using the chat feature, as well as using emoticons to convey emotions (e.g., sad, angry, happy). These features, however, must be used with the understanding that online terms may vary depending on factors such as age and familiarity with the format.

The activity capturing and re-enactment features of the virtual environment (3D recording and replay) enabled immersive observation and review. During the review activities, this technological setting allowed the participants to observe themselves, standing next to 'the recorded self', providing the same level of immersion as during role-playing. The participants mentioned that they learnt from observing their own performance from a third point of view and from observing the performance of others, navigating in the 3D-recorded session in the virtual environment. This allows to conclude that the technological platform supported experiential learning (with 3D recording and replay features), despite being a new type of medium for many participants and despite errors and delays that occurred.

The future work should include further trials implemented with (a) advanced technological platforms that can provide rich activity capturing and re-enactment, such as supporting VR glasses and gesture / motion capturing, (b) other study courses and topics, such as health care, law, journalism, and /or (c) larger groups of participants.

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