

Reflections on a virtual reality soft skills teaching intervention

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Abstract

The paper analyses undergraduate finance students' reflections on the impact of a VR soft skills teaching intervention and their understanding of the influence of soft skills on their future work environment. The contribution of the research can be found in the self-developed VR soft skills videos, the analyses of the reflections using the Pedler reflective framework and the findings that focus on the insights students gain through the teaching intervention. The research question is: What is the impact of the VR soft skills teaching intervention on the insights of undergraduate finance students when confronted by work-place scenarios? The findings of the study show that the students were able to reflect effectively using the Pedler reflective framework and to develop strategies of their responses to similar situations in future. The VR soft-skills teaching intervention is therefore an effective tool in developing the insights of students to be applied in their future world of work.

Keywords: *Virtual reality; soft skills; teaching intervention; reflections; finance students; undergraduates.*

1. Introduction

“Young professionals are therefore well placed if they polish their soft skills as digital transformation permeates our organizations and work structures” (Spencer, 2022). Spencer (2022) emphasized the importance of soft skills training in the digital age as the world is moving out of the Covid-19 pandemic.

The paper analyses undergraduate finance students’ reflections on the impact of a virtual reality (VR) soft skills teaching intervention and their understanding of the influence of soft skills on their future work environment. The contribution of the research can be found in the self-developed VR soft skills videos, the reflections using the Pedler reflective framework and the findings that focus on the insights students gain through the VR teaching intervention. This leads to the research question: What is the impact of the VR soft skills teaching intervention on the insights of undergraduate finance students when confronted by work-place scenarios? The evaluation of any teaching intervention is important to ensure that learning took place. However, the development of soft skills cannot be assessed or evaluated in an immediate result. Once the students commence with their future work in practice, only then will one be able to evaluate the impact of the soft skills training.

The paper commences with a literature review focusing on reflective practices, the experiential learning theory and the value of VR in education. The section is followed by a description of the methodology used in developing and conducting the research, including the analyses performed. The findings are followed with a conclusion on the research question.

2. Literature review

Reflective practices were first described by Dewey in 1933 when he stated that reflection is making sense of hard to explain situations. He suggested that posing questions to explore possible actions to take, is a process of learning (Dewey, 1933). Several years later Schon defined two types of reflections as “on-action” or retrospective reflections and “in-action” or “thinking on your feet” reflections (Schon, 1983). He argued that rehearsed interventions will assist practitioners to know how to read future situations. Reflecting is an ongoing process and therefore Fry and Kolb (1979) designed the reflective learning cycled framework that was simplified by Pedler, *et al* (2007). According to Figure 1, Pedler, *et al* (2007) confirmed the reflective cycled approach and that questions should be asked to reflect on the specific situation in order to grow in the learning process.

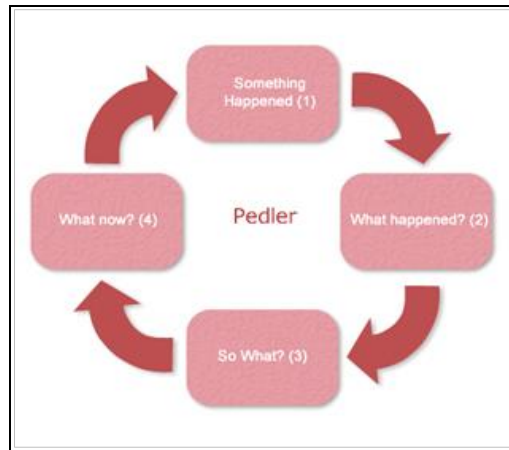


Figure 1. Pedler's reflective cycle framework. Source: Pedler, et al (2007)

Although later authors also contributed to the conversation, for example Jasper (2013), this study applied the Pedler reflective framework (Figure 1) to the reflections on the VR soft skills teaching intervention.

Reflection is a powerful tool, which was emphasized by Bloom when he created a framework for critical thinking in the 1950's (Lasley, 2022). He stated that the second highest order of thinking is the concept of evaluating and used the idea of reflection as a verb to assist learners to evaluate. Reflections can thus further be used to introduce and stimulate critical thinking.

The application of VR in education is supported by the VR Education Model, stating that VR has the potential to transform the learning environment. The VR Education Model is applied on a scenario to engage students in an experience to create an equitable environment with no limitations (Cooper & Thong, 2019). VR is thus used to create a teaching intervention for students to reflect on. Focusing on learning through experience is further confirmed by the experiential learning theory where time is allocated for reflection (Hickman & Akdere, 2018).

In a study by Niforatos et al. (2020), the use of a VR experience in the training of ethical dilemmas (soft skills) was explored. They concluded that VR enactment can foster ethical decision-making and may potentially be used in soft skills training. Hickman and Akdere (2018) confirmed the use of VR as an effective tool in financial education where a safe environment can be created for students to experience diverse soft skills training scenarios to improve learning and understanding.

Based on this premise, the paper explores the use of a VR soft skills teaching intervention in an undergraduate finance module in a developing country during the Covid pandemic.

3. Method

The research was set-up using five unique scenarios, presented as VR soft skills sessions, as part of the teaching intervention. A professional scriptwriter was employed to ensure the highest quality of the scripts. For the recording of each session, a producer and actors were involved and the footage was taken using a 360° / VR camera. Each of the five sessions were approximately 5 minutes long and addressed a different work-place scenario. The footage was edited and published as an unlisted video on the YouTube platform. The initial plan of the teaching intervention was to use cardboard VR headsets (made of durable plastic) with cellphones during the physical lectures in class where there is stable Wi-Fi access. However, during the Covid pandemic a revised plan was followed where Blackboard Collaborate (real-time video conferencing tool) was used as a platform to conduct online classes. The VR videos were then used in a 360° format.

Although 360° (or traditional) videos may deliver a similar effect, the VR teaching intervention provided an immersive experience where the student became part of the activities in the room. VR engages students in the teaching intervention and enhances the learning opportunity.

In line with the Pedler reflective framework (Figure 1), where stage 1 describes “something that happened”, the VR soft skills teaching intervention was introduced. Session 1 represented an interview between a manager and potential clerk. The students were included in this session (as well as in the remaining 4 sessions) as an observer. Session 2 addressed a conflict situation between an intern and her client, where Session 3 created the scenario of an intern who made a poor decision leading to a stolen client file. The manager then had to reprimand the intern. In Session 4, a performance appraisal was conducted. The final session (Session 5) created a scenario of an ethical dilemma where a client offered the clerk a bribe to ignore an illegal transaction.

After watching the VR video, the students were divided into random groups (approximately 4-8 students per group) where they had to reflect on the session by answering three questions. The three questions represent stages 2-4 of the Pedler reflective framework (Figure 1). The question for stage 2 (What happened?) was: After watching the video, how will you respond to the question that was posted to the observer? In each scenario, a unique question was posed to the observer (or student) about what happened in the specific scenario. The reflection then continues with stage 3 (So what?) with the following question: Please use a few moments to reflect on the session. Think about what was done correctly in your opinion? To conclude the reflection (stage 4: What now?), the student were asked: Please reflect on what you would have done differently?

After the group reflections were completed, the students watched a feedback video compiled for each session individually, where a practitioner provided comment on the specific VR soft skills intervention as well as advice on how to improve soft skills going forward.

A total of 409 students took part in the reflective group work of Sessions 1 and 5. The reflections of the students were sanitized to ensure complete anonymity. Then the reflections were submitted to the software program Atlas ti where a thematic analysis was performed using the “word cloud” and “word list” functionality to identify the most common terms used and the reflections were coded for common themes. The reflections of each session were analyzed to gain an insight into the impact of the VR soft skills teaching intervention on the understanding of students regarding the influence of soft skills on their future work environment.

4. Findings

Once the reflections of Session 1 (interview scenario) and Session 5 (ethical dilemma scenario) were coded into themes, the most frequent themes identified were identified for each phase of the Pedler reflective framework.

4.1. Reflections on Session 1

The interview in Session 1 represents stage 1 (something happened) of the Pedler reflective framework (Figure 1). The thematic analysis of Session 1 (Figure 2) shows that students reflected in stages 2-4 of the Pedler reflective framework (Figure 1). Through their reflections, students developed a strategy of what they would do in future when in an interview scenario.

In stage 2 (what happened?), students identified that the interview had not gone well due to a number of reasons (unrealistic salary expectations, lack of preparation and research prior to the interview and unprofessional behavior from the interviewee). In stage 3 (so what?) students reflected and identified the behavior of the interviewee that went well (well dressed, punctual, confident, greeted the interviewer, enthusiastic and friendly). The students then reflected on stage 4 (what now?) and identified key areas to work on when faced with an interview scenario in future (prepare and research prior to the interview, having realistic salary expectations, set goals and a career plan, and act professionally in an interview).

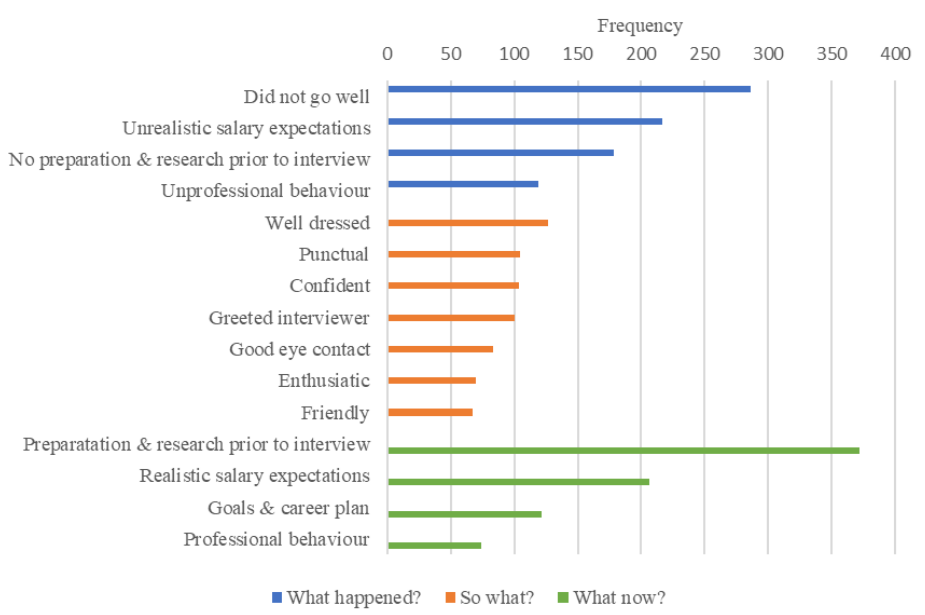


Figure 2. Reflections on Session 1

4.2. Reflections on Session 5

The ethical dilemma the students encountered in Session 5 represents stage 1 (something happened) of the Pedler reflective framework (Figure 1). The thematic analysis of Session 5 (Figure 3) shows that students reflected in stages 2-4 of the Pedler reflective framework (Figure 1). Through their reflections, students developed a strategy of what they would do in future when faced with an ethical dilemma.

In stage 2 (what happened?), students identified that the clerk had been offered a bribe which constituted unethical, illegal activity. They also identified that it was a reportable incident and that the Code of Professional Conduct, which applies to Accountants, was applicable in a scenario like the one they had just viewed. In stage 3 (so what?) students reflected and identified the behavior of the clerk that went well (she communicated her responsibility to report the matter to the client, she remained calm and acted in a professional manner, she identified the unethical issue and rejected the bribe, and she noted to the observer that client confidentiality was always important). The students then reflected on stage 4 (what now?) and identified key areas to work on when faced with an ethical dilemma in future. Students identified that they would notify a more senior member of staff or manager, they noted that they would have a responsibility to report the matter and that they should act immediately, and they noted that they would not accept a bribe.

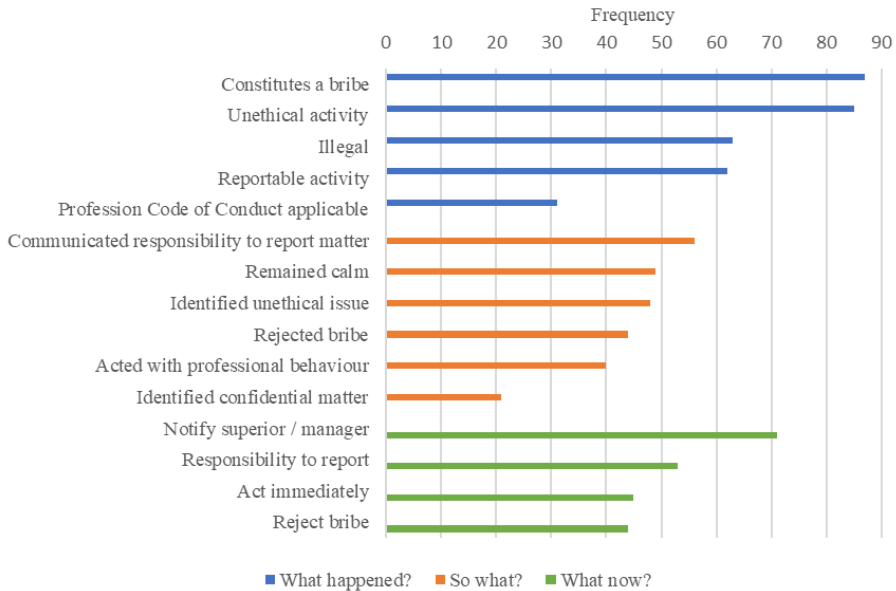


Figure 3. Reflections on Session 5

4.3. General reflections on the teaching interventions

When students were asked how they experienced the 5 sessions of the VR soft skills teaching intervention, they were positive about their experience and what they had learnt. Some of the comments the students made include the following:

- “It is nice to get a glimpse of the practical work environment!”
- “I really enjoyed this. Thank you very much!”
- “I really enjoyed the feedback session and found the experience insightful.”
- “I think overall the soft skills sessions have been very valuable.”
- “That was a really useful session, I think those skills are really important to know.”
- “I learnt that it is important to act objectively despite your connection with the persons in the conflict of interest and the emotions you may feel in the situation.”
- “We have learnt how to maintain our professional competence and behaviour despite being intimidated by an employee in a superior position.”

Although the feedback from students did not specifically include negative comments regarding the actual teaching intervention, there were some frustrations encountered due to issues with connectivity during the sessions. This can be attributed to the fact that the teaching intervention took place online and not in a physical classroom with stable Wi-Fi as originally planned. Students were reliant on their own home networks, which are not always as stable as the Wi-Fi available on campus.

5. Conclusion

Based on the comments of the students, they believed that the learning experience had been effective in developing their soft skills for the work-place in future. The findings of the study show that the students who were exposed to the VR soft skills teaching intervention were able to retrospectively reflect effectively using the Pedler reflective framework (Figure 1). When exposed to a practical scenario that they might be encountered with in the work-place (stage 1: something happened), students were able to reflect and formulate what had happened in the scenario (stage 2: what happened?). Students were then able to identify the impact of what was going on in the scenario (stage 3: so what?) and formulate an action plan of what they would do in future if confronted with a similar scenario (stage 4: what now?). Assessing skills training remains a challenge and the current VR soft skills teaching intervention should merely be viewed as a stepping stone in the development of skills necessary in the future world of work. The VR soft skills teaching intervention is therefore an effective tool in developing the insights of undergraduate finance students when confronted by various work-place scenarios.

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