

Enhancing Health and Exercise Consultation through Scenario-Based Learning: An Approach for Interpersonal Skill Development.

A Practice Report

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Abstract

This practice report describes the application of scenario-based learning to improve awareness of interpersonal skills in sport and exercise students. Thirty second-year undergraduate students over two consecutive academic years engaged in three scenario-based learning activities that simulated client interviews and consultations. The consensus among the students was that the scenarios increased their awareness of active listening, recognising physical client cues, and understanding the intricate dynamics of the ‘client-practitioner’ interaction. The implementation of scenario-based health and exercise consultations provided students with an immersive and effective learning experience, which promoted the development of the interpersonal skills required for successful client consultations.

Keywords: Inquiry-based learning; allied health; consultation; relationship building.

Introduction

Interpersonal skills play an important role in any allied health setting, including health and exercise consultations conducted by sport and exercise students. This is due to the importance of effective communication, empathy, and relationship-building within this context. Interpersonal skills enable students to establish a strong rapport with clients, create a supportive and trusting environment, and facilitate open dialogue during the consultation process. By cultivating these skills, students contribute to the overall quality of care, which encompasses accurate assessments, addressing client needs and goals, personalised exercise programming, monitoring progress, and adapting the program as necessary. In addition, these skills also enhance client satisfaction and promote adherence to exercise programs, ensuring the best possible outcomes for clients.

Both sport science practitioners and academics have recognised the significance of interpersonal skills. In a study conducted by Bruce et al. (2022), communication skills, encompassing both written and oral abilities, were the highest ranked among transferable skills. This finding underscores the importance of effective communication in the field, emphasising the need for sport and exercise professionals to possess strong interpersonal skills for successful practice. As a result, it is important to develop these skills appropriately within the qualifications pursued by graduates. One effective method for developing interpersonal skills is through interacting with real clients, which offers the optimal learning experience through work-integrated learning, such as internships or work placements. However, it is frequently observed that students entering these



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placements often lack the essential skills and confidence to navigate successful health and exercise consultations, which heavily depend on strong interpersonal skills.

To address this challenge, a strategic approach can be implemented earlier in the students' learning to introduce and develop key interpersonal skills within a safe and supportive environment. Pedagogical methods such as role play, simulation (using actors to play a client role), virtual reality and scenario-based learning can be employed to gradually build upon these skills before students engage with real clients. This approach facilitates a gradual progression, ensuring students are well-prepared before entering professional practice.

Implementing innovative and authentic learning activities within the classroom setting can be an effective strategy to develop interpersonal skills. One such approach is scenario-based learning, which is an instructional approach that immerses learners in realistic and contextualised scenarios to enhance their problem-solving and decision-making skills within an educational context (Herrington & Oliver, 2000). In this approach, learners actively engage in authentic tasks and challenges that simulate real-world situations, allowing them to apply knowledge and skills in a meaningful way (Jonassen & Hernández-Serrano, 2002). Therefore, scenario-based learning has emerged as a promising pedagogical approach to developing interpersonal skills for health and exercise practitioners. Hsu et al. (2015) demonstrated the effectiveness of scenario-based learning, where nursing students improved communication skills and critical thinking abilities. The authors also emphasised the importance of incorporating realistic scenarios into the curriculum to enhance students' professional competence.

Similarly, Kron et al. (2017) reported that computer simulations improved communication skills and clinical knowledge in second-year medical students who expressed satisfaction and positive attitudes toward scenario-based learning. Additionally, a recent study conducted by Sadeghi et al. (2023) examined the efficacy of scenario-based learning on the core competencies of nursing students. Their findings indicated that scenario-based training led to improvements in various areas, including clinical skill competencies, basic science knowledge, communication and teamwork, care, responsibility, and continuous learning.

The above literature provides clear evidence supporting the effectiveness of scenario-based learning and active learning approaches in fostering the development of interpersonal skills among allied health students. The integration of realistic scenarios, interactive simulations, and problem-based learning activities not only enhances students' knowledge acquisition but also fosters the application of critical thinking, communication, and decision-making skills in authentic contexts. In the present study, the aim was to build upon this existing body of research by investigating the effectiveness of scenario-based learning in enhancing interpersonal skills development in sport and exercise students when delivering a health and exercise consultation. By immersing students in realistic scenarios and facilitating interactive learning experiences, this pedagogical approach aims to explore the impact on the acquisition of active listening, non-verbal communication, rapport-building, and tailoring the conversation to gain a better client profile.

Designing the Learning Setting

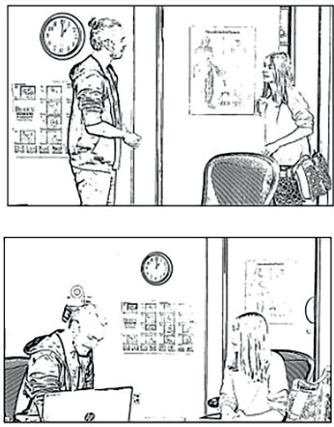
The Exercise Prescription course is a university academic module in the second semester of the second year at Massey University, it is designed to equip students with both theoretical knowledge and practical skills in prescribing exercise and physical activity for the general population. This includes understanding the principles of exercise programming, conducting fitness assessments, and applying evidence-based strategies to assist clients in achieving their goals. The course also seeks to develop interpersonal skills to establish effective communication and relationship-building with clients and successfully implement exercise programs. This face-to-face course has a weekly one-hour tutorial and a two-hour practical session.

The key areas where students often encounter challenges during health and exercise consultations were identified through a collaborative effort involving the lecturer, senior curriculum developer, and educational media developer. These areas included building rapport with new clients, actively listening to clients, recognising and pursuing relevant 'leads' during consultations, taking comprehensive notes and translating gathered information into a personalised exercise plan that aligns with the client's needs and preferences. A series of workshops was developed that sought to provide students with opportunities to develop and practise these skills in order to enhance their proficiency in building rapport with clients and conducting successful health and exercise consultations. Additionally, it was intended that the development of these skills would instil confidence in conducting health and exercise consultations. The workshop brainstorming sessions led to the decision to design learning activities using a scenario-based approach.

Three self-paced scenario activities were developed. Each scenario comprised a simulated consultation with a new client in the form of a short introductory video clip performed by actors following a scripted scenario (Figure 1).

Figure 1

Example of the Client Background and First Scene Between Client and Trainer

<p>Backstory Tim, a recent graduate of the Bachelor of Sport and Exercise program, is in the first week of his new job as a personal trainer at Fitness Express gym. Today he's meeting with his first prospective client, Brooke, for a free 40-minute consultation. Brooke emailed Tim this partially completed prescreening form this morning.</p> <p>In this 40-minute consultation, Tim is expecting to gather relevant medical information, exercise goals, history, preferences, and availability and perform an assessment to inform Brooke's plan if she chooses to sign up for one after this meeting.</p>	
<p>Tim hears a knock on the door.</p>	
<p>First Scene Tim opens the door and sees a short, slender woman wearing athletic gear. "Hello, you must be Brooke?" Tim says. "Yes, that's me," Brooke replies nervously. Tim holds out his hand and Brooke shakes it. Tim smiles and gestures to the vacant chair.</p> <p>"Welcome to Express Fitness. It's great to meet you. How's your day been?" "It's been really busy, but I prefer that way," Brooke replies. "It makes the day go faster." "Yes, time flies when you have lots going on," Tim says.</p> <p>He thanks her for coming and explains that, during this session, he'd like to gather relevant personal, medical and exercise history in order to identify any potential risk to exercising. He explains that he'll finish the session by performing some basic health checks.</p> <p>"Finally, all information will remain confidential between us only," Tim says. "That sounds good," Brooke responds.</p> <p>"Great. First of all, I want to say thanks for completing some of the pre-screening sections already. I would like to expand on some of your answers and ask you some more questions, is that ok?" Tim asks.</p> <p>"No problem," Brooke says, "Sorry I only filled out some of it, I was really busy with my son yesterday so I just did what I could in two minutes and quickly sent it back. I thought I could do the rest here with you. I must say this is something I've wanted to do for ages so I'm really excited!"</p> <p>What does Tim say next?</p>	

After watching the video, students engaged in a branching scenario, where they had to guide the consultation by considering the client's needs and responding to a series of questions with their proposed actions. Based on their responses, students encountered further questions and were required to make judgments and decisions (Figure 2). This process continued, and students were prompted to consider their evaluations upon encountering favourable or unfavourable outcomes. For example, from Figure 2, if a student selected option B, they were presented with a response, followed by three options (F, G, H). For instance, if they selected option F, they were presented with another response (Figure 3), followed by two options (K or L). If option K was selected, it ended in an unfavourable outcome. The student was prompted to reflect on why this may have happened and if it could have been done differently. The student was then directed by hyperlink to the virtual whiteboard to document their response. These reflections were used in class to facilitate discussions on the scenario's outcomes. In completing this, the student was then redirected to where the unfavourable outcome occurred and continued with the scenario. The branching scenario also had positive outcomes, with the students sharing their thoughts on the virtual whiteboard.

Figure 2

An Example of a Branching Scenario of Selected Choices and Responses

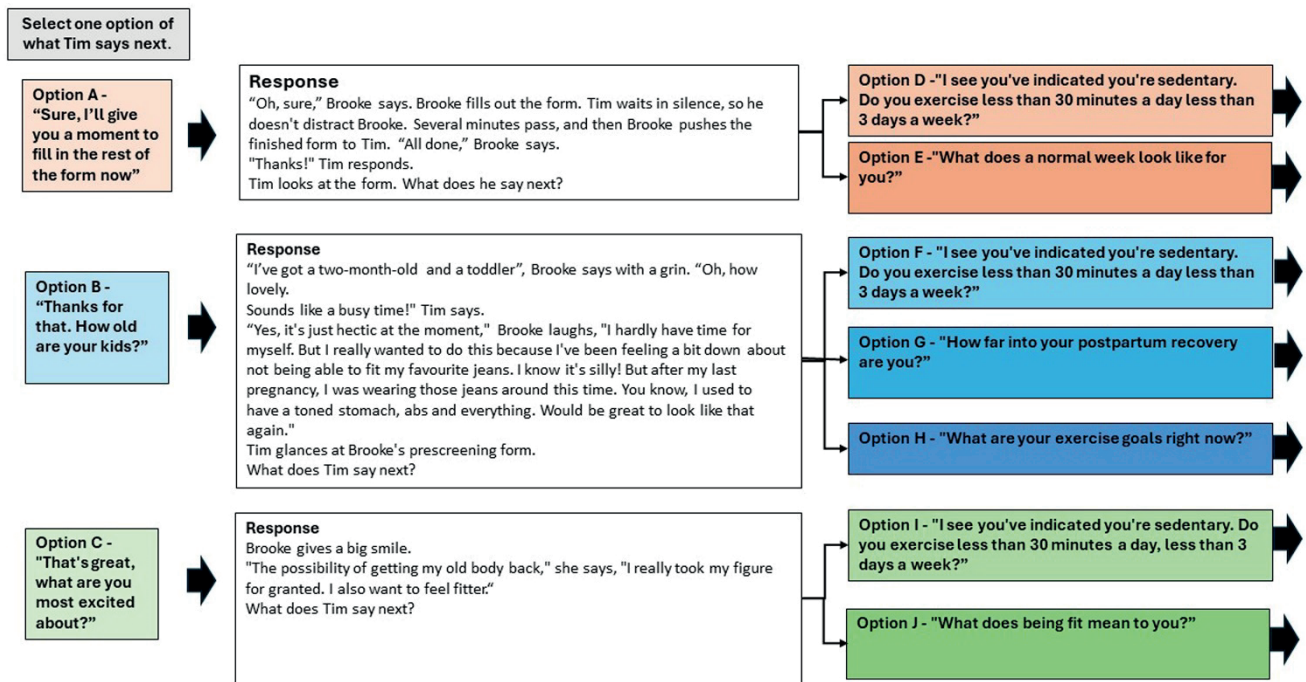
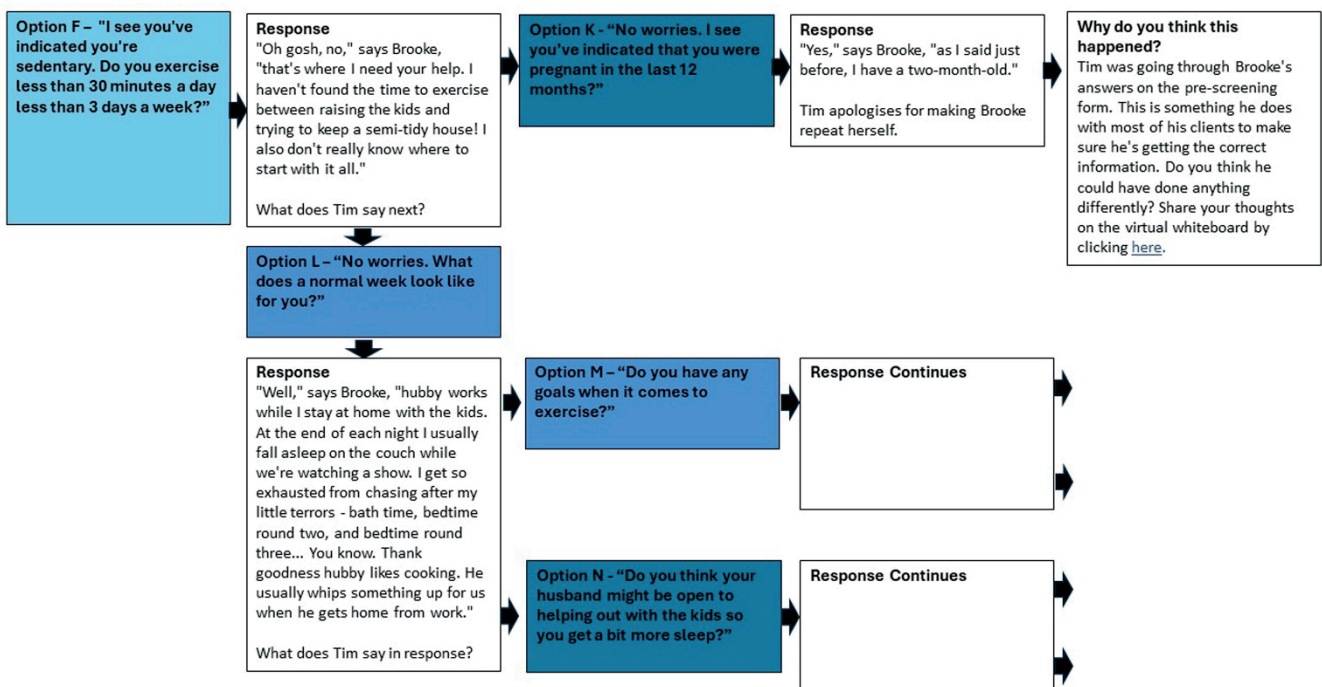


Figure 3

An Example of a Branching Scenario of Selecting a Choice (option K) that leads to an Unfavourable Outcome



By engaging in scenario-based consultations, it was intended that students would familiarise themselves with the decision-making processes, develop their skills, and gain a solid understanding of the key aspects involved in effective health and exercise consultations. This approach aimed to bridge the gap between theoretical knowledge and practical application and to develop students' capabilities when undertaking health and exercise consultations.

Implementing and Testing

Second-year undergraduate sport and exercise students who were enrolled in the majoring course of Exercise Prescription ($n = 30$ [18 females, 12 males]; mean age 20.4 ± 2.5 years) in the 2022 and 2023 academic years volunteered to participate in the study and provided written consent.

The students were introduced to the concept of scenario-based health and exercise consultations before engaging in the simulated activities and accessed through the learning management system. The students then completed the three self-paced scenario-based learning activities.

After each simulation was completed, the teacher led the students in a face-to-face, in-class discussion of the outcomes and their individual reflections on the activity and the decisions they took. As a starting point, the student responses from the virtual whiteboard were used to initiate the class discussion, where students were able to reflect on the scenario and their responses and see their mistakes and/or misjudgements in the simulated consultation. For example, selecting option K (Figure 3) led to an unfavourable outcome where the trainer, Tim, was overly fixated on the form and neglected to consider Brooke's input. This highlighted the importance of active listening and rapport building, as the pre-screening form took precedence over the consultation. One student who had reached this endpoint commented, "Similar to Tim, I was so focused on the structure that I forgot about other important client information. This is a valuable learning I will take into the real world." This prompted a class discussion on the students' reflections on developing active listening and building rapport with simulated clients. In this example, Tim, the trainer, missed that Brooke had already told him she had a two-month-old, and he overlooked crucial opportunities to learn more about her exercise goals and lifestyle through natural conversation and rapport-building questions. Several students raised concerns regarding the structured consultation, particularly questioning the appropriateness of the trainer's decision to have Brooke complete the form. Some students proposed that a more effective approach would involve integrating the form into a conversation rather than treating it as a standalone task to foster better rapport. This divergence in opinions resulted in some students who believed that adhering strictly to the form was necessary to ensure comprehensive and accurate responses, as opposed to facilitating a more fluid conversation. The discussion subsequently evolved to emphasise the importance of maintaining a natural flow in the conversation while still gathering important personal information.

Some students encountered challenges when explaining an unfavourable outcome, prompting the teacher to focus on the student's thought processes and actions. For example, the teacher was able to show that a particular student had made a good decision in identifying a question in the scenario about Brooke's children, a typical week for her, and her exercise goals, but the downfall was the selection of unsolicited advice. This led to a discussion on the negative perception associated with an "expert-advice giving" approach and how to avoid being judgmental when adopting this stance towards a client.

There were also instances where students finished with a favourable outcome and were able to interpret their scenario journey. For example, a student responded to a favourable outcome with: "Tim was able to establish a positive relationship with Brooke by asking questions about her family, getting to know her and her lifestyle better. From this, Tim was able to ask about her goals and has gained her trust to continue and want the program."

Students then applied the knowledge gained from the discussions to subsequent scenarios. These scenarios were designed to focus client rapport, active listening, and interpersonal skills, encompassing non-verbal communication, effective questioning, and the ability to discern physical cues from clients. Following each scenario, the same discussion process was implemented to clarify the crucial learning outcomes.

After completing the three scenarios, students were asked to anonymously complete an online questionnaire (Qualtrics) to evaluate their perceptions of the effectiveness of the scenario-based learning activities. The questionnaire utilised a five-point Likert scale ranging from 0 = "strongly disagree", 1 = "disagree", 2 = "undecided", 3 = "agree" and 4 = "strongly agree", and a general comment section was included to gather feedback on the overall effectiveness of the scenario-based learning approach. A pilot study was conducted with four students from a different academic discipline to evaluate the questionnaire's clarity and applicability. Modifications were implemented to improve the questionnaire's applicability, and overall suitability for its intended purpose.

Results

Table 1 presents the feedback from students regarding implementing scenario-based learning. The responses indicate the extent to which students agreed or strongly agreed with various statements related to their perceptions of the effectiveness of scenario-based learning in enhancing their learning experience. All students expressed agreement that the scenarios increased their awareness of the significance of active listening and detecting physical client cues. All students felt that the activities made them more aware of recognising client 'leads' to explore further about the client. The students' responses indicated that they found the scenarios challenged them to think critically about the interaction between client and trainer. A high level of agreement was also observed regarding the scenarios' impact on students' awareness of observing verbal and non-verbal client cues, observing client behaviour, and the importance of questioning for gathering relevant client information. Notably, 96% of students acknowledged that the scenarios significantly enhanced their understanding of the client-trainer interaction. All students indicated that the post-scenario discussions facilitated by the teacher further enhanced the learning experience.

Table 1

Student Feedback on the Application of the Scenario-based Learning Activity

Question	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Q1 - The scenarios made me more aware of the importance of active listening				18 (60%)	12 (40%)
Q2 - The scenarios made me more aware of the importance of detecting physical client cues				17 (56.6%)	13 (43.3%)
Q3 - The scenarios made me more aware of the importance of observing verbal and non-verbal client cues			1 (3.3%)	16 (53.3%)	13 (43.3%)
Q4 - The scenarios made me more aware of the questioning required to gain the relevant client information			2 (6.7%)	15 (50%)	13 (43.3%)
Q5 - The scenarios made me more aware of the importance of recognising client leads to explore more about the client				12 (40%)	18 (60%)
Q6 - The scenarios made me more aware about observing client behaviour		1 (3.3%)		14 (46.6%)	15 (50%)
Q7 - The scenarios challenged me to think more critically about client-trainer interactions				11 (36.7%)	19 (63.3%)
Q8 - The post-scenario discussion facilitated by the teacher offered an alternative perspective for enhancing the learning experience				15 (50%)	15 (50%)
Q9 - Overall, completing the scenarios enhanced my learning experience in gaining valuable knowledge of the client-trainer interaction			1 (3.3%)	14 (46.6%)	15 (50%)

The written feedback from students provided additional support for the benefits of scenario-based learning. The student's general comments emphasised the following key points:

- (1) **Gaining an outside perspective:** Students appreciated the opportunity to view the consultation from an outside perspective. This indicates that scenarios provide a different vantage point that allows for reflection and identification of teaching moments that may be missed in practical experiences alone. This outside perspective can enhance self-awareness and promote a deeper understanding of the consultation process.
- (2) **Identifying gaps in client interaction:** Students found value in the scenarios for identifying gaps in their client interaction skills. Video scenarios can highlight subtle cues and non-verbal communication that may not be obvious during real-time interactions. By analysing the scenarios, students can become more attuned to these cues and improve their ability to observe and respond to clients.
- (3) **Enhancing awareness of non-obvious cues:** The students mentioned that the scenarios helped them recognise not-so-obvious cues in client communication. This suggests that scenarios can provide a more magnified and focused view of client cues, allowing students to develop a keen eye for both verbal and non-verbal cues that may have gone unnoticed otherwise.

Discussion

The implementation of a scenario-based health and exercise consultation proved to be quite successful. The findings of this activity align with recent research suggesting the positive impact of simulation-based learning on interpersonal skills. This activity found that the learning setting also provided support for the development of interpersonal skills, including active listening, the ability to detect physical client cues, and recognising opportunities to explore further information about the client. Moreover, it provided opportunities to enhance students' awareness of observing both verbal and non-verbal client cues. Being able to accurately interpret non-verbal cues, such as body language and facial expressions, allows students to better understand their clients' comfort levels, engagement, and potential barriers to participation.

This report also underscores the importance of effective questioning techniques in health and exercise screening and consultation. By assisting students to refine their questioning skills, students saw the need to gather comprehensive information about a client's medical history, exercise preferences, and goals. This information is important in designing safe and appropriate exercise programs tailored to the individual's needs and limitations.

The teacher's role in scenario-based learning was an important part of the process. The post-scenario discussions were recognised as a valuable component and were deemed the most effective aspect of the simulation. While scenario-based activities can be valuable for learning, they do have limitations. They do not provide real-time interaction with the client or allow for immediate feedback and adaptation based on the student's responses. Pre-recorded videos offer a fixed set of responses and cues from the client, which may not fully capture the complexity and variability encountered in real-life consultations. While efforts can be made to make the videos realistic, there may still be a degree of artificiality or lack of authenticity compared to real-world interactions.

Conclusion

Participating in scenario-based learning before engaging in role play and live client assessment can provide a valuable opportunity for students to familiarise themselves with the material, gain insights into the potential pitfalls of consultation, and enhance their ability to observe, interpret, and respond to various client cues. This paper reports on a scenario-based learning activity that complements the progression of student learning. It aims to equip students with the skills needed to offer more personalised and effective guidance while gaining a better understanding of how to conduct a successful consultation.

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