SIMULATION PEDAGOGY IN BUSINESS STUDIES: HELPING BRIDGE THE GAP BETWEEN THEORY AND PRACTICE

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Abstract

Simulation-based learning suits both technical and non-technical skills training well. Non-technical skills imply decision-making and communication skills, as well as management, negotiation, and team-working skills. All of these are timeless general core competencies and necessary in all fields of working life. Simulation-based learning has been researched and developed for a long time in healthcare education. Many Finnish universities of applied sciences exploit simulation pedagogy in healthcare education. This study presents practical experiences of simulation-based learning in business education. A development project has been carried out with companies and students in simulation workshops at Lahti University of Applied Sciences. The case study presented in this paper is related to financial management and business taxation studies. The developing work has been examined from different angles: students' experiences, learning outcomes, and teachers' views. In this presentation, the preliminary results of the research and experiences of the case project will be discussed.

Keywords: simulation pedagogy, universities of applied sciences, business studies.

1 INTRODUCTION

Simulation is a technique to replace real experiences with guided experiences in a safe learning environment [1]. Simulation-based learning is described as being between theory and practice: simulation enables the creation of learning scenarios that simulate or model real-life situations, and it offers a possibility to practice, for example, customer service, nursing, or teamwork.

Previous research has acknowledged the strengths of simulation in education, and especially in healthcare education [2, 3]. Simulation-based learning suits both technical and non-technical skills training well. Previous research from pharmacotherapy learning has shown that simulation-based learning improves professional skills and self-confidence, teamwork, and communication. Furthermore, students' self-assessments of their perceptions of their professional competencies grew [2]. In addition, the simulation experience emphasized the students' understanding of teamwork and professional roles [4]. Simulation-based education is described as being a complex socio-technical endeavor that is built on technique but also pedagogical skills, goal setting, and scenario design. The aims of study and scenario design should be aligned with curriculum and course design [5].

However, this kind of simulation pedagogy is less known in the context of business education or in the development of working life, although simulations like gaming or variations on experimental learning have been used in business education and, for example, entrepreneurial learning [6]. Practical experiences in simulation-based learning in business education are few and far between. There is no doubt that simulation might be a valid learning method not only in healthcare education but also in different areas of business education.

The interest of this research is in how simulation as a learning method could be applied to business education at a university of applied sciences. The aim is also to find what it requires from teachers (referred to also as lecturers) to organize simulation-based training, and what the learning outcomes of simulation are. To achieve this, simulation-based learning sessions were organized as part of various courses in the business studies degree programs at the Lahti University of Applied Sciences in Finland (Lahti UAS). The simulation workshops have been promoted as part of the project "Simulation as a tool to develop work communities," funded by the European Regional Development Fund. The project is carried out in simulation workshops organized in authentic working life contexts in workplaces, or in the Simulation Center SimuLti, which is the multi-professional learning environment at Lahti UAS.

2 METHODOLOGY

So far, the simulation-based learning workshops organized by the project “Simulation as a tool to develop work communities” has been carried out over twenty times. Most of the workshops have been with local SMEs (small and medium-size entrepreneurships). The preliminary results have shown that simulation learning suits companies well [7]. Because of the operational principles of universities of applied sciences, students have been involved in the development work. Consequently, some of the simulation themes have been piloted with students and teachers during courses. In the process, valuable feedback and development proposals have been given by participants, students, and teachers. This has also helped authors to broaden their perspectives of the possibilities of simulation-based learning in working life development, and also in business studies.

The topics of the simulation workshops have been business-to-business marketing and selling, customer service and teamwork, and decision-making in unexpected situations. After every workshop, students were asked to complete a feedback form.

The research material consists of the feedback from the participants (n=93 students) at eight simulation workshop organized during 2017-2019, the personal reflections on learning written by students (n=13 students) on a financial management course, and three interviews with lecturers in business administration.

In the spring of 2019, the Corporate Taxation and Financial Statement Planning course at Lahti University of Applied Sciences was carried out in the following way: first, there were four three-hours long lectures about the basics of the theory of Finnish corporate taxation. The lectures also contained practical problems. Instead of being a lecture, the fifth contact session was carried out as simulation training. The simulation training started with a short introduction to the learning method. At the beginning of the introduction, the students were informed of the research and asked to give their consent. After the introduction, the training consisted of 20 minutes introducing and planning scenarios, about 10 minutes of a training session, and 45-60 minutes of feedback conversation, in which the simulation case was discussed, with reflection on the learning after each case. The structure of all the workshops was similar.

Simulation happens in small groups (8-20), in which some of the participants act in the simulation exercise and other participants observe the scenario from a debriefing room [7]. In the case of the corporate taxation course, the students on the course were divided into three groups of four to six students per group. Each student had a role a worker of the accounting firm. The simulation session was conducted by two facilitators and a lecturer, who was an expert on the current topic. The scenario was read out by facilitators and, after that, as mentioned above, each group had about 20 minutes to prepare. The scenario concerned meeting new customers who have been establishing a new business and are asking for advice about business taxation. The task for the first group was to prepare for the meeting with the new customers, for example by deciding the right questions to ask. The second group met the customers (two teachers who were not corporation taxation specialists), and the last group decided what further information and advice to send to the customers after the meeting.

The personal reflections on learning followed the lectures and simulation training. The notes by the students who had given their consent (n=13) were analyzed anonymously.

Qualitative theme interviews by three lecturers were carried out two and a half months after the related simulation learning sessions. Each interview was carried out with open-ended questions on each theme. The themes were related to simulation learning in business studies, as follows: general first insights at the point of the interview, the success factors and challenges, special requirements from the teaching perspective, learning outcomes, and plans. The results are presented and analyzed in the following part of the paper.

3 RESULTS

In this paper, simulation-based learning in business studies was examined from different angles: students’ experiences, learning outcomes, and teachers' views.

3.1 Students’ experiences of simulation-based learning

Feedback was gathered from the simulation workshop participants by using a feedback form with 14 statements. The statements were divided into two subdivisions: one concerning the assessment of the

learning situation and the other concerning the participant's overall experience of the simulation. Participants were asked to respond to the statements by indicating their level of agreement using a five-point Likert scale (1 being strongly disagree and 5 strongly agree). Several simulation education experts were involved in the creation of the feedback form, and it has been used previously in simulation education at Lahti UAS [7].

On a scale from 1 to 5, students (n=93) gave an average grade of 4.1 on their satisfaction regarding their learning. Simulation was felt to be a safe learning environment (4.6), and the learning situation was considered to be participatory (4.2). Students also felt that they were cooperating and that they found and shared solutions (4.1). In addition, the degree of challenge in learning situations was considered appropriate (4.1). Furthermore, the learning situations were considered to be insightful (4.0), and the debriefing discussion after the simulation was considered to be very useful (4.6). Based on their experience, students were very likely (4.6) to participate in simulation-based learning again in the future (4.4). These results are in line with the results from companies' participants [7].

3.2 Learning outcomes from the students' point of view: the case of corporate taxation and financial statement planning

In the case of the corporate taxation course, the students kept on learning and analyzed the simulation workshop by writing a 1-3 page personal reflection during the month following the simulation. The personal reflections (n=13) were analyzed by the authors. The results are summarized as follows.

According to the students, simulation as a learning method, and the learning scenario in particular, suited the corporate taxation course well. The debriefing part and the feedback conversation were named as being especially fruitful for learning. The students discussed several alternative solutions, and the facilitators linked the conversation to their experiences from real working life. Overall, the simulation expanded thinking and helped students to see corporate taxation from a wider perspective. It is not only a question of excellent knowledge of corporate taxation as rules and theory, but also the ability to apply and explain theory to customers. To become a good expert, students are required to have good customer service skills and abilities, to lead customer appointments, and to argue clearly and simply to customers. Compared to lectures, from this point of view, simulation-based learning is a more varied method of learning.

"During the feedback conversation, the most important insight for me was the views of the other participants." (a student, original quote in Finnish).

As some students mentioned, they might have benefited from more than 20 minutes of preparation time. On the other hand, one element of simulation is unexpectedness, as in real working life. Furthermore, suspense, inexperience of simulation, and a lack of theoretical knowledge were elements that reduced from the positive learning experience, according to the students. However, even if a student was disappointed with their own performance, they were pleased with the learning method and wanted more simulation learning in the future.

It is important to point out the fact that most students participated in simulation at first time. However, as third-year students, they had learning experiences from various learning methods. Because of this, their opinions and experiences from simulation are convincing.

3.3 Lecturers' experiences

Three lecturers were involved in the study. They had simulation experience in sales and customer service, in procurement negotiation, and in customer service in the field of finance and taxation. In the English-language procurement negotiation simulation, most participants were speaking English as a second language. The interviewees had teaching experience of 4 years, 10 years, and 22 years, respectively.

The interviews took place approximately two and a half months after the simulation sessions. The time gap was intentional, to get the overall picture as well as to focus on stabilized perceptions of simulation learning. This is crucial, as on many occasions, the feedback implied a certain process of reflection starting after the simulation. This, in turn, might cause certain feedback biases immediately after the sessions. However, it is important to point out the fact that interviews are done with this delay, and therefore the results are not supposed to be interpreted as immediate feedback, but rather as a permanent perception of simulation as a means of studying business.

The first impressions and insights shed a positive light on simulation learning. Lecturers see the method forming a bridge between theory and practice. The fact seems to be that hard skills are over-emphasized in business studies, both as course topics and in course contents. Therefore, simulation learning brings into the spotlight the need for soft skills. The combination of these two approaches is an asset necessary in working life, no matter what kind of business or role you are in. The first comments also pointed out the enthusiasm that the method creates for students. It is seen as a different way of encouraging practical learning.

"*Positive experience. It combines hard and soft skills extremely well in a practical setting."* (senior lecturer, original quote in Finnish)

"I simply enjoyed it. Participants were excited and most importantly they learned!" (senior lecturer, original quote in Finnish)

The success factors are firstly related to the participants. If they are active, co-creational, and curious, as well as open-minded, the sessions have an excellent basis for success. Secondly, the quality of the cases is important; cases should be practical, relevant, and related to the topic under discussion. Thirdly, the learning discussion, meaning the debriefing, seems to be the most important platform for learning and naturally relies heavily on the facilitators as well as the activity of participants.

"Good, real-life cases. Set goals were met." (senior lecturer, original quote in Finnish)

"Through active discussion, participants got an understanding of what business is all about in reality." (senior lecturer, original quote in Finnish)

"In a simulation session, you get an understanding of where you are in relation to your fellow students." (senior lecturer, original quote in Finnish)

The debriefing focuses on paying attention to impersonal factors in simulation, which means that personal feedback is provided rarely, if not even intentionally avoided. The reason for this is the nature of simulation cases and the basic principle of simulation pedagogy, in which attention is paid to the situation, the process, problem-solving related to the case given, and possibilities to apply the learning outcomes in a real-life context. However, an interviewee pointed out that personal feedback could be extremely valuable for students who are about to graduate as experts in their field of study. With more personalized feedback, their professional self-esteem and understanding of their skills level would rise, which would give them better building blocks for their professional development.

"In the simulation, you have an excellent opportunity to test your abilities in a safe environment, ideally get an experience of succeeding, and most importantly get the other participants to take notice of your performance." (senior lecturer, original quote in Finnish)

Clear goal-setting for learning, as well as for single cases, seems to be one of the success factors. In addition, special attention should be paid to pointing out the importance of soft skills in goal-setting for simulation learning. As mentioned above, debriefing has a central role in learning, but interviewees pointed out that the ability to pose relevant questions in debriefing should be given particular attention. It seems to be extremely important to link the facts and theoretical knowledge to a real-life context. Lecturers emphasized that the resemblance to real business life is the most important asset of simulation learning. Several of them had experience of other collaborative tools used in the classroom setting, but they rated simulation learning among the most practical ones.

"Participants get epiphanies in the debriefing discussion – the better it's executed, the better the results are." (senior lecturer, original quote in Finnish)

"You need practical experience to create real-life cases for the sessions."

The challenges that lecturers confronted during the sessions were quite the opposite to the success factors. Mostly, challenges were related to communication. In the English-language session, most of the participants spoke English as a second language, which quite naturally caused some challenges to fluent communication. Communication challenges can also occur due to the stress and excitement related to a new learning method. Over-reaction should be avoided in such cases. In addition, the lecturers felt that they could have prepared the sessions better. That is, they could have prepared some theoretical aspects to present in the debriefing, and could have planned some core questions to ask participants. Furthermore, some counter-arguments could have been considered more thoroughly beforehand.

It was pointed out that in accounting and finance, the contents are based on hard skills and you need to know the facts before communicating an opinion. Therefore, for some students, practicing soft skills

with cases launched just short before execution and without a long preparation time was difficult. However, the world is complex, tied to uncertainty and imperfect information. It was pointed out that a long time to prepare the session might also raise the standards and the threshold for participating in the simulation. In real working life, you do not always have enough time to prepare and get ready; therefore, this is an extremely important part of future business studies, where, in the long run, communication skills and soft skills should be referred to as core competencies.

"In the field of financial management, your performance evaluation is typically done by hard facts: Did you do the financial statement correctly, did you make any mistakes in accounting, etc. If you got feedback on how you perform in customer relations ... the problem is that this never occurs to one's mind in our field! … It can be that you make no mistakes, but the customer still changes the provider of financial services due to a bad customer experience. And worst of all, you don't even realize the reason for that." (senior lecturer, original quote in Finnish)

The specific requirements from lecturers are general knowledge of simulation as a learning platform, situational and contextual skills, facilitating skills, and hard skills in a topic under discussion. A teacher's ability to build relevant cases related to the knowledge level of participants was seen as very important. However, according to the interviews, soft skills seem to be at the center of simulation learning, even from the lecturers' point of view.

"For tech and finance students, this develops mostly a totally new skill set, whereas in sales and customer services, this develops existing skills but in a new format." (senior lecturer, original quote in Finnish)

Simulation learning seems to make the skill set of participants more visible to teachers. Lecturers pointed out that through simulation, they gained a greater and broader insight into the practical knowledge, execution skills, and soft skills of students. Lecturers also saw participants' awareness of their knowledge and skills increase. In a simulation, it is almost impossible to avoid comparing your performance to that of other participants, unconsciously or consciously. One interviewee had changed his perception of simulation learning from observing actions and analyzing these actions to a possible increase in self-esteem and professional attitude.

One special feature regarding participants' learning was pointed out: namely, the students' attitude toward learning. In customer service simulation, several students had relatively long experience in a customer service function. According to a lecture, some of them had the attitude that they already knew it all. This seems to be a hindrance to learning, but it can also be an extremely radical learning experience to realize that there is still plenty to learn. Interviewees mentioned that simulation learning broadens students' perception of their skills.

4 CONCLUSIONS

The preliminary results of the research show that students of business administration benefited from simulation pedagogy in many ways. From both students' and lecturers' points of view, simulation enriches the learning experience and underlines soft skills that might otherwise go unnoticed.

From the students' point of view, simulation brings variation to studies, complements theory, and promotes peer learning. For example, the students feel that they are in a better position to apply the theory of corporate taxation in praxis and to explain taxation to customers. This research also strengthened the outcomes of previous research about debriefing as the most important part for learning [2], as well as students' understanding of teamwork and professional roles, and their ability to self-evaluate [2, 4]. The previous research has been done in the context of healthcare education, but the experiences from this project give a sign that simulation pedagogy is also usable in business education.

Thinking about simulation learning, it is important to point out that each case in a simulation session is unique. It is unique in the light of participants, group dynamics, and the case given. As an outcome, all the students take part in different cases in different roles. This might cause some uniqueness and even inequality in the learning experience. This can be approached as a general challenge in teamwork or problem (case) based learning. However, the debriefing as a core platform for learning in simulation-based learning is the same for all the participants, but still related to the personal experiences, observations, and interpretations of participants in a unique setting.

Future possibilities seem to be almost endless, according to the interviews. The authors' point of view is that simulation learning is easy to apply to almost all fields of business studies and working life. It

has special importance for traditional hard skills studies, such as accounting, where IT solutions are bringing more effectiveness and fewer mistakes in the execution of hard skills. At the same time, understanding a topic and communicating it bring into the picture the human factor and the extra value that humans can offer for clients. This cannot be delivered to clients without soft skills, meaning that excellent communication and soft skills can offer businesses a substantial, unique competitive advantage.

In the future, according to the lecturers, simulation can be applied to service design, for example in sales and customer service process design. The participants had pointed out some new solutions to traditional problems, which implies some possible effects of the method in problem-solving. Simulation seems to be a relevant platform to apply the wisdom of crowds on a small scale, as well as peer learning.

"One challenge seems to be the holistic nature of the simulation session – it can be applied and built around a vast variety of situations, which might cause some challenges in the choice of cases. The misfit of cases to the topic can become a hindrance to learning." (senior lecturer, original quote in Finnish)

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