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SIMULATION-BASED LEARNING IN OCCUPATIONAL THERAPY EDUCATION (SIMBA)

# Report on Activity 3, Work Package 2:

## Report on an expert focus group on SBL in occupational therapy education

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## Introduction

This report presents the results of an expert focus group study conducted in Work package Two of the Erasmus+ SIMBA (Simulation-based learning in Occupational Therapy) project. This focus group was preceded by a structured narrative review of the literature on professional occupational therapy (OT) competencies and simulation-based learning (SBL) in OT education, which culminated in the development of the first drafts of a *Framework of Occupational Therapy Competencies* and *Guidelines for the Implementation of Simulation-based Learning in Occupational Therapy Education*. The aims of this focus group were:

- To gather information from individuals with specific interest, experience and/or expertise in the implementation of simulation or simulation-based learning (SBL) as a learning and assessment method in occupational therapy education.
- To inform and validate the development of the *Framework* of key professional competencies in occupational therapy and the *Guidelines* for application of SBL in OT education.

## Scope of the focus group

The expert focus group was carried out by project partners from AP Hogeschool Antwerpen (Belgium) and the University of Applied Health Sciences Zagreb (Croatia) in online format. The focus group was conducted in English using a standardized interview protocol developed for the purposes of the focus group. This protocol included themes and questions related to the aims of the focus group study:

- What are the professional occupational therapy competencies most effectively addressed using simulation methodologies?
- How is the sequential development and acquisition of OT competencies integrated into the simulation experience?
- What theoretical frameworks and models inform simulation design in OT education?
- What are the essential elements in simulation design and implementation?
- What is unique about simulation in OT education (i.e., what are unique factors that should be included in simulation for OT education and acquisition of OT competencies; how are theories, models, concepts of occupation and occupational therapy integrated into simulation experiences)?
- What are the factors influencing learning outcomes, learner experience and sustainability of simulation in OT education?
- What are the necessary resources (human, spatial, temporal, material) needed for successful implementation of simulation?
- What are current challenges and/or areas for further inquiry in terms of strengthening current understanding and application of simulation in OT education?

The focus group study received ethical approval from the Ethics Committee of AP Hogeschool Antwerpen (project coordinator) (ex_SHW_2023_14_1) and written informed consent was received by all participants prior to the focus group. The full study protocol, including a description of participant recruitment, data collection and data analysis procedures, is included in Appendix A. The interview protocol is included in Appendix B.

Four individuals participated in the focus group. These individuals were identified and invited to participate based on their professional and scientific expertise and experience in SBL in OT education. Participants were all OT educators involved in the design, delivery, and research of SBL in occupational therapy education. They were all working in university contexts in Europe and Australia.

Two partners from AP Hogeschool (AP) led the focus group and conducted the interview while a third partner from AP was present as an observer for purposes of later transcription. Two partners from the University of Applied Health Sciences (ZVU) were also present as observers, note takers and commenters. The focus group was video recorded with the consent of all participants. The video recording was used to transcribe the focus group discussion in full (AP) and this transcription was subsequently used in further analysis (ZVU).

## Focus group results

The results presented below represent findings arising from a qualitative analysis of the focus group data using an inductive thematic content analysis method. Specifically, the focus group transcript was analysed using the Quirkos software for qualitative analysis by one researcher (ZVU), who reviewed the transcript in detail and gradually identified and coded participant responses according to codes and code categories arising from the transcript content. These codes were subsequently clustered into several themes. Themes and codes were organized into a structured framework, which was subsequently reviewed by a second researcher (ZVU) alongside the original transcript to confirm the trustworthiness of the coded data (i.e., that the analysis accurately reflected the content of the focus group discussion). Table 1 presents the themes and codes arising from this analysis. Each theme will be presented in detail in the following sections.

**Table 1: Results of thematic content analysis of expert focus group (themes and code structure)**

| Theme | Code | Total codes |
|---|---|---|
| **Perspectives on SBL in OT education** | Experience with SBL | 19 |
| | Benefits of SBL | 30 |
| | SBL in OT education | 9 |
| | Interprofessional SBL | 1 |
| **SBL design** | Planning and implementing SBL | 37 |
| | Assessment in SBL | 2 |
| | Diversity and inclusion in SBL design | 10 |
| **SBL as a medium for competency development** | Competencies acquired via SBL | 12 |
| | Competencies difficult to address using SBL | 2 |
| | Gradually developing competencies via SBL | 7 |
| | Learning outcomes in SBL | 3 |
| **SBL challenges** | Challenges in implementation of SBL | 25 |
| | Resolving challenges | 10 |

The completed coding results (i.e., anonymized quotes from the focus group transcript clustered under themes within the coding structure) are included in Appendix C. The results of this focus group study have informed revisions to the *Framework* of occupational therapy competencies and *Guidelines* for the implementation of SBL in OT education.

## 1. Theme 1: Perspectives on simulated-based learning in OT education

During the focus group, participants were asked to describe and reflect upon their experience in the development, design, and implementation of SBL in occupational therapy education. Participant responses were analysed and coded under four unique codes, each of which are discussed in detail below.

### Participants' experience with SBL

Participants reported a diverse range of practice and research experience in implementing and examining SBL in OT education, including evaluation of SBL through a randomized control trial and international collaboration to implement simulation in OT programmes. Participants' experience in SBL implementation included the application of diverse methods and modalities, such as case study, group work, simulated environments and clients, and week-long simulations in which students manage a case load. They also discussed underlying rationale for the inclusion of SBL in their own study programmes. In some cases, this was prompted by reduced opportunities for practical fieldwork during the COVID-19 pandemic, while in other instances, simulation was viewed as a means through which students can gain learning experience in fields in which placements were less accessible (e.g. vocational rehabilitation, mental health). All participants remarked on the notion that simulation might be considered as a potential replacement for (a small part of) clinical placement as a way to more feasibly meet educational programme standards for clinical practice experience.

### Benefits of SBL

Based on their practical and scientific experience in the implementation and examination of simulation-based learning, participants identified numerous potential and actual benefits of SBL in occupational therapy education. This included:

- fostering a safe and supportive learning environment for competency development,
- providing an opportunity to apply theoretical knowledge to practice of professional skills/competencies,
- offering an opportunity for repeated practice in a safe environment (e.g. trial-and-error learning),
- nurturing learner confidence and reducing challenges/errors during fieldwork,
- learning how to build the client-therapist relationship,
- providing an opportunity for self-reflection and self-awareness of own competencies,
- learning how to use and respond to feedback (self-reflection, communication),
- acquiring professional skills (e.g. teamwork, communication, presenting oneself),
- learning at one's own pace.

### SBL in OT education

Participants were asked to offer their insight on what is unique about simulation-based learning in occupational therapy education, or rather how does SBL in this context differ from the application of this methodology in educational programmes of other related professions (e.g. medicine, nursing, physiotherapy). Participants emphasized that SBL in OT education is unique due to the unique nature of the profession itself, in which occupational therapy practice encapsulates a complex transaction between human, occupational and environmental factors with the overall aim of enabling performance and participation in occupations meaningful and important to individuals, groups or communities as a means for achieving health, well-being and quality of life. Participants emphasized that, to be effective in promoting competency development, simulations must capture these essential elements of OT practice. Some participants emphasized that, while in other health professions SBL is focused on acquisition of specific skills or clinical techniques using structured, repeated practice, SBL in OT education should address more complex competencies that involve communication, observation and understanding the interaction between a person, their occupations, and the environment and what's important for a given client. As such, they argued that simulation in OT education requires a unique approach in which students are prompted to inquire and observe these various elements, understand how they interact, identify what's important to understanding the client as an occupational being and subsequently use this understanding to make decisions related to the OT process. One participant emphasized that an important means to achieve this is through the direct integration of models and theories of occupation and occupational therapy into simulation-based learning.

### Interprofessional SBL

In one instance, a participant also described an interprofessional SBL experience in which OT students collaborated with students from other study programmes in a simulation scenario that required students to work in an inter-disciplinary team in a simulated environment to create and implement treatment plans for several clients.

## 2. Theme 2: SBL design

Focus group participants were invited to share their experiences and insight into the process of planning and implementing SBL in occupational therapy education. Analysis of their shared perspectives identified several key elements important in SBL design and implementation for ensuring effective and sustainable learning, competency development and evaluation.

### Planning and implementing SBL

During the discussion around planning and implementing SBL, participants highlighted a number of key features that should be present in order to ensure a feasible, successful, and sustainable simulation. First and foremost, adequate preparation, training, and education of all simulation participants (students, educators, facilitators, simulants) was emphasized by all experts. This includes education and training regarding the scope or role of each participant; assignment of tasks, expectations and responsibilities; setting clear learning expectations and outcomes; preparation and familiarization of case studies; establishing how/when to facilitate learning and performance during a simulation; and familiarizing volunteers, actors or actual clients with the simulation scenario and preparing simulants to authentically fulfil the client role and (when applicable) respond and provide feedback to students.

In addition, participants identified several other specific considerations deemed essential in SBL, including:

- carefully weighing the potential risks, costs, impacts and benefits of the methods, modalities, tools and other resources required to successfully implement a given simulation,
- ensuring authentic and reproducible situations and scenarios that offer students the perception of a ‘real’ practice experience,
- providing sufficient preparation to students prior to participation in the simulation, including familiarization with the nature of the simulation and its objectives, the simulation process (what they will do), and the skills or competencies they are expected to develop,
- securing the necessary time, space, and funding for successful implementation with the programme,
- planning and integrating structured debriefing within the simulation experience in which students give and receive feedback, engage in self-reflection, and identify areas for ongoing learning (i.e. create an action plan for applying feedback),
- ensuring that feedback provided during simulation is student-centred, strengths-based and competency-focused.

Indeed, these latter elements of debriefing and feedback were identified by experts as an especially meaningful and important component of the simulation experience in which the act of giving and receiving feedback during simulation enabled students to make better use of later practice situations by allowing them to receive, reflect on, and apply feedback more readily. Participants agreed that feedback can come from many sources, including educators and/or simulation facilitators, peers and through self-evaluation. Encouraging students to receive, reflect upon and determine an action plan related to feedback might be achieved during debriefing sessions but also through written activities and self-reflection tasks. One participant also discussed a simulation experience in which simulated clients offered feedback to students. In this case, feedback was not focused on simulation content or student performance but rather on the client experience (i.e., how they would have felt in the situation had they been an actual client). In all instances, ensuring that the student can successfully and effectively receive and give feedback was reported to be an important element in preparing students prior to simulation (*prebriefing*). Finally, ensuring that the simulated clients and facilitators also receive feedback following the simulation was also identified as important.

### Assessment in SBL

While assessment and evaluation within the SBL paradigm was not a topic of focus for this focus group, participants did mention this as another important element to consider when planning and implementing simulation. Firstly, participants agreed that any assessment method should be grounded in clearly defined learning outcomes. Secondly, one participant emphasized that the assessment method used in a simulation experience should align with the method used for assessing student performance in clinical practice (e.g. uses a similar evaluation scale, evaluates similar/same competency domains). This was deemed important to ensure that assessment was authentic and that students become familiar with the competencies on which they will be evaluated during clinical placement.

### Diversity and inclusion in SBL design

During the focus group, participants were asked to reflect on the manner in which issues related to diversity and inclusion (among client groups as well as among students) might be addressed in SBL design. For participants, careful scenario design and construction of simulated cases was an important means for ensuring that the cultural, gender, socioeconomic and language diversity of a given context was adequately and appropriately reflected. In addition, strategies for supporting students with diverse learning levels and needs were discussed by participants. This included following up with individual students as required and ensuring physical, socio-cultural, and technological accessibility for all students. Examples reported by participants included:

- ensuring access to and sufficient competency for using equipment and technology necessary for completing the simulation,
- conducting simulations in physically accessible and accommodating spaces,
- being aware of and understanding how some student groups might be confronted or uncomfortable with certain case content,
- understanding and respecting cultural differences in certain elements of practice (e.g., communication style and practices, portraying oneself as a professional, client-therapist interactions).

One participant discussed the potential role of *co-production* of simulation experiences as a means to develop more diverse, inclusive and authentic scenarios, in which scenarios are developed in a collaborative fashion with input from various stakeholders (educators, students, volunteers, practitioners, OT service users).

## 3. Theme 3: SBL as a medium for competency development

An important theme included in the focus group was the potential of SBL as a method for supporting development of occupational therapy competencies. In the discussion on this topic, participants identified the competencies they perceived as most suitable for the SBL paradigm as well as those more difficult to address using simulation methodology.

### Competencies acquired via SBL

Based on their experience and expertise in the application of SBL in OT education, participants identified numerous occupational therapy competencies deemed appropriate for simulation. In general, they emphasized that simulation should address competencies at various learner levels (i.e. from beginner-level competencies to the advanced skills of the proficient practitioner). More specifically, competency areas named by participants included:

- communication skills, such active listening, demonstrating empathy, gathering information using appropriate questions (especially for sensitive information),
- interacting and building a therapeutic relationship with a client,
- examining and responding to ethical issues,
- performing one or more elements of the occupational therapy process using a process model (assessment, goal setting, intervention planning…),
- applying evidence to support decision making in the OT process, communicating this evidence to client and/or colleagues, and responding appropriately in a setting where practice is not evidence-based,

- supporting client's acquisition of daily living skills (e.g. using public transport).

### Competencies difficult to address using SBL

When participants were asked to identify any occupational therapy competencies that might be more difficult to address under a simulation paradigm, one participant expressed the challenges inherent in simulating competencies and skills for working with (young) children. However, another participant reported that recently they had begun working with *SIM babies* (authentic simulator mannequins used to simulate an infant) in scenarios involving specific OT competencies in paediatrics, suggesting that modern simulation technology might offer solutions for addressing specific competencies and practice areas in OT education.

### Gradually developing competencies via SBL

During the discussion of occupational competencies that might be addressed using SBL, participants highlighted the importance of aligning simulation experiences with the gradually developing nature of competency acquisition. That is, simulation should be planned with careful consideration of the proficiency level of the learner and align simulation expectations and learning objectives with student levels across various stages of the educational programme. Furthermore, simulation experiences should be sufficiently flexible to allow for grading and scaffolding and the development of scenarios that offer varying levels of complexity depending on the learning stage at which it will be implemented. Participants described how grading complexity can be achieved in part through the identification of the specific competencies to be acquired or performed, where simulation in early learning stages was typically focused on concrete professional competencies related to conducting the OT process as a means to prepare students for their first placement experience while simulation experiences in the final year of study addressed more complex competencies in interprofessional collaboration and communication. In all cases, participants agreed that appropriately graded simulation experiences that align with objectives at different stages of learning should be integrated across the entire study programme. In this way, simulation offers a gradual learning experience in which students progressively build upon previously acquired skills to develop proficiency in increasingly complex competencies.

### Learning outcomes

As previously mentioned, focus group participants agreed that clearly defined and competency-based learning outcomes are an important element in simulation design and a means through which simulation experiences can offer increasing complexity as the student progresses through an educational programme. Indeed, learning outcomes were emphasized as a means to establish a clear understanding of the ultimate goals of the simulation and the manner in which these goals align with the aims of a given educational programme. However, participants also recognized that, while a given simulation experience should include clear and concrete learning outcomes, the actual experience of individual students will vary in a single simulation and individual learning needs will differ student to student. For one participant, this meant that a simulation should also allow for sufficient flexibility in adapting to and addressing individual learner levels and needs rather than focusing solely on predefined learning outcomes and standardized scenarios/scripts.

## 4. Theme 4: SBL Challenges

During the discussion about their experiences in using simulation in OT education, participants identified a number of specific challenges that can and do arise during design and implementation phases as well as strategies that have been successful in resolving, avoiding or otherwise minimizing these challenges.

### Challenges in implementing SBL

Participant responses regarding challenges experienced in the implementation of SBL could generally be grouped into four general categories, which are summarized and described in Table 2.

**Table 2: Challenges in SBL design and implementation**

| Area of challenge | Description |
|---|---|
| **Student engagement** | - students failing to take simulation seriously (especially in later years of study or after returning from fieldwork)<br>- offering a consistent simulation experience across a very large cohort<br>- each student does not have opportunity to engage in a scenario with every client group |
| **Feasibility & sustainability** | - resource intensive nature of SBL<br>- cost of simulated patients and/or actors<br>- difficulty securing adequate funding<br>- challenges in securing an adequate equipment base<br>- securing time and resources for adequate preparation and continuous support of all participants (e.g. simulated patients, facilitators…) |
| **Challenges in simulation design and implementation** | - integrating simulation at an appropriate timepoint in the programme (i.e., not too early, nor too late)<br>- constructing a simulation with adequate complexity<br>- consistent adherence of facilitators to simulation scenarios, standards, or guidelines |
| **Insufficient empirical evidence for SBL in OT education** | - limited evidence for impact of SBL in OT education, particularly in later years of study (for more advanced learners)<br>- limited evidence examining student perspectives on SBL in OT education (e.g. value of simulation, satisfaction, perceived knowledge/skill acquisition)<br>- lack of evidence examining whether simulation is better at achieving certain learning objectives than other teaching methods or modalities<br>- lack of evidence examining the potential of simulation to (in part) replace clinical practice hours |

### Resolving challenges

Alongside identified challenges, focus group participants also offered several potential and actual solutions for addressing these challenges based on their own experiences in the design and implementation of SBL in OT educational programmes. For example, one participant discussed how lack of seriousness or engagement among students was often minimized through the 'power of the group', where more engaged students who approached the simulation as a 'real' practice situation acted as role models for less engaged students. Such peer-to-peer modelling and feedback was an important element in establishing expectations and roles in a group simulation experience. Participants also mentioned that student engagement is also improved when the preparation phase prior to the simulation (i.e., prebriefing) provides sufficient information about the aims and potential outcomes of the simulation and clear expectations for students.

For all participants, ensuring adherence to simulation scenarios, standards and guidelines can be supported by strategies for adequately training and supporting all simulation participants throughout the development, preparation, and implementation process. This included things such as clearly defined and standardized scenario scripts, video demonstrations or other examples of various aspects of the simulation process, and teaching manuals or other resources in which specific guidelines for conducting various aspects of the simulation process (e.g. different modalities, how to plan a debriefing or provide feedback, simulation for small/large groups) are provided.

Participants also identified several strategies used to mitigate cost and resources challenges, particularly in relation to the costs of employing simulated clients or paid actors. For this purpose, participants reported engaging volunteers (sometimes retired health care professionals), other staff members or senior year students as simulated clients or using written or digital case scenarios. For one participant, use of case scenarios also

allowed for the construction of more diverse and complex client cases beyond that which could be readily and authentically simulated by a volunteer or actor.

## Conclusion

The results of the focus group study presented in this report have provided an overview of the perspectives of four international experts regarding numerous aspects in the design, implementation, and examination of SBL in OT education, as well as the potential impact of this paradigm in supporting professional competency development among OT students. This study has succeeded in addressing its first aim, that is to gather information from individuals with specific interest, experience and/or expertise in the implementation of simulation or simulation-based learning (SBL) as a learning and assessment method in occupational therapy education. Indeed, many of the views expressed by participants represent a shared understanding of the potential for simulation in occupational therapy and specific aspects, challenges and solutions in the design and implementation of SBL in OT education. Participants also provided valuable insight into the potential future of simulation in occupational therapy and directions for the development of clear guidelines and standards of practice for implementation of SBL in OT education. Indeed, focus group participants were invited to offer specific feedback, comments, and suggestions on the first draft of the *Guidelines* developed in the SIMBA project. These perspectives were integrated into the coding analysis and informed revisions to these *Guidelines*. Finally, directions for further research into the effectiveness and value of simulation for promoting acquisition of occupational therapy competencies also arose during the focus group discussion.

Together, the findings of this study offer a rich resource for ongoing development of the *Framework of Occupational Therapy Competencies* and *Guidelines for the Implementation of Simulation-based Learning in Occupational Therapy Education* within the SIMBA project. Integration of the perspectives of experts in this process together with the results of an in-depth review of the literature and a stakeholder focus group study will ensure that the final Framework and Guidelines offers a complete, valid, and useful resource for ongoing development, implementation, and research in simulation-based learning in occupational therapy education.

## Appendix A: Expert focus group study protocol

Available upon reasonable request

## Appendix B: Expert focus group interview guideline

Available upon reasonable request

## Appendix C: Expert focus group thematic content analysis

Available upon reasonable request