Level I FW in a Simulated Environment: A Blueprint on How to Use Simucase™

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Abstract
Simulation education is a sought-out teaching modality in allied healthcare education to bridge the classroom and the clinic. In addition to developing healthcare student professionals’ skills, attitudes and key competencies, simulation can also be used to address the national fieldwork shortage, as well as site capacity issues related to the current pandemic. Although the Accreditation Council for Occupational Therapy Education (ACOTE) has recently indicated that simulation is an acceptable method to deliver Level I fieldwork, there are limited resources available. This paper will provide a pedagogical blueprint for incorporating computer-based simulation and case-based learning principles using the Simucase™ platform for a one-week, Level I fieldwork experience. A model of best practice for a Level I fieldwork experience will be shared, to include a framework with learning objectives, example syllabus, student assessment, and debriefing rubric. This model aligns with the Occupational Therapy Education Research Agenda, which challenges the profession to expand faculty development, provide resources on instructional methods and identify signature pedagogies in occupational therapy fieldwork education.

Keywords
Simulation, occupational therapy, fieldwork education

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Acknowledgements
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ABSTRACT
Simulation education is a sought-out teaching modality in allied healthcare education to bridge the classroom and the clinic. In addition to developing healthcare student professionals’ skills, attitudes and key competencies, simulation can also be used to address the national fieldwork shortage, as well as site capacity issues related to the current pandemic. Although the Accreditation Council for Occupational Therapy Education (ACOTE) has recently indicated that simulation is an acceptable method to deliver Level I fieldwork, there are limited resources available. This paper will provide a pedagogical blueprint for incorporating computer-based simulation and case-based learning principles using the Simucase™ platform for a one-week, Level I fieldwork experience. A model of best practice for a Level I fieldwork experience will be shared, to include a framework with learning objectives, example syllabus, student assessment, and debriefing rubric. This model aligns with the Occupational Therapy Education Research Agenda, which challenges the profession to expand faculty development, provide resources on instructional methods and identify signature pedagogies in occupational therapy fieldwork education.

Practical, hands-on training has been a required part of occupational therapy education for nearly 100 years, with “practice and handiwork” being the early descriptors of this experiential educational requirement (American Occupational Therapy Association [AOTA], 1924, p. 3). It was not until 1973 that the term fieldwork education was officially used by the profession, as well as a formal differentiation between Level I and Level II fieldwork (American Medical Association [AMA] & AOTA, 1973). Level I fieldwork is defined as an introductory experience which provides students the opportunity to apply knowledge to practice and to develop understanding of the needs of clients.
(Accreditation Council for Occupational Therapy Education [ACOTE], 2018). The newly adopted accreditation standards indicate that Level I fieldwork can be met in a variety of ways including *simulated environments*, standardized patients, faculty-practice, faculty-led visits and supervision by a fieldwork educator in a practice setting (ACOTE, 2018). Simulated environment is further defined by ACOTE (2018) as “a setting that provides an experience similar to a real-world setting in order to allow clients to practice specific occupations” (p. 54).

Simulation can be described as a teaching-learning modality that replaces or strengthens real experiences with guided ones that evoke and reproduce aspects of the real scenarios using an interactive approach (Ferguson et al., 2020). Evidence indicates that simulation provides various opportunities for allied health, nursing, and medical students to develop competence and confidence (Aebersold, 2018; Imms et al., 2018; Mieure et al., 2010; Mills et al., 2020; Niemeyer, 2018). Although ACOTE (2018) has recently indicated that simulation is an acceptable method to deliver Level I fieldwork, there are limited resources available in occupational therapy.

This paper will provide a pedagogical blueprint for incorporating computer-based simulation and case-based learning principles using the Simucase™ platform for a one-week, Level I fieldwork experience (Ondo et al., 2019). A model of best practice for a Level I fieldwork experience will be shared, to include a framework with learning objectives, example syllabus, student assessment, and debriefing rubric. An overview of how the Simucase™ platform also supports case-based learning theory and integration of the occupational therapy process into the fieldwork experience will also be provided.

Clinical competence is the foundation of occupational therapy education (ACOTE, 2018; AOTA, 2007, 2016) and using simulation provides students an opportunity to interact with virtual client scenarios, practice the required clinical skills, and avoid risk of injury or harm to the actual patient who may be vulnerable. Simulation as a Level I fieldwork is a valuable opportunity for occupational therapy faculty and students alike. It can be a viable solution to address the historical fieldwork site shortage (Evenson et al., 2015; Lavelle et al., 2019; Roberts & Simon, 2012; Stutz-Tanenbaum et al., 2015; Thomas et al., 2007) as well current fieldwork site capacity issues related to the current global pandemic (Harvison, 2020). As a fieldwork modality, Simucase™ can be used to promote student reflection, clinical reasoning, and clinical learning throughout the fieldwork experience.

**Description of the Technology**

Simucase™ is a computer-based simulation platform that provides students with interactive experiences designed to teach the complete occupational therapy process (e.g. screening, evaluation, intervention, and discharge planning) using virtual client scenarios (Ondo et al., 2019). The platform was developed in 2009 and clinical content has been commercially available for speech-language pathology student practice since 2013. Occupational therapy programs have been utilizing the technology since 2019 and saw rapid expansion to over 150 programs within one year. This technology showcases real client scenarios via video recordings and has allowed many
occupational therapy programs to strengthen didactic and experiential learning opportunities in their curricula, as well as respond to known barriers such as fieldwork site shortages and closed clinics due to the COVID-19 pandemic (M. Lavelle, personal communication, July 23, 2020).

The Simucase™ scenarios provide students with the opportunity to repeatedly practice clinical skills in a safe, asynchronous learning environment which yields a high degree of exposure to clinical scenarios. Currently, this simulation technology is aligned with various allied health professions such as physical therapy, speech-language pathology, audiology, and occupational therapy. The interdisciplinary focus also affords opportunities for interprofessional education and collaboration, which is required learning in occupational therapy education (ACOTE, 2018; Lavelle et al., 2019). By combining computer-based simulation methodology with case-based learning (CBL) principles, students create a diverse knowledge bank to refer to in future clinical practice (Kolodner & Guzial, 2000; Raurell-Torreda et al., 2014). Differing from other virtual learning resources, Simucase™ offers a comprehensive platform including simulations, part-task trainers (short scenarios focusing on one skill), and an observation video library. Occupational therapy educators can pick and choose which components of the Simucase™ platform to use, based upon the developmental level of the student and/or the desired learning objectives. Although the model presented in this paper pertains to a Level I fieldwork experience, Simucase™ can be an advantageous resource to supplement clinical learning within other didactic coursework. The Simucase™ platform includes:

- **Simulations**: provide opportunities for the student to observe, screen, assess, report findings and make recommendations, and provide interventions to virtual patients across the life span (ages 2 – 80 years old) and within various practice settings such as acute care, outpatient, community-based practice, home health, early intervention, school-systems and more.

- **Patient video library**: includes 700+ video clips of virtual patients across the lifespan (newborn to 95+ years old) from over 20 topic areas including neurological, biomechanical, cognitive-perceptual, behavioral and mental health, assistive technology, health and wellness and more.

- **Part-task trainers**: used to improve skill sets necessary to complete a specific task. For example, administration and interpretation of a standardized assessment such as the Motor-Free Visual Perception Test-Fourth Edition (MVPT-4), Goal-Oriented Assessment of Life Skills (GOAL), or the Test of Visual Perceptual Skills – Fourth Edition (TVPS-4) (“Simucase: Clinical Simulations and Observations Videos”, n.d.).

The student is able to select from two modes when starting a simulation: learning mode or assessment mode. **Learning mode** provides the student “specific, real-time feedback relative to their clinical decision making” (Ondo et al., p. 7). For example, if a student makes a poor decision or makes an error, they will receive feedback and be redirected to attend to a necessary component of the case. This is beneficial to provide repeated practice and promote clinical mastery. **Assessment mode** is designed to provide overall
summative assessment of the student’s performance on the simulation. There is no specific feedback that is provided regarding specific actions taken by the student during the case. Feedback and a final competency score are provided when the student submits the simulation (Ondo et al., 2019).

The scoring within Simucase™ is based upon the strength of the clinical decision making of the students. For example, students earn points for “good, reflective decisions” and lose points for “poor”, unsafe, or unethical decisions or a response that is irrelevant to the simulation (Ondo et al., 2019, p. 6). There are also decisions deemed acceptable, where a student neither earns nor loses points. The points earned in each section are totaled to determine the overall competency level of the student. A score of 90% or higher indicates mastery competency, 70-89% developing competency, and lower than 70% score indicates emerging competency (Ondo et al., 2019). While the platform does not provide a standard cut-score for pass / fail performance, learning mode can allow the student to continue to try and process through the case until 70% developing competency is reached. A dashboard for faculty and fieldwork educators is also available to monitor student progress and completion of assigned simulations. The dashboard feature allows faculty to view student data as a cohort, in smaller groups (for example, aligned with a particular simulation) or individual student performance. Faculty can obtain the students’ final competency score and view the Simucase™ report as well as the total time the student took to complete the simulation. Due to the vast capabilities of the Simucase™ platform, it is feasible that it can be used to recreate all or part of an occupational therapy fieldwork experience, such as Level I.

**Literature Review on Simulation Education and Case-Based Learning Pedagogy**

Simulation pedagogy is a prevalent action-based teaching learning paradigm in health care education (Lavoie & Clark, 2017; Nithman et al., 2016) including occupational therapy (Bethea et al., 2014). Occupational therapy faculty, particularly academic fieldwork coordinators, are challenged to bridge the gap between the classroom and the clinic. The use of simulation can be a suitable teaching method to employ. Simulation is commonly described using a degree of fidelity, which refers to the “degree of realism associated with a particular simulation activity” (Cunningham et al., 2018, p. 11). While the literature varies around the fidelity of simulation, for purposes of this model, the authors define peer-practice, paper-case studies and role play as lower fidelity simulations, whereas standardized patients, human patient simulators and simulation labs that can mimic physiological responses are closer to the high-fidelity range of simulations (Bennett et al., 2017). Low fidelity simulations are preferred to develop introductory learners and provide a context for students to be exposed to certain aspects of a real-life scenario yet leave out particular aspects of a real-life encounter. Although Simucase™ is a virtual teaching-learning platform, due to the real client scenarios, interactive nature of the technology, and immediate feedback received during decision making, Simucase™ can be argued to be near the higher-end of the fidelity spectrum for simulation education.
Analogous to the utilization of any new teaching modality, faculty development and preparation is key (Burke & Harvison, 2014) to both support the implementation of the simulation (Bethea et al., 2014) as well as student learning and outcomes (Karacay & Kaya, 2020; McGaghie et al., 2009; Warren et al., 2016). One faculty instruction strategy to use alongside of simulation is debriefing (Bauchat & Seropian, 2020). Most debriefing models follow a pre-brief, scenario, and debrief structure. Pre-brief is often used to ensure the learner understands the technology, to introduce the clinical simulation by presenting the referral and answer potential questions, and to provide an overview of any assignments connected to the practice. The pre-brief is often important to establish the learning objectives and should occur prior to the simulation experience to provide context to the client or case, the experience, or key points to consider in advance of the scenario. During the debrief, students should come prepared to ‘tell the client’s story’. Students are encouraged to identify the areas where they excelled as well as areas for growth during the experience. The debrief should also review what was learned and highlight how this information might be applied to clients they see in the future (Bae et al., 2019). Sawyer et al. (2015) suggested a ‘Gather, Analyze and Summarize’ structure for post-simulation debrief with intentional prompts for the faculty facilitator to promote guided self-reflection on the scenario and learning tasks. Creating a standardized format for faculty to facilitate debriefs is a known best practice approach in simulation education (Kessler et al., 2014). PEARLS (Promoting Excellence and Reflective Learning in Simulation) is another debriefing approach which suggests scripted language to be used among facilitators (Eppich & Cheng, 2015). The size of the debrief groups is also an important factor in the design of the simulation. The use of small groups is known to be more effective (Tosterud et al., 2014), with some data promoting groups containing less than six students is ideal (Adamson, 2015). In addition to debriefing, structured student assessment via a rubric is another critical component to use along with simulation pedagogy (Lasater, 2007; Miraglia & Asselin, 2015). Recent evidence indicates that rubric-based debriefing within simulation education is shown to increase students’ critical thinking (Wong et al., 2020) which is an essential component in the development of clinical competency in occupational therapy education.

The Simucase™ platform provides a learning experience that combines simulation education with faculty instruction, using a CBL approach, which is another teaching practice familiar among health professional training (McLean, 2016). Using guided inquiry as a basis for learning, CBL promotes self-directed behavior, stimulates the process of knowledge discovery and integration, and promotes an exploration of ambiguity via the use of authentic clinical scenarios, structured discussion, and debriefs (Thistlewaite et al., 2012). Differing from problem-based learning (PBL), CBL requires learners to recall previously learned content to solve clinical cases, which is the true foundation of clinical practice (Srinivasan et al., 2007). Another difference between CBL and PBL is the role of the instructor/facilitator. In PBL, the role of the instructor is minimal, whereas in CBL, the instructor and the learners share responsibility for the learning and the process (Srinivasan et al., 2007). This notion of a shared exploration of learning and guided discussion is an inherent component within simulation education and promoted within the Simucase™ platform. While there is research on the impact of simulation and CBL as singular teaching approaches, there is limited information on the
use of these two approaches together in occupational therapy education, specifically combined with fieldwork education. A model framework using simulation and CBL to accomplish Level I fieldwork will be presented next.

**Incorporating Simucase™ into the Fieldwork Education Process**

As part of a Level I fieldwork, thirty-two entry-level occupational therapy students during the third semester of their professional education completed a 40-hour, one-week experience using Simucase™. The simulated fieldwork experience was used to replace a previously scheduled face-to-face experience in April 2020 which was abruptly cancelled due to massive fieldwork site closures as a result of COVID-19. The experience was thoughtfully designed to provide students with a variety of cases across the developmental continuum, diagnoses, and components of the occupational therapy process. Appendix A shares the syllabus of the model and is inclusive of all cases and expectations of the students throughout the week-long fieldwork experience. The faculty designed this program to ensure the same rigor and objectives of a traditional fieldwork rotation would be met throughout the week, to include a heavy focus on clinical reasoning and adherence to the academic program’s traditional Level I fieldwork behavioral objectives through the structured debriefing process. As evidenced in Appendix A, structured debriefing was an integral part of this fieldwork experience. Four faculty members were involved as fieldwork educators to facilitate debriefs with students in smaller groups and to perform student evaluation. Debriefing groups met one to two times per day via web conferencing to process their learning. Over the course of the week, students were required to submit a deliverable ahead of their scheduled debrief using the academic institution’s learning management platform, Blackboard™. Deliverables in this model included journal reflections, written samples of documentation based upon simulations, recorded video clips where the student demonstrated a relevant intervention aligned with a virtual scenario, and a Simucase™ competency report, which is provided by the platform after the completion of certain activities. Appendix B provides the rubric that was used by the occupational therapy faculty fieldwork educator to measure various aspects of the students’ performance during the one-week fieldwork experience such as engagement, professional communication, and clinical competencies. The rubric was created by the occupational therapy faculty and adapted from key principles within the literature including assessment of the frequency and quality of student engagement, and measurement of key aspects of clinical reasoning and judgment within simulation education (Carnegie Mellon University Eberly Center for Teaching Excellence, n.d.; Lasater, 2007).

As students progressed through the week, they were required to complete various tasks aligned with the occupational therapy process (AOTA, 2020) such as conduct a chart review and build an occupational profile, develop an intervention plan, complete a standardized assessment (using Simucase’s Part Task Trainer program), and apply frames of reference and various aspects of clinical reasoning in each simulation scenario. To further illustrate how this fieldwork model can be used, the authors provide a detailed review of how Day 2 (referenced as Tuesday on Appendix A) was facilitated.
In an effort to be student-centered, prior to the start of the one-week fieldwork experience, students were directed to self-select from Simucase™ certain cases and tasks, which included a Part Task Trainer in Simucase™. Students were instructed to select cases or tasks that would give them the most diverse experience based upon their previous Level I fieldwork experiences and future planned Level II fieldwork experiences. The Part Task Trainer is a component of the platform that allows users to practice specific skills required for competence, such as administration of standardized assessments or fabrication of orthotics. Based upon prior knowledge and skills learned in the didactic curriculum, the students had the opportunity to choose between the GOAL, TVPS-4, or Cognitive Linguistic Quick Test Plus (CLQT+) assessments within the Part Task Trainer.

On the morning of Day 2, students completed the full Part Task Trainer independently. After completing the task-trainer, students received the Simucase™ report reflecting their competency score and uploaded the report to the course learning management platform, Blackboard, prior to the midday debriefing session. All students assigned to that particular assessment met with a faculty fieldwork educator to review what they learned and what questions they had through a structured debrief process. The following questions provide an example of prompts used by the faculty fieldwork educator to debrief with students in the TVPS-4 group. The suggested prompts are derived from Simucase™ within the faculty platform and are shared with permission of Simucase™:

- What did you learn from this experience?
- What is the purpose of the TVPS-4?
- Why is it essential to read the manual?
- What was the outcome of the selected screening/assessment measure?
- What if any errors were made during test administration and scoring?
- What went well with test administration?
- Describe the prompting rules with the TVPS-4.
- Describe the basal and ceiling rules with this test.
- How is this test different from other test administration protocols you have used?
- How do you interpret the results of the assessment? How would the results correlate to classroom or ADL performance?
- How would you summarize the results and communicate your findings to an OT, teacher, or parent?
- What would you do differently next time?

Following the midday debrief, students spent the afternoon performing documentation on the client they “followed” through Day 1. After creating a plan for intervention and submission of a video clip demonstrating their intervention, each student wrote a progress note using a traditional SOAP (an acronym for subjective, objective, assessment, and plan) note format (Sames, 2014) and uploaded the completed documentation to Blackboard. Faculty fieldwork educators reviewed and provided feedback on the documentation prior to the debrief. Students met with the debrief group virtually and engaged in a facilitated discussion about the scenario and documentation activity. Faculty fieldwork educators completed the rubric in Appendix B following each
debrief session. The daily rubrics were averaged at the end of the week with comprehensive summative feedback on overall engagement across the entire experience.

At the end of the week, overall performance is evaluated in a similar manner to traditional fieldwork. For student performance, faculty used a combination of the overall feedback and score related to behavior/participation/engagement in debriefing sessions on areas such as professional behaviors, professional skills, confidence, and previously set goals for the week. Students also completed a final evaluation created by the faculty at the end of the week (Appendix C), which stimulated self-reflection on their overall experience with the Simucase™ platform and their perception on learning, including professional behavior and skill development.

Technology/Equipment Needed
Simucase™ is a cloud-based application that requires: a web browser and high-speed internet connection, HTML5 Browser with audio/video, JavaScript enabled, and Adobe Acrobat Reader. Supported internet browsers include Safari version 10.0 and above, Firefox version 68.0 and above, Internet Explorer 11.0 and above, Edge 16, and Chrome version 76 and above (Ondo et al., 2019). A browser test is offered on the website to verify technology functioning.

Training/Costs
Subscription costs range from $59/semester to $99/year per student which includes complimentary accounts for faculty within the occupational therapy program. All subscriptions include unlimited access to the Simucase™ platform, user guide and resources. The authors recommend faculty users to attend the webinar trainings provided by the Simucase™ team. Training and support are provided by Simucase™ to faculty and students on a consistent basis.

Benefits and Challenges of Use
Simucase™, as a means to deliver Level I fieldwork presents benefits and some challenges for both occupational therapy faculty and students. To illustrate student perspectives, anecdotal feedback obtained from the final student evaluation and reflection (Appendix C) will be integrated within this next section.

Benefits
Simucase™ is a cost-effective means of providing clinical training experience for the students. The different modes in Simucase™ provide an appropriate learning context for introductory fieldwork such as Level I. The simulation learning activities can successfully meet Level I fieldwork requirements; thus, reducing the strain on practice settings. Each virtual scenario is created from an actual client and is submitted by a practicing clinician. The learning mode provides feedback to the student as they move through the simulation, which allows for repeated practice of skills. In regard to the real-time feedback in the platform, one occupational therapy student shared, “Using Simucase helped increase my confidence because I received immediate feedback about the decisions I was making with the clients. I was able to see that I was making the right
choices when in real life I might not have received the same type of feedback”. In reference to how they integrated the platform’s feedback, another student stated: I found myself doing very well on the Simucase assessments and problem solving. It took me a little longer to complete the cases, but I was trying to really take my time and take it all in. I enjoyed the feedback it gave me, whether I did something correctly or incorrectly, but I also tried not to focus on whether the circles were full, but more on if I understood the case and could reason my choices correctly.

A unique benefit of Simucase™ compared to other virtual clinical video libraries is that it is designed to measure student skills and enhance clinical competency. These skills include observation, interviewing, collaborating with other professions, administering assessments, making recommendations and providing intervention, which are familiar skill sets to be developing and building during Level I FW. In reflecting on their skill development, one student shared, “Through using Simucase I was able to further my evaluation, goal writing, and documentation skills. I felt much more confident this fieldwork in my abilities to be ethical, client-centered, realistic, and accurate in my writing”.

An additional benefit of computer-based simulations such as Simucase™ is the feedback and scoring algorithms are built into the system. The simulation scoring is based upon strength of the clinical decision making of the student. Simucase’s virtual patients vary in age, diagnosis and practice settings. Therefore, students are exposed to practice settings or populations that may not be available or easily accessible in a particular geographic region or clinical site. Students reported the following in the post-evaluation: “I felt that this virtual fieldwork experience has enhanced my skill set and comfortability in working with different populations and diagnoses” and “hearing from other people in the group and professors really helped me to broaden the knowledge in a different setting, as we did the different cases and had various experiences with different populations”. Due to the virtual nature of Simucase™, students are able to engage in a low-stakes learning environment to build competencies. One student stated “This experience was in a way completely safe for the clients involved which personally allowed me to feel more comfortable in taking more risks and in challenging myself” and another student felt the virtual experience gave her “more freedom to make errors without affecting a client in person and still learn from the error with feedback from faculty and our peers”.

With the assistance of simulations through debrief mode, faculty can facilitate a reflective learning process by utilizing the prompts provided by Simucase™ in debrief sessions. With prompts provided by Simucase™, students are able to develop and discuss aspects of clinical reasoning during these sessions. The debrief component is often discussed as one of the most meaningful phases of the learner in the simulation process. One student noted, “The debriefing sessions were really helpful for me to articulate my clinical reasoning and any questions I had for the professor. These virtual debrief sessions allowed me to have the chance to communicate what I thought about certain cases/assessments and helped me improve my communication skills”.

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Challenges

Several challenges to completing Level I fieldwork within a simulated environment were identified. Barriers and challenges experienced by the authors and student cohort where consistent with existing literature on simulation education, which center around timing, scheduling, and the learning curve of acclimating to a new technology (Bethea et al., 2014). Based on best practice for debriefing, multiple faculty members are needed to offer appropriate support for student learning, facilitate debriefing and conduct ongoing student assessment. Smaller debriefing groups were preferred by students, “when there were four groups instead of three, the experience was significantly better… conversation was significantly better and more thought provoking”. Therefore, depending on cohort size, finding the balance of faculty to student groups can be challenging. With increased number of faculty involved, ensuring cohesiveness with debriefing sessions and grading techniques requires ongoing communication prior to, during and after the week of simulation.

Faculty require additional time to grade daily assignments, complete daily rubrics, provide comprehensive summary feedback and to communicate outside of designated debriefing times. Providing adequate time for faculty to complete these activities impacts the overall success of the simulation (Giles et al., 2014; McWilliam & Botwinski, 2010). Discussion and reflection during the debriefing are important aspects of the learning process. Challenges arise if students do not feel comfortable speaking out or feel they do not have the opportunity to be heard. One student shared “I feel as though it was difficult sometimes to talk during the debriefs sometimes because it had to be one at a time and sometimes you end up talking over someone else.” Ensuring all students have the opportunity to express themselves is a challenge for those leading the debriefings. Most of the learning activities are completed asynchronously and individually by the students which can present as a challenge if students are not trained on using the simulation platform and/or lack clarification about the requirements for the assignments. Simucase™ does not recommend that users implement the platform unless they participate in a training beforehand. Training options are provided synchronously and asynchronously for faculty and students. Online simulation education, in general, could be an unforeseen challenge if technological issues occur such as WiFi connectivity. However, Simucase™ support is robust for students and accessible through email, chat or phone.

Accommodations for diverse learners is also critical for educators to consider when selecting and implementing a new teaching modality. Multimodal feedback is provided to students as clinical decisions are made throughout the simulations. This feedback is designed to meet various needs of student learners through visual and auditory prompts. Visual, color-coded prompts with written feedback and distinct, auditory prompts accompany each reflective/strong clinical decision and rejected/poor clinical decision. Audible responses within the simulations are also transcribed to ensure equitable access to the content. Additional individualized accommodations can be provided by contacting the Simucase™ team. Faculty should also collaborate with their Office of Disability Services to address specific student needs or accommodations prior to using Simucase™.
Implications for Occupational Therapy Education

Simucase™, as a simulation instructional method, is a beneficial teaching and learning environment for occupational therapy academic programs to consider using for both didactic and Level I fieldwork experiences. In this example, Simucase™ enabled an occupational therapy program to swiftly adapt a traditional face-to-face, one week, Level I fieldwork to occur virtually due to the global pandemic. National shutdowns were occurring due to COVID-19 the month the students were to engage in face to face Level I fieldwork. This prompted the transition to virtual fieldwork to occur within a matter of weeks.

Student feedback on the virtual fieldwork included perspectives of increased confidence, an appreciation for a safe, risk-free space for clinical learning, real-time feedback, and the opportunity to engage in reflection and practice of technical and non-technical occupational therapy skills. Faculty perspectives on using the Simucase™ platform for Level I fieldwork include an alternative strategy to bridge the classroom and the clinic, guaranteed exposure to particular clinical experiences and populations, a learning environment that provides equitable learning opportunities and the ability to maintain student engagement in their course of study during unprecedented times such as the global pandemic.

While there is emerging data on the benefits (Mattila et al., 2020), further research on occupational therapy student satisfaction and student learning outcomes in occupational therapy fieldwork and simulation education is recommended. Identifying best practice approaches and disseminating effective pedagogies in occupational therapy is a directive aligned with the Occupational Therapy Education Research Agenda (AOTA, 2018).

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Appendix A- Schedule of Level I Fieldwork using Simucase™

Instructions: The following assignments must all be completed on the days/times assigned to align with appropriate debriefing sessions. Please review these assignments/requirements prior to the Level I FW Orientation, so that you can plot out the cases you are most interested in (when appropriate). As a reminder, expectations are that you come prepared to each debriefing session with the defined products for that assignment.

<table>
<thead>
<tr>
<th>Date</th>
<th>Assessment/ Requirement</th>
<th>Criteria</th>
<th>Products to bring to debrief</th>
<th>Date scheduled to complete/ debrief</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>Chart Review (1-2 hours)</td>
<td>Using your chosen Simucase client and the simulation template as a guide, complete chart review, particularly focusing on relevant information.</td>
<td>Part 1 of Simulation Template completed in full {done in learning mode}</td>
<td>Complete this task on Monday; debrief will be at 3:00pm</td>
</tr>
<tr>
<td></td>
<td>Intervention (3-5 hours)</td>
<td>Based upon the chart review, choose one treatment technique on • Biomechanical, Behavioral/Psychiatric/OR Neurosensorimotor treatment approach – After watching the simulation, discuss a treatment principle covered in OCCT 519, OCCT 530, OCCT 520 or OCCT 525. Examples: retrograde massage, patient transfer, PLB, etc. • Home Education Program (HEP) or Patient Education Session – Examples: ROM/Strengthening HEP, instruction on use of adaptive equipment, creation of splint wear schedule, patient education of home safety, fall prevention, etc.</td>
<td>Part 2 of Simulation Template completed in full {done in learning mode} Associated 5 min video clip demonstrating your chosen technique</td>
<td>Complete this task on Monday; debrief will be at 3:00pm (Debrief for 1 hour)</td>
</tr>
<tr>
<td>Date</td>
<td>Assignment/ Requirement</td>
<td>Criteria</td>
<td>Products to bring to debrief</td>
<td>Date scheduled to complete/ debrief</td>
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</table>
|      | Part Task Trainer (2-3 hours) | For students who were scheduled for a pediatric site:  
• Complete **one** of the GOAL or TVPS-4 assessments under Part Task Trainer. Go through the simulation, indicate your findings through Simucase, note your questions/overall interpretation of the assessment.  
For students who were scheduled for an adult site:  
• Complete the Simucase CLQT+ Part Task Trainer with Julia. Go through the simulation, document your findings/questions/overall interpretation of the assessment. | Bring your final Simucase competency report to debrief with questions/comments  
*(done in assessment mode)* | Complete this task on Tuesday morning; debrief will be at 12:00pm (1 hour) |
|      | Documentation (2-3 hours) | Using the client from Monday, complete a SOAP note on your chosen intervention.  
In addition, create a narrative discharge summary or transition note, depending on what you feel is most appropriate for the client’s situation. | Upload SOAP Note and DC summary or transition to Blackboard, prior to the debrief session | Complete this task Tuesday afternoon; debrief will be at 3:00pm (1 hour) |
|      | Interdisciplinary Activity (2-3 hours) | In the Video library, watch the "Nico Child Development Day Collaborative Assessment Part 1 & 2". Observe the OT interacting with other interdisciplinary team members and discuss the unique role of OT in the context of the interdisciplinary team in this particular case. Any observable TeamSTEPPS approaches used? | Reflective Journal in Blackboard | Complete this task on Wednesday morning; debrief will be at 12:00pm (1 hour) |
| Wednesday Continued | Reimbursement/Productivity (2-3 hours) | Adult FW settings: Use Ed Intervention  
Pediatric FW settings: Use Alaina Intervention  
Behavioral Health FW settings:  
Use Stress Management Group Intervention case  
1. Prior to starting the intervention, explore reimbursement structure and processes for the setting (Ed: Home care; Alaina: school setting; Sebastian/Mark: Community practice). Make note of what you find in reference to the following questions:  
   • How do OTs account for billable time spent with client?  
   • What documentation requirements are there for reimbursement?  
   • What might be internal barriers and challenges to reimbursement?  
   • External barriers, challenges to reimbursement?  
   • What is the accrediting agency of the setting?  
2. Go through the case. Make note of what you think the billing structure might look then, then be sure to review the PDF of billing codes and be prepared to discuss what might have been most appropriate for your interventions of choice.  
3. Productivity is a measure of output (work). Using the AOTA Toolkit (https://www.aota.org/Practice/Ethics/Tools-for-Productivity-Requirements.aspx), determine how productivity might be measured at this site or practice setting? What strategies might you use to effectively meet productivity standards?  
Come up with a potential unethical situation related to productivity with your Simucase client/practice. Determine any potential repercussions for this situation. | Bring detailed answers to prompt questions; be prepared to discuss these at debriefing. | Complete this task on Wednesday afternoon; debrief will be at 3:00pm (1 hour) |
<table>
<thead>
<tr>
<th>Date</th>
<th>Assignment/ Requirement</th>
<th>Criteria</th>
<th>Products to bring to debrief</th>
<th>Date scheduled to complete/ debrief</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thursday</td>
<td>Safety</td>
<td>In the various cases you observed, what patient safety measures were observed? Were there any situations where the patient was at-risk? In Occupationaltherapy.com, please watch the following course: <a href="https://www.occupationaltherapy.com">Prevention of Medical Errors (Barbara Kornblau)</a> This course looks at practice errors in occupational therapy and how to prevent them. It reviews root-cause analysis, error reduction and prevention, patient safety, and contraindications and indications specific to occupational therapy management, including medication and side effects.</td>
<td>Reflective journal in Blackboard Completed quiz with any additional questions</td>
<td>Complete this task on Thursday morning; debrief will be at 12:00pm</td>
</tr>
<tr>
<td></td>
<td>Psychosocial Impact</td>
<td>In all the sessions you reviewed thus far, what psychosocial factors were observed in the clients? How might you respond differently than what was observed, or in addition to the conversations you saw occur? In Occupationaltherapy.com, choose one of the 63 mental health related topics that might be relevant to the case you followed. Complete the associated journal and be prepared to discuss your findings.</td>
<td>Reflective journal in Blackboard</td>
<td>Complete this task on Thursday afternoon; debrief will be at 3:00pm</td>
</tr>
<tr>
<td>Friday</td>
<td>Use of Clinical Reasoning</td>
<td>Reflect over the course of your simulations this week. Using the table below, indicate specific examples of using different types of clinical reasoning during your experience with Simucase™.</td>
<td>Reflective journal in Blackboard Post-journal reflection on personal goals and sim experience</td>
<td>Complete this task on Friday; debrief will be at 3:00 pm</td>
</tr>
<tr>
<td></td>
<td>Student Eval of Level 1 Exp</td>
<td>Satisfaction with Simulated Experience Scale Complete the post-survey on Blackboard</td>
<td></td>
<td>Complete this task by 8:00pm on Friday</td>
</tr>
<tr>
<td></td>
<td>Eval of Level 1 FW Student</td>
<td>Faculty will compile overall feedback and score related to behavior/participation/engagement in debriefing sessions.</td>
<td>Debriefing rubric</td>
<td></td>
</tr>
</tbody>
</table>
Duquesne University Level I FW Learning Objectives
Upon completion of Level I Fieldwork, the student will be able to:

1. Elicit the client’s view of the meaningfulness of the rehabilitation process.
3. Utilize clinical reasoning skills including procedural, interactive and conditional reasoning in identifying and evaluating patient/client occupational performance issues during fieldwork.
4. Utilize self-reflection to develop insight into how one contributes to or detracts from the therapeutic partnership.
5. Re-evaluate and modify intervention plans in response to cues from the client and others in the environment.
6. Utilize objective data obtained in the evaluation and re-evaluation process.
7. Actively prepare for supervision sessions by identifying specific issues to discuss.
8. Adjust behavior and/or practice in response to supervision.
9. Observe, document and discuss the interaction between supervising therapist and patient/client or self and patient/client during fieldwork experience.
10. Document his/her affective and cognitive responses to fieldwork experience.
11. Achieve at least 1 personal goal in each section of the Level I Fieldwork evaluation.
12. Use sound judgment in regard to safety of self and others and adhere to safety regulations throughout the occupational therapy process.
13. Document occupational therapy services to ensure accountability of service provision and to meet standards for reimbursement of services, adhering to applicable facility, local, state, federal, and reimbursement agencies. Documentation must effectively communicate the need and rationale for occupational therapy services.
14. Effectively interact through written, oral, and nonverbal communication with the client, family, significant others, colleagues, other health providers, and the public in a professionally acceptable manner.
15. Terminate occupational therapy services when stated outcomes have been achieved or it has been determined that they cannot be achieved. This includes developing a summary of occupational therapy outcomes, appropriate recommendations and referrals, and discussion with the client and with appropriate others of post-discharge needs.
16. Students will consider psycho-social factors related to client’s occupation in every setting.

*Table to Use for Clinical Reasoning Journal Reflection (Due Friday):

<table>
<thead>
<tr>
<th>Type of Clinical Reasoning</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Narrative</td>
<td>Ethical</td>
</tr>
<tr>
<td>Pragmatic</td>
<td>Procedural</td>
</tr>
<tr>
<td>Diagnostic</td>
<td>Scientific</td>
</tr>
<tr>
<td>Interactive</td>
<td>Conditional</td>
</tr>
</tbody>
</table>
# Appendix B Rubric for FW Student Engagement During Debriefs

## Rubric Key

<table>
<thead>
<tr>
<th>Exemplary</th>
<th>Accomplished</th>
<th>Developing</th>
<th>Beginning</th>
</tr>
</thead>
<tbody>
<tr>
<td>90-100%</td>
<td>80-90%</td>
<td>70-80%</td>
<td>Less than 70%</td>
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</table>

*Adapted from: Carnegie Mellon University: Eberly Center for Teaching Excellence (n.d.): Lasat

## Frequency of Engagement During Debrief

<table>
<thead>
<tr>
<th>Exemplary</th>
<th>Accomplished</th>
<th>Developing</th>
<th>Beginning</th>
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</thead>
<tbody>
<tr>
<td>Student initiates contributions more than once in each recitation</td>
<td>Student initiates contribution once in each recitation</td>
<td>Student initiates contribution at least in half of the recitations</td>
<td>Student does not initiate contribution &amp; needs instructor to solicit input</td>
</tr>
</tbody>
</table>

## Quality of Engagement During Debrief

<table>
<thead>
<tr>
<th>Exemplary</th>
<th>Accomplished</th>
<th>Developing</th>
<th>Beginning</th>
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</thead>
<tbody>
<tr>
<td>Comments always insightful &amp; constructive; uses appropriate terminology. Comments balanced between general impressions, opinions &amp; specific, thoughtful criticisms or contributions</td>
<td>Comments mostly insightful &amp; constructive; mostly uses appropriate terminology. Occasionally comments are too general or not relevant to the discussion.</td>
<td>Comments are sometimes constructive, with occasional signs of insight. Student does not use appropriate terminology; comments not always relevant to the discussion.</td>
<td>Comments are uninformative, lacking in appropriate terminology. Heavy reliance on opinion &amp; personal taste, e.g., “I agree”, “I disagree”, “Me too”, “Yes”, “No” etc.</td>
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</table>

## Information Seeking

<table>
<thead>
<tr>
<th>Exemplary</th>
<th>Accomplished</th>
<th>Developing</th>
<th>Beginning</th>
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</thead>
<tbody>
<tr>
<td>Actively seeks information to support planning; occasionally does not pursue important leads.</td>
<td>Makes limited efforts to seek additional information from the patient; often seems not to know what information to seek and/or pursues unrelated or outdated information.</td>
<td>Is ineffective in seeking information; relies mostly on objective data; fails to collect relevant evidence</td>
<td></td>
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</tbody>
</table>

## Prioritizing Data

<table>
<thead>
<tr>
<th>Exemplary</th>
<th>Accomplished</th>
<th>Developing</th>
<th>Beginning</th>
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</thead>
<tbody>
<tr>
<td>Focuses on the most relevant and important data useful for explaining the case</td>
<td>Generally focuses on the most important data and seeks further relevant information but also may try to attend to less pertinent data</td>
<td>Makes an effort to prioritize data and focus on the most important, but also attends to less relevant or useful data</td>
<td>Has difficulty focusing and appears not to know which data are most important to the diagnosis; attempts to attend to all available data</td>
</tr>
</tbody>
</table>

## Being Skillful

<table>
<thead>
<tr>
<th>Exemplary</th>
<th>Accomplished</th>
<th>Developing</th>
<th>Beginning</th>
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</thead>
<tbody>
<tr>
<td>Shows competency with necessary OT skills in simulation (90-100 overall Comp Rating)</td>
<td>Displays proficiency in the use of most OT skills; could improve with speed/accuracy (80-89 overall Comp Rating)</td>
<td>Is hesitant or ineffective in using OT skills (70-79 overall Comp Rating)</td>
<td>Is unable to select and or perform OT skills (0-69 overall Comp Rating)</td>
</tr>
</tbody>
</table>
Appendix C Virtual Level I Fieldwork Evaluation/Reflection

Each student will complete this Level I fieldwork self-evaluation at the conclusion of the experience. Be honest! This is for you and your faculty to continue working on your professional development. Please rate yourself as you really felt you performed. Although this fieldwork was not completed as we intended, we still want to learn about what worked in this experience and what did not. Carefully respond to the reflective questions posed at the bottom of the evaluation. Thank you.

Part 1: Professional Behaviors. Please comment on how well prepared you feel for Level II fieldwork, not that you have mastered all content. In one paragraph (less than 300 words) summarize your performance.

Part 2: Professional Skills. Please comment on how well prepared you feel for level II fieldwork, not that you have mastered all content. In one paragraph (less than 300 words) summarize your performance.

General Reflection on the Experience

1. Tell us how this virtual fieldwork experience enhanced your skill set and confidence for Level II fieldwork. Please be specific with features of the experience that were helpful.

2. Tell us how this virtual fieldwork experience could be modified to enhance your skill set and build your confidence for Level II fieldwork. Please be specific with suggestions.

3. Each of you have received feedback from previous Level I fieldwork educators, faculty, and your peers in various ways. You also shared a goal in OCCT 512 course for the week through Flipgrid. Please make a statement on progress you have made in the goal areas you have set for yourself based on this overall process.