

The Faculty and Student Experience of Using Simulation, Case-Based Learning, and Competency Exams in Entry-Level OT Education: Part 2

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Background

Simulation experiences can help students learn, develop, and demonstrate proficiency in clinical skills that are needed for success in fieldwork (FW) and in future occupational therapy clinical practice (DiZazzo-Miller et al., 2021; Mack et al., 2022). Within educational settings using high-fidelity simulations, standardized patients and/or mannequins are used to allow students to practice clinical skills (DiZazzo-Miller et al., 2021). Additionally, it can allow students to target specific clinical skills needed to improve student competency (Chun et al., 2020). Transformative learning is a core value of the exemplar entry level OTD program (Mezirow, 2020) supportive of innovative instruction making use for case-based learning, simulations, and competency-based experiences.

Over the course of four semesters, Doctorate of Occupational Therapy Students had many opportunities to interact with case-based simulated patients. As a result, Doctorate of Occupational Therapy Students have shown improvements in learning and have grown from the benefits of the simulated environment. Understanding the student's point of view provides the best appreciation of the advantages standardized patients bring to develop clinical skills needed for fieldwork experiences outside of didactic coursework (Mack et al., 2022). After completing portions of the level II FW experiences, students have reported that use of simulated patients during didactic work had them feeling "more prepared when interacting with patients of all different personalities and needs" and help them "learn the importance of thinking on our feet for different ways to approach a session based on the patients' reactions." Students also shared that the use of simulated patients and case-based learning has "further solidified my interest in working with specific populations, and have given me a view of what it would feel like." Additionally, students have reported, "the experience of simulated patient interactions have taught me how to correctly, confidently, and kindly introduce myself and begin my sessions." The benefits of these teaching methods on students' success and their professional development can be seen within this poster as identified by common words used in student responses.

Student Preparation - Phase 3

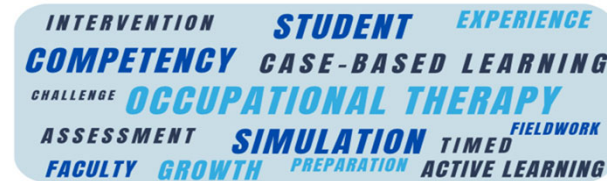
Semester Three:

- In order to familiarize students with ICU equipment, emergency situation protocols, the distinct view of occupational therapy, as well as the duties and responsibilities in the acute care setting, students collaborated closely with a medical doctor, nursing faculty, and OT faculty.
- Students engaged in skills training labs utilizing clinical cases to practice clinical skills using Simulation mannequins and Simulation actors for the acute care level client to include:
 - Vital sign monitoring using monitors and manual equipment for BP, HR, RR, SPO2, and lung auscultations
 - Medical emergency protocols – seizure, diabetic, and cardiopulmonary situations
 - Basic ADL activities & Functional mobility (bed mobility, transfers, functional ambulation)
 - Donning and doffing PPE
- Upon completion of lab and training sessions, and competencies students participated in debriefing sessions to receive feedback on their performance.
- During lab activities, students had the opportunity to practice developing interventions and assessments using patient volunteers and simulation actors, addressing a variety of diagnoses that are pertinent to the adult population.
- Students learned from clinical specialists including ATP's, PT's, and orthotists on exercise dosing, prosthetics, custom wheelchair assessments, and LSVT BIG training.
- Using specific theories, FOR, and research, students develop group programs for community partners. These programs provide evidence-based interventions for exercise and movement training for adults living in the community and activity engagement for clients with cognitive impairments in an a dementia adult day program.
- Students complete OT evaluations in skilled nursing facilities, neurologic outpatient, sub-acute, and assisted living facilities.
- Working with a local community partner, a student-run Health Fair is planned with an emphasis on fall prevention, health and wellbeing, modifications to the environment, and aging in place.

Student Preparation- Phase 4

Semester Four:

- Throughout the semester's fieldwork, lab, and lecture experiences, students designed evidence-based interventions within particular theories and FOR while utilizing a variety of standardized pediatric evaluation methods.
- Students examined researched and presented information on rare diagnoses in the pediatric setting, traditional vs non-traditional pediatric settings, and occupational therapy best practice in the school-based setting.
- Students were responsible for managing their own caseloads and tasked with managing documentation, evaluation and intervention planning for each client on their caseload.
- Students had the opportunity to learn from experts in the field on topics of feeding disorders and dysphagia, Hippotherapy, and Assistive Technology.
- Students worked on cases throughout lecture and lab sessions during the semester to prepare for competencies.
- Students had the opportunity to participate in various hands on fieldwork experiences with children of various diagnoses.
- Students learned how to work with an interdisciplinary team, working collaboratively with Speech Language Pathology students to co-treat and create session plans for shared clients.
- Students completed a feeding and dysphagia competency, working collaboratively with peers to create evaluation plans and interventions based on clinical scenarios.
- In order to gain experience working directly with patients and developing treatment plans based on clinical scenarios, both in the school-based and outpatient pediatric settings, students worked with simulation actors throughout assessment and intervention competencies.



Project Implementation- Phase 3

Semester Three:

- Students will participate in an evaluation and intervention competency utilizing the Simulation Actors, demonstrating their ability to interpret a clinical scenario, and create an evaluation and treatment plan.
- Learning Objectives
 - Students will act professionally and demonstrate safety awareness working with clients.
 - Students will review case scenario information and identify areas for gathering additional data.
 - Students will complete an evaluation plan based on clinical scenarios and pick at random what case scenario they perform during the competency.
 - Students will complete an intervention plan treatment template to organize their treatment plan and identify evidence-based interventions.
 - Students will demonstrate therapeutic use of self and intentional relationship building skills with simulated patients

Student Perspective:

"The use of simulated patients, case-based learning, and competencies significantly enhanced my educational experience, providing for me a dynamic and immersive platform to master skills crucial for working with adults and older adults. Learning in this way not only fostered a deeper understanding of real-world scenarios but also honed my ability to apply therapeutic interventions with confidence and precision in diverse healthcare settings. Working through case-studies allowed me to use clinical reasoning skills and come up with real-time interventions I will use when working with the older adult."

Project Implementation- Phase 4

Semester Four:

- Students will participate in an evaluation and intervention competency and school based competency for complex pediatric cases embodied by SIM actors (clients and administrators).
- Students will demonstrate ability to gather and interpret assessment data to design an occupation-based treatment intervention plan for pediatric client with key follow up assignments
- Learning Objectives:
 - Students will act professionally and demonstrate safety awareness working with clients.
 - Students will review a pediatric rehabilitation case and complete an appropriate standardized assessment tool.
 - Students will be able to explain their rationale for selection and demonstrate competency in performing the assessment tool according to instructions
 - Student will write up assessment results and design a treatment plan for assigned case.
 - Students will deliver an abbreviated intervention session with the client in real time in the simulation environment.
 - Students will complete all associated documentation for planning treatment plan.

Student Perspective:

"The incorporation of simulated patients, case-based learning, and competencies in our curriculum provided invaluable hands-on experience and enhanced my understanding of the pediatric population. The approach that Monmouth OTD uses allowed me and my peers to apply theoretical knowledge in real-world scenarios, fostering practical skills and confidence essential for effective pediatric occupational therapy practice."

Student Feedback and Themes

Semester Three:

Student feedback was collected through the Debriefing Assessment for Simulation in Healthcare (DASH): The assessment consists of 6 elements, using a rating scale from 1 (extremely ineffective) to 7 (extremely effective). Elements include:

- The instructor set the stage for an engaging learning experience.
- The instructor maintained an engaging context for learning.
- The instructor structured the debriefing in an organized way.
- The instructor provoked in-depth discussion that led me to reflect on my performance.
- The instructor identified what I did well or poorly and why.
- The instructor helped me see how to improve or how to sustain good performance.
 - The average score that Students who have completed the DASH in semester three rated the instructor was a 7, being extremely effective.

Semester Four:

- Student feedback collected through Weekly Self-Reflection assignments for qualitative feedback:
- How much time did you devote towards preparations for the competency outside of the class time provided?
 - What resources did you use to prepare for the competency?
 - How confident did you feel walking into the competency based on the information you were provided for the case?
 - What, if any, additional resources would you find helpful in preparation for these experiences?

Results and Future Directions

- Areas of Strength:
 - Positive student and SP feedback (quantitative and qualitative across phases 3 and 4)
 - Integration of multiple course objectives and related ACOTE standards
 - Scaffolded learning experiences with increasing demands for student skill development
- Areas for Growth:
 - Streamlining of rubrics across experiences
 - In process, final roll out Spring 2024
 - Faculty support
 - Competency Evaluation Team
 - Constructive student feedback
 - Continued additional practice opportunities and anxiety mitigation made a difference
 - Clearer instructions and coordination between SPs requested
- Future Directions:
 - Possible use of Relative Mastery Scale (RMS) as program evaluation measure for competency based assessments
 - Possible use of DASH for all SIM experiences including competency assessments

Contact Presenters



Learning Objective 1

At the conclusion of this session, participants will be able to: understand how students have benefited from teaching using simulation, case-based learning, and competency for occupational therapy education.

Learning Objective 2

At the conclusion of this session, participants will be able to: identify areas of success both clinically and educationally for occupational therapy students with the use of simulated patients during competencies.

References



Multisensory Environment Program Improving Relaxation and Reducing Stress and Anxiety for Community Health

Nicole Halliwell DSc., OTR/L, John R. Patro Jr., OTD, OTR/L, Tori Aguilar OTS, Francesca Storino OTS
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Background

Multisensory environments (MSE) are immersive spaces designed to provide individuals with diverse needs a sensory rich experience utilizing visual, auditory, tactile, and proprioceptive inputs (Cameron et al., 2020; Haegle & Porretta, 2014; Unwin et al., 2022). Prior studies indicate MSE experiences may provide a sense of comfort, safety, relaxation, and enjoyment through the use of various elements designed to target individual sensory preferences and needs (Cavanagh et al., 2019). The purpose of this research study was to explore how self-ratings of perceived stress, anxiety, and relaxation are impacted by a thirty-minute MSE experience for community dwelling adults.

Methods

This study is a mixed-methods quasi experimental one group pre/posttest design utilizing convenience sample of thirty eight community dwelling adults. Participants were identified from researcher connections including Monmouth students and employees, general public/community partners from various community groups.

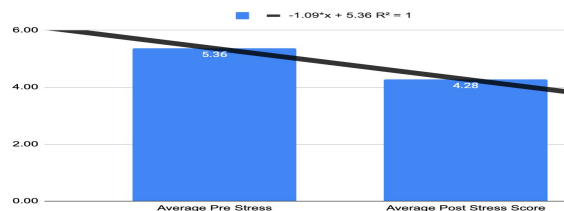
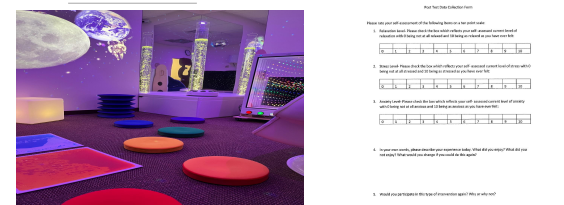
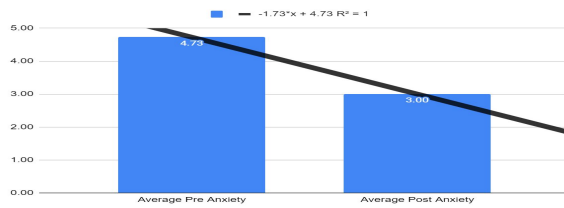
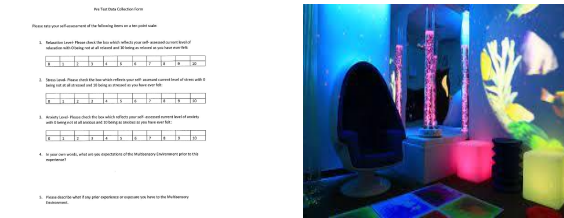
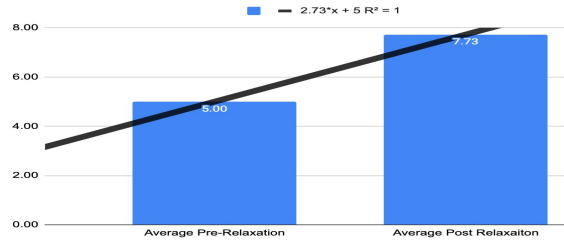
Through the use of a manualized protocol, participants were able to customize the experience and use the equipment based on their individual sensory preferences while facilitating protocol fidelity.

Qualitative and quantitative data were collected to measure participants' self-perceived level of change using a 10 point likert scale from pre to post test measures taken before and after a thirty minute intervention in the MSE. Identified variables of interest from the research literature included relaxation, stress, and anxiety. Qualitative data collected will be analyzed by reviewing open-ended responses and a content analysis to identify common themes from participants related to their experience within the MSE. Reliability of content analysis will be facilitated through triangulation between members of the research team in coding of participant responses.

Quantitative Results

The quantitative results of this study show a significant relationship between participation in the MSE and change in perceived levels of relaxation, stress, and anxiety. The paired-t test results for each of the selected variables are:

- Relaxation Level for all participants is $t=6.096578$ where p is $<.00001$
- Stress Level for all participants $t=-5.041175$ where p is $<.00001$.
- Anxiety Level for all participants is $t=-3.21064$ where p is $.00274$.
- All results are significant at $p<.01$



Qualitative Results

Qualitative data was analyzed using content analysis conducted via triangulated team review of open-ended questions asked in pre and post test surveys revealed three overarching themes:

curiosity of the unknown

autonomy/preferences

desire for more

Limitations and Future Directions

Study limitations include:

- Small size convenience sample
- Protocol inclusivity for persons with visual deficits
- Limited use of space capabilities and equipment

Future directions for the project:

- Future interventions and design considerations could focus on enhancing customization options to further cater to diverse sensory needs.
- Interventions should be flexible and allow for autonomy for customization of sensory experiences to fit individual's needs
- Dissemination of findings across various journals
- Identification of methods for program enhancement
- Diversification of offerings through continued curriculum integration
- Obtaining outside grant support
- Current and future OTD capstone opportunities
- Improving access through additional MSE equipment targeting larger variety of sensory systems (e.g. tactile)

Implications for Occupational Therapy

As Occupational Therapy practice continues to evolve, the integration of innovative interventions like the use of MSEs for various populations holds promise for addressing diverse sensory needs and promoting holistic well-being. The positive outcomes and data produced by this study not only validate the potential therapeutic benefits of MSE intervention but also support advocacy for its incorporation into broader therapeutic practices.

As future research builds upon these findings, the field of Occupational Therapy stands to gain valuable insights into optimizing interventions that cater to individual preferences while maintaining fidelity for research purposes, fostering a more inclusive and effective therapeutic landscape. Ultimately, the present study potentially expands the scope of Occupational Therapy interventions and underscores the importance of considering multisensory approaches in promoting mental well-being among community-dwelling adults.

Contact Presenters



Learning Objective 1

At the conclusion of this session, participants will be able to identify level of self-reported change in research variables for community dwelling adults after a multisensory environment (MSE) experience.

Learning Objective 2

At the conclusion of this session, participants will be able to describe the potential health benefits of a multisensory environment (MSE) experience for various persons, groups, and populations.

References



Project Exemplar and Implementation Guide To Create A Collaborative Multidisciplinary Curriculum Driven Program for Community Health and Wellness

Nicole Halliwell DSc., OTR/L, John R. Patro Jr., OTD, OTR/L
Monmouth University

Background

Multisensory Environments (also referred to as a Snoezelen® rooms) are spaces designed to provide users with a customizable immersive sensory experience facilitating relaxation exploration in support of skill development (Cameron et al., 2019; Haegele & Porretta, 2014; Mayersen et al., 2019). Smith & Jones defines a sensory room as a “room where sensory stimuli such as lights, sounds, textures, and staff support can be used with patients during de-escalation, self-regulation, and calming” (2014, page 23). The type and amount of sensory stimulation produced by sensory equipment is controlled by the user with the practitioner helping guide the user towards meeting their individual needs (Unwin et al., 2021).

Bubble tubes, fiber optic cables, and a tactile board that targets visual, auditory, and tactile senses are equipment that is typically used (Unwin et al., 2021). Users that participated in a MSE experience showed reduced maladaptive behaviors, decreased frequency of aggression, and self-injury (Breslin et al., 2020). MSE can provide gentle stimulation with a non-threatening educational environment (Cosentino et al., 2021, pg 644). Additionally, MSE spaces have increased relaxation, supports in learning, and communication by decreasing anxiety and agitation (Cosentino et al., 2021). Multiple populations ranging from school-based to caregivers and older adults have experienced benefits using an MSE (Maseda et al., 2015; Carter & Stephenson, 2012). MSE spaces have been linked with positive health outcomes overall (Cameron et al., 2019).

Centralized Service Learning Model (CSLM)

Strategic approaches to service learning in higher education can build connections between faculty, students, and the community. The Centralized Service Learning Model (CSLM) is one example that utilizes authentic problem-solving with engaged activity in the community to promote connections. CSLM fosters a deeper and meaningful learning experience for students by incorporating two concurrent courses with related assignments compared to traditional service learning. Through the CSLM, faculty can design learning activities that correlate with course objectives to enrich service learning experiences for students in addition to the development of authentic community partnerships. The three phases of CSLM include: a generalizable model overview, specific application within existing coursework, adding subsequent student cohorts, and integrating faculty scholarship. Active student engagement, personal growth, and community impact can be improved through use of this model across various disciplines (Milton and Otty, 2018).

Community Partnerships

Local area community partners identified for participation in offering included:

- Monmouth University Community
 - Faculty and staff
 - Student groups and clubs
 - Program groups and individual instructor-led classes
- Koncious Youth Development Service (KYDS)
- Shore House
- Senior Citizens Activities Network (SCAN)



Student and Faculty Collaborations

The Monmouth University OTD program has faculty and graduate assistants collaborated to discover and get in contact with community stakeholders to set up information sessions, tours, and demonstrations for collaborators. In the early phases of the project, graduate assistants worked with MU academics to perform pilot programming. They also presented the concept to stakeholders to encourage program involvement in later phases as research assistants. After completing their first year of coursework in the fall and spring, students in the OTD program are employed as additional research assistants. They work with faculty and graduate assistants to run programming, complete data collection and analysis, and gain hands-on experience with program development, implementation, and evaluation. In order to ensure success, the faculty and the students are continuously working together.



Project and Research Study

The project's objective is to benefit the community by offering an inclusive and accessible program that uses the Multisensory Environment (MSE) to illustrate the multifaceted nature of an MSE and how it promotes wellness.

The study received two periods of internal grant financing from the Monmouth University Diversity and Innovation Grant Program. \$3,600 in funding for year one and \$3,000 in funding for year two

Every project participant has the option to take part in the research study if they so choose helping generate faculty and student scholarship and further research in the area of the MSE as a wellness intervention.

Using a mixed-methods quasi-experimental one group pre/posttest design, the research study collects self-reported data for project participants in the community across groups regarding the changes experienced in relaxation, anxiety, and stress levels before and after their time in the MSE.

Pre- and post-test rating scales are used to collect quantitative data, and paired t-tests will be performed by the researchers to compare the results. To identify any patterns in the participant data, the collected data will be compared.

Open-ended replies are reviewed in order to gather qualitative data, which is then analyzed to find recurring themes in the responses from various participants.

Additionally, researchers gather de-identified descriptive statistics pertaining to the provided demographic data for study.

Curriculum Content and Connections

The OTD entry-level program at Monmouth University has its own multisensory lab. The MSE is integrated into the curriculum, emphasizing that students will receive theory and practice utilizing MSE lab space and specialized equipment for clients across the lifespan. Courses such as Principles of Practice IV: Pediatric Occupational Therapy, Sensory Modulation Across the Lifespan, and Cognition Across the Lifespan incorporate the MSE as a therapy modality within their curricula. Through research projects and curriculum design, students can integrate course information, participate in scholarly dissemination, and become trained to support the Multisensory Environment Community Wellness Project.

Implications for OT Education

Opportunities to learn how to help clients, groups, and populations while promoting academic dissemination activities are provided via partnerships for community health projects with program curriculum.

Through the MSE, students can improve their learning skills, practice conducting research, and learn how to use high-tech specialized equipment as a therapy modality.

Contact Presenters



Learning Objective 1

At the conclusion of this session, participants will be able to: describe the collaborative development of a multidisciplinary community wellness project tied to program curriculum and faculty scholarship.

Learning Objective 2

At the conclusion of this session, participants will be able to: reflect on project exemplar strengths and areas for growth for the execution of a curricular tied research producing community wellness project.

References



Introduction

According to the Accreditation Council for Occupational Therapy Education (ACOTE) the goal of Level I fieldwork (FW) experiences is "to introduce students to fieldwork, apply knowledge to practice, and develop understanding of the needs of clients" (ACOTE, 2020, p. 41). Additionally, at least one experience (Level I or II) must be focused on psychosocial practice (ACOTE, 2020). Each educational program is given the responsibility of determining how this will be accomplished, where, and with who. Psychosocial placements in particular have been recently used to introduce novel, sometimes nontraditional, Level I FW experiences, allowing faculty to get creative (Fanelli & Nadeau, 2022). The use of nontraditional experiences with a psychosocial focus have shown to increase participants' perception of the comprehensive, holistic and patient-centered nature of the profession (Fanelli & Nadeau, 2022). From a student perspective, these experiences have shown to increase personal and professional development, professional reasoning, personal skills and ability to apply theory to practice (Berstreser-Simpson et al., 2023; Nielsen et al., 2020).

Cross Curricular Threading

Caregiver support and sensory integration sessions were incorporated into Monmouth University's Department of Occupational Therapy curriculum to provide students with a Level I fieldwork experience that addresses psychosocial and sensory aspects compliant with ACOTE standards.

Monmouth University OTD students are introduced to psychosocial and sensory integration courses within their first year. Within a traditional classroom setting, students learn the effects mental health diagnoses and sensory processing disorders have on an individual's occupational performance. Additionally, students learn how to identify appropriate frames of reference, assessments, screening tools, and intervention strategies related to psychosocial and sensory processing disorders. Following traditional educational classes, students apply what they have learned each week to caregiver support and sensory integration sessions as part of the Level I fieldwork experience.

Implementation & Logistics

Participants were recruited from previous collaborations with Special Olympics New Jersey (SONJ) and the Monmouth University Speech-Language Pathology (SLP) program. Within the first two weeks, needs assessments and evaluations were conducted by students to base group sessions. One hour group sessions were held for five weeks at the Monmouth University Graduate Center. Students utilized advisory leadership styles during group sessions to facilitate education and advice to support caregivers with their child's needs.

Sensory Play Group

- Utilizes the Sensory Integration Theory
- Purpose was to allow Monmouth University OTD students to utilize sensory-integration based approaches to create activities that will benefit the children's needs
- Students were able to integrate activities for children that focus on sensory regulation
- Group activities were based on each child's sensory-based needs and preferences
- Group goals:
 - Utilize the pediatrics lab and multisensory environment to engage the children in activities that will increase their ability to modulate various sensory systems, enhancing their functional abilities at home
 - Increase social participation with other children



Caregiver Support Group

- Utilizes the Model of Human Occupation (MOHO)
- Purpose was to provide unpaid assistance and education to support caregivers of children with sensory differences and other diagnoses
- Support group targets areas of concern caregivers have within their home and community environment
- Students educated and provided information to caregivers on how they can care for themselves and their child
- Students educated caregivers on different tools that can be implemented within their home environment to promote their child's participation
- Group goals:
 - Gain education on sensory integration strategies and tools that can support their child's unique sensory preferences
 - Learn mindfulness tools to cope with caregiving related stress

Program Feedback

Feedback was collected from participants throughout the program offering and after its completion from all stakeholders:

Caregiver feedback:

- felt well supported and heard
- reported improved opportunities to learn about resources in the area
- found ways to support their child's unique sensory needs
- found ways to connect to their child's sensory needs that differed from their personal sensory preferences
- developed relationships with other families as result of program offering

Child feedback

- Children showed increased social participation

Student feedback:

- appreciated hands on learning and application through experience

Implications for Occupational Therapy Education

Level I fieldwork students that engaged in running caregiver support and sensory integration sessions were successful in applying psychosocial and sensory integration concepts related to occupational therapy in a nontraditional educational setting. Students were able to apply what they have learned in class to educate caregivers on how they can implement sensory integration strategies to meet their child's sensory needs. Cross curricular threading within occupational therapy education can support student learning by allowing students to apply course content taught in traditional settings. Level I fieldwork experiences that incorporate caregiver support and sensory integration sessions can allow students to develop professional skills needed to provide care in psychosocial OT settings.

Contact Presenters



Learning Objective 1

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Learning Objective 2

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References

