South Health and Policy. 2025; 4:361
doi: 10.56294/shp2025361

ORIGINAL

Clinical simulation as an experiential learning strategy in the graduate training of music therapists: systematization of a teaching experience

Simulación clínica como estrategia de aprendizaje experiencial en la formación de grado de músicoterapeutas: sistematización de una experiencia docente

Marcela Lichtensztejn[1], Camila B. Trivarelli[1], Carlos Jesús Canova-Barrios[1]

[1]Universidad de Ciencias Empresariales y Sociales (UCES). Buenos Aires, Argentina.

Cite as: Lichtensztejn M, Trivarelli CB, Canova-Barrios CJ. Clinical simulation as an experiential learning strategy in the graduate training of music therapists: systematization of a teaching experience. South Health and Policy. 2025; 4:361. https://doi.org/10.56294/shp2025361

Submitted: 12-02-2025 **Revised:** 22-05-2025 **Accepted:** 22-07-2025 **Published:** 23-07-2025

Editor: Dr. Telmo Raúl Aveiro-Róbalo

Corresponding author: Marcela Lichtensztejn

ABSTRACT

Introduction: clinical simulation has proven to be an effective pedagogical tool in the education of healthcare professionals. Its integration into the Music Therapy degree program represents a methodological innovation that enables the recreation of realistic clinical scenarios where students can practice therapeutic skills in a safe and controlled environment.
Method: an educational experience was systematized at the Faculty of Health Sciences of Universidad de Ciencias Empresariales y Sociales (UCES), involving third-year Music Therapy students in the design and implementation of simulated clinical scenarios. These scenarios included contexts such as mental health, neurology, intensive care, and pediatrics, utilizing trained actors and technological resources. At the end of the experience, a Likert-scale questionnaire was administered to assess students' perceptions of their learning and clinical performance.
Results: 63 % of students reported that the experience significantly strengthened their critical thinking and decision-making; 62 % perceived a considerable increase in professional confidence; 87 % highly valued the debriefing sessions as opportunities for integrating theory and practice; 88 % felt more motivated to learn; 63 % noted substantial improvements in clinical competencies; and 50 % reported a notable reduction in anxiety related to interacting with real patients. Qualitative comments reinforced these findings, highlighting the usefulness of a safe environment, the opportunity to apply prior knowledge, and the benefit of immediate feedback.
Conclusions: clinical simulation has been established as an effective strategy for teaching core competencies in music therapy, fostering experiential, reflective, and personalized learning. Its implementation supports the comprehensive development of students and marks a significant advancement in pedagogical approaches within the field of arts-based therapies.

Keywords: Clinical Simulation; Music Therapy; Health Education; Experiential Learning; Professional Competencies; Higher Education.

RESUMEN

Introducción: la simulación clínica ha demostrado ser una herramienta pedagógica eficaz en la formación de profesionales de la salud. Su incorporación en la carrera de Musicoterapia representa una innovación metodológica que permite recrear escenarios clínicos realistas, donde los estudiantes ejercitan habilidades prácticas y desarrollan competencias terapéuticas en un entorno seguro.
Método: se sistematizó una experiencia educativa desarrollada en la Facultad de Ciencias de la Salud de la

Universidad de Ciencias Empresariales y Sociales (UCES) en la que se diseñaron escenarios clínicos simulados con la participación de estudiantes de tercer año de la carrera de Musicoterapia. Las simulaciones abordaron contextos como salud mental, neurología, cuidados intensivos y pediatría empleando actores entrenados y recursos tecnológicos. Al finalizar, se aplicó un cuestionario con escala Likert para explorar la percepción de los estudiantes respecto a su aprendizaje y desempeño clínico.
Resultados: el 63 % de los estudiantes consideró que la experiencia fortaleció "mucho" su pensamiento crítico; el 62 % percibió un aumento significativo en la confianza profesional; el 87 % valoró altamente la instancia de *debriefing* como espacio de integración teoría-práctica; el 88 % reportó mayor motivación para aprender; el 63 % señaló mejoras sustanciales en sus competencias clínicas y el 50 % manifestó una reducción significativa del temor al contacto con pacientes reales. Los comentarios cualitativos reforzaron estos hallazgos, destacando la utilidad del entorno protegido, la posibilidad de aplicar saberes previos y la oportunidad de recibir retroalimentación inmediata.
Conclusiones: la simulación clínica se consolida como una estrategia efectiva para la enseñanza de competencias en musicoterapia, promoviendo un aprendizaje experiencial, reflexivo y personalizado. Su implementación contribuye al desarrollo integral del estudiante y representa un avance significativo en la formación académica dentro de las terapias basadas en las artes.

Palabras clave: Simulación Clínica; Musicoterapia; Educación en Salud; Aprendizaje Experiencial; Competencias Profesionales; Formación Universitaria.

INTRODUCTION

Music therapy (MT) is the professional use of music in health contexts, carried out by accredited professionals with specific training, to assist individuals or groups in emotional, physical, cognitive, and social aspects.[1] In this context, university education in MT requires not only theoretical and musical knowledge but also the development of complex therapeutic, interpersonal, and clinical skills.

MT as a systematic discipline was consolidated in the mid-20th century in the United States, Europe, and Latin America. Its training at the university level has undergone significant expansion with varied curricular structures that share the goal of training professionals capable of intervening in a wide range of clinical and educational contexts. Traditionally, these skills were acquired during supervised practice in real-world settings. However, the incorporation of clinical simulation provides an intermediate, safe, and controlled environment that enables more thorough preparation of students before they encounter real patients.[2,3] The use of simulation in music therapy training has emerged as a transformative educational methodology that integrates advanced technologies to enhance the learning experience of aspiring professionals.

As the field of music therapy evolves, traditional learning models are increasingly complemented by simulation-based approaches, which allow students to participate in realistic, controlled environments that closely mimic interactions with patients. This innovative shift aims to address deficiencies in both performance and assessment skills, fostering a more comprehensive skill set in future music therapists and enhancing their therapeutic effectiveness.

Entrustable Professional Activities (EPA) in MT include musical and clinical-musical skills, knowledge of music therapy theory and methodology, psychology, neuroscience, anatomy, knowledge of populations and diagnoses, supervised clinical practice, as well as bioethics and professional ethics. Graduates are expected to be competent in at least one harmonic musical instrument and in the use of the singing voice, to be proficient in improvisation, composition, and musical analysis, and to integrate the fundamentals of how and why music can be used for therapeutic purposes in different populations. They must also understand how the brain responds to musical stimuli and the intra- and interpersonal aspects of musical experiences in a therapeutic context, to design and implement relevant clinical-musical interventions. Professionals are also expected to adopt an ethical and empathetic attitude towards patients with diverse physical, emotional, cognitive, or social health conditions.

Innovation in teaching methodologies in health careers has incorporated clinical simulation as a key strategy to strengthen the development of professional skills in safe environments. This methodology, widely validated in recent decades in English-speaking countries, has proven effective in training clinical, communication, and teamwork skills through high-fidelity controlled environments.[4] Clinical simulation is emerging as a valuable teaching tool for the education of future music therapists based on experiential learning,[5] as it offers a safe and controlled environment for rehearsing clinical interventions, making therapeutic decisions, and facing situations that replicate real professional practice.

This paper systematizes a pedagogical experience based on the implementation of clinical simulation in the Music Therapy program at the Faculty of Health Sciences of the University of Business and Social Sciences

(UCES), to describe its design, application, and results as perceived by the students.

METHOD

Clinical simulation has established itself as a widely used strategy in the training of health professionals, especially for training in APEs. In the field of MT, its application represents a significant innovation.

In the Music Therapy degree program at the Faculty of Health Sciences of the University of Business and Social Sciences (UCES), this methodology is implemented through a problem-solving approach that incorporates new technologies and simulated clinical scenarios. The contexts addressed include neurological disorders, pediatric and adult hospitalization, neonatal and adult intensive care units, geriatrics, and mental health.

Simulated environments allow students to develop treatment plans and implement clinical-musical interventions tailored to the specific needs of patients. Through the use of high-fidelity simulators or trained actors, students interact with simulated patients who exhibit physical and emotional responses, allowing them to practice decision-making in complex clinical situations. The use of assisted technology and the collaborative work of the interdisciplinary teaching team contribute to realistically recreating hospital or long-term care environments, promoting the development of teamwork skills and musical intervention in challenging clinical settings.

Study design

A qualitative systematization of a pedagogical experience based on clinical simulation was conducted, employing a descriptive-interpretative approach. The objective was to document the contributions of this strategy to the training of music therapists from an educational perspective.

Participants

Third-year music therapy students from UCES participated, along with clinical faculty members and actors trained as simulated patients.

Pedagogical intervention

Simulated clinical scenarios were designed for various care settings, including mental health, neurological disorders, pediatric hospitalization, neonatal and adult intensive care, and geriatrics. Each experience included the development of a treatment plan, the implementation of adapted clinical-musical interventions, and a subsequent structured *debriefing* session coordinated by teachers and simulation lab supervisors, which promoted group reflection and immediate feedback.

Data collection

When the students reached the pre-professional internship stage in their fourth year of the program, they were invited to complete an *ad hoc* closed-ended questionnaire with a five-point Likert scale (very much, somewhat, neither, not much, not at all). The questions were designed to explore the students' perceptions of their learning, clinical performance, and skill development before their contact with real patients. The information was analyzed using descriptive statistics and supplemented with optional qualitative comments.

The five areas evaluated by the instrument were:

1. Development of critical thinking and decision-making.
2. Increased professional confidence.
3. Integration of theory and practice through *debriefing*.
4. Motivation to learn.
5. Improvements in clinical skills.

With regard to ethical considerations, confidentiality was ensured in the handling of data, and the study was considered "risk-free" given its observational and anonymous nature and the fact that no sensitive data was requested.[6]

RESULTS

The data obtained from the questionnaire (n=10) revealed:

- 63 % of students considered that the experience "greatly" strengthened their critical thinking and decision-making skills; 37 % considered it "somewhat" effective.
- 62 % reported a significant ("much") increase in their professional confidence; and 38 %, "some."
- 87 % highly valued ("a lot") the *debriefing* session as a space for integrating theory and practice.
- 88 % indicated a noticeable increase in their motivation to learn.
- 63 % reported clear improvements in their clinical skills, and 37 % said they improved "somewhat."
- 50 % reported a significant reduction in their level of fear when dealing with real patients.

These findings align with previous studies that highlight simulation as an effective tool for promoting critical thinking, clinical confidence, decision-making, and reflective learning, primarily through structured *debriefing*[7,8,9] and the perception of improvements in technical skills, critical reasoning, and decision-making after participating in clinical simulations.[10]

Qualitative comments reinforced these findings, highlighting the value of a safe environment, the potential to apply prior knowledge, and the opportunity to receive immediate feedback.

Illustrative vignette

During the third year of the Music Therapy degree program at the University of Business and Social Sciences (UCES), access to the clinical simulation laboratory was a fundamental tool for consolidating the theoretical knowledge acquired in class. In this context, practical training was carried out with simulated patients presenting diagnoses such as multiple sclerosis, Alzheimer's disease, and schizophrenia, as well as in areas of neonatal and pediatric intensive care. These experiences enabled students to confront novel clinical situations with a level of complexity suitable for their stage of training, thereby facilitating the application of specific clinical-musical interventions tailored to each case.

Clinical simulation proved essential in reducing the anxiety associated with the first encounter with real patients, contributing to the development of the confidence necessary to perform professionally when beginning the pre-professional internships corresponding to the fourth year of the degree program. Through feedback and group reflection sessions led by the teaching team present at each simulation, it was possible to identify areas for improvement in intervention skills, a key aspect in ensuring adequate support in real clinical situations.

One of the most significant scenarios involved a simulated patient with multiple sclerosis who had severe mobility limitations. In this case, strategies were developed to adapt musical instruments to the patient's functional abilities. For example, a drum and cymbal were arranged on a stand so that the patient could play them with minimal movement, thus enabling active participation in the musical intervention.

Likewise, the educational value of debriefing as a space for reflection and self-assessment has been highly recognized by students. As Padilla et al.[10] point out, this instance enables students to review their knowledge, skills, and attitudes, promoting self-regulated learning and improved future performance.

The positive perception of the educational environment, the usefulness of simulated clinical practices, and the facilitating role of the teaching team are in line with findings reported by Fernández et al.[11], who observed high levels of student satisfaction with the environment, the resources available, and the safety provided during the simulation activities.

The motivation observed in the participating students is also consistent with studies that highlight that clinical simulation, in itself, acts as a stimulus for learning, beyond previous academic performance or the number of courses taken.

DISCUSSION

The results of this experience align with recent findings that demonstrate significant improvements in the development of interpersonal skills, teamwork, leadership, and clinical competencies following exposure to high-fidelity clinical simulations,[9] highlighting *debriefing* as a key instance where experiential learning is consolidated, promoting reflection and professional self-awareness.[7,9]

The systematization of this experience confirms the high educational value of clinical simulation in the context of music therapy training. Although this methodology has traditionally been applied in disciplines such as medicine and nursing,[2,3,8] its implementation in areas related to arts-based therapies represents an emerging field, with challenges and opportunities specific to these fields.

The data indicate a positive impact on key competencies, including critical thinking, clinical confidence, the integration of theory and practice, and therapeutic skills. The fact that 88 % of students valued the *debriefing* reinforces its centrality in the pedagogical model of experiential learning.

Challenges in implementation

Challenges in implementing clinical simulation in music therapy training include the lack of specific literature, the need for teacher training in the design, moderation, and evaluation of clinical-musical simulations, and logistical and technological challenges (space, equipment, availability of trained actors). Unlike disciplines such as medicine or nursing, the application of clinical simulation in MT requires careful design of scenarios that reflect the complexity of musical interventions and the specific role of the music therapist.

The challenges mentioned include integrating technology that reproduces realistic emotional and behavioral responses in simulated patients, the need to train actors and teachers in the clinical-musical approach, and investing in specialized infrastructure that provides an appropriate acoustic, emotional, and physical environment.

Future projections and improvements

- Expansion of clinical settings to other curricular levels and community areas.
- Longitudinal evaluation of the educational impact on real-life practice and clinical performance.
- Use of immersive technologies such as virtual reality.
- Generation of an institutional line of research on simulation in the discipline.

In future implementations, it would be valuable to incorporate structured evaluations by dimensions, such as those identified by Padilla et al.[10], who validated key factors including pedagogical usefulness, theory-practice integration, and clinical confidence.

In addition to reinforcing specific skills, clinical simulation is valued by students as a safe environment where they can develop critical thinking and procedural skills without putting others at risk. This perception coincides with the experience analyzed in our study, where participants highlighted reduced anxiety and increased confidence in facing real clinical situations.

As Fernández et al. point out, well-structured clinical simulations allow for a comprehensive assessment of knowledge, attitudes, and skills, which supports the need to develop specific rubrics for MT as part of future institutional planning.

It should be noted that the most effective simulation approaches are based on *role-playing* methodologies in realistic contexts, with the participation of interdisciplinary teams, which justifies their extension to other disciplines of the so-called arts-based therapies.[8] The use of clinical simulation in music therapist training is an educational innovation that brings significant benefits, including the strengthening of therapeutic skills, improved professional communication, and increased student confidence.

As this tool continues to develop, its integration into undergraduate training promises to transform the teaching of the discipline, preparing future professionals to face the challenges of the real clinical environment with greater confidence. Investment in these technologies and methodologies not only enriches training but also strengthens the role of music therapy as a key discipline in the health system, ensuring higher quality and safety in patient care.

CONCLUSIONS

The implementation of clinical simulation in the training of music therapy students proved to be a highly effective pedagogical tool for strengthening critical thinking, decision-making, and professional confidence, which are essential for future clinical performance. The experience with simulated patients allowed for the application of theoretical knowledge in complex and safe contexts, facilitating the development of specific clinical competencies from both a practical and reflective perspective.

Structured *debriefing* emerged as a key instance in the learning process, promoting the integration of theory and practice, as well as self-regulated learning. Immediate feedback and teacher support contributed significantly to students identifying their strengths and areas for improvement, thereby favoring emotional and technical preparation for real patient contact.

Quantitative and qualitative findings reveal a largely positive perception of the use of clinical simulation, both in terms of motivation and anxiety reduction in real-life situations. These results align with previous studies and underscore the importance of systematically incorporating this resource into university music therapy training, particularly during the stages preceding pre-professional internships.

Acknowledgments

We are deeply grateful to all the students who participated in the clinical simulation laboratory experiences of the Music Therapy program at UCES. We would also like to thank the departments of Theory and Methodology for Children and Adolescents and Theory and Methodology for Adults and Older Adults, as well as Professor Norma Cabral, for her valuable collaboration. Special mention and thanks go to Dr. Carlos H. Spector, creator of the clinical simulation laboratory at UCES.

REFERENCES

1. World Federation of Music Therapy. Definition of Music Therapy. 2024. Available from: https://www.wfmt.info/

2. Gaba DM. The future vision of simulation in health care. Qual Saf Health Care. 2004;13(Suppl 1):i2-i10. https://doi.org/10.1136/qhc.13.suppl_1.i2

3. International Nursing Association for Clinical Simulation and Learning. Standards Committee. Healthcare Simulation Standards of Best Practice™. 2021. Available from: https://www.inacsl.org/standards-of-best-practice/

4. Lateef F. Simulation-based learning: Just like the real thing. J Emerg Trauma Shock. 2010;3(4):348-352. https://doi.org/10.4103/0974-2700.70743

5. Kolb DA. Experiential Learning: Experience as the Source of Learning and Development. Prentice Hall; 1984.

6. Canova Barrios CJ. Aspectos éticos en la publicación de manuscritos científicos: Una revisión de literatura. Salud Cienc Tecnol. 2022;2:81. https://doi.org/10.56294/saludcyt202281

7. Motola I, Devine LA, Chung HS, Sullivan JE, Issenberg SB. Simulation in healthcare education: A best evidence practical guide. Med Teach. 2013;35(10):e1511-e1530. https://doi.org/10.3109/0142159X.2013.818632

8. Okuda Y, Bryson EO, DeMaria S, et al. The utility of simulation in medical education: what is the evidence? Mt Sinai J Med. 2009;76(4):330-343. https://doi.org/10.1002/msj.20127

9. Alonso-Peña M, Álvarez C. Clinical simulation in health education: a systematic review. Invest Educ Enferm. 2023;41(2):e08. https://doi.org/10.17533/udea.iee.v41n2e08

10. Padilla MJ, González J, Sarmiento F, Tripoloni D, Cohen-Arazi L. Simulación clínica: Validación de encuesta de calidad y satisfacción en un grupo de estudiantes de Medicina. Rev Esp Educ Med. 2024;1:e591511. https://doi.org/10.6018/edumed.591511

11. Fernández OG, Robledo GP, Canova-Barrios CJ. Satisfacción de estudiantes de enfermería con las experiencias y espacios de simulación. Salud Cienc Tecnol Ser Conf. 2023;2:420. https://doi.org/10.56294/sctconf2023420

FUNDING

The authors did not receive funding for the development of this research.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

AUTHOR CONTRIBUTION

Conceptualization: Marcela Lichtensztejn.
Data curation: Marcela Lichtensztejn, Camila B. Trivarelli, Carlos Canova-Barrios.
Formal analysis: Marcela Lichtensztejn, Camila B. Trivarelli, Carlos Canova-Barrios.
Research: Marcela Lichtensztejn, Camila B. Trivarelli, Carlos Canova-Barrios.
Methodology: Marcela Lichtensztejn, Camila B. Trivarelli, Carlos Canova-Barrios.
Project management: Marcela Lichtensztejn.
Resources: Marcela Lichtensztejn, Camila B. Trivarelli, Carlos Canova-Barrios.
Supervision: Marcela Lichtensztejn, Camila B. Trivarelli, Carlos Canova-Barrios.
Validation: Marcela Lichtensztejn, Camila B. Trivarelli, Carlos Canova-Barrios.
Writing – original draft: Marcela Lichtensztejn, Camila B. Trivarelli.
Writing – review and editing: Marcela Lichtensztejn, Carlos Canova-Barrios.