

PAPER

A Phenomenological Analysis of Challenges and Benefits of Online Learning Transformation in the Masters of Health Professions Education

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ABSTRACT

Learning that challenges preconceived notions and inspires the development of fresh perspectives on the world has been referred to as transformative learning. This study offers a thorough analysis of how changes in learning have been reflected, including how they have an impact on curricula, in order to guide the master of health professions education's potential field applications. Through purposive sampling, 15 students of MHPE from Islamic International Medical College, Rawalpindi, Pakistan have been chosen. The study design is phenomenological in nature. A semi-structured interview has been used. All the interviews were audio-recorded and separately transcribed. The transcribed interviews were then imported into NVivo software version 11 for analysis. A thematic analysis has been done and six themes are generated. The applications of distance learning positively related to teaching and learning practices and students identified a change in their attitudes toward distance learning. Major factors recognized were student-centered learning, small group discussions, peer-assisted learning, technology awareness, personal grooming, and motivation. About three-fourths of the sample population experienced a transformation in their distance learning after going through a Master's in Health Professionals Education. The impact of hands-on activities and small group discussions turned out to be the strongest factors that caused the transformation in distance learning.

KEYWORDS

transformation, distance learning, master in health professions education, phenomenological design, thematic analysis, NVivo

1 INTRODUCTION

A master's degree in health professions education (MHPE) is a particularly innovative partnership of physician educators and education specialists. For doctors

Zahoor, A., Fatima, F., Kiran, F., Hanif, M.I., Fatima, S., Waziri, S.A., Khan, R.A. (2023). A Phenomenological Analysis of Challenges and Benefits of Online Learning Transformation in the Masters of Health Professions Education. *International Journal of Interactive Mobile Technologies (iJIM)*, 17(22), pp. 117–135. <https://doi.org/10.3991/ijim.v17i22.41417>

Article submitted 2023-05-15. Revision uploaded 2023-09-30. Final acceptance 2023-09-30.

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and other healthcare professionals who desire to study master's level training, evidence-based education, educational scholarship, and educational technologies, it offers a comprehensive, creative program [1]. This program's primary method combines brief on-site intensives with adaptable distance learning, which accepts professionals from a wide range of geographic regions and professional positions and responsibilities. Medical education has become a prominent specialty in many other nations, but it has only recently been acknowledged in Pakistan. The rise in postgraduate programs in this area worldwide (7 to 126+) and in Pakistan (2 to 8), over the past 20 years, can be used to gauge interest in medical education [2]. Master in Health Professions Education (MHPE) programs in Pakistan, like in many other countries, face several challenges. These challenges can impact the quality of education and training for healthcare professionals and ultimately affect the healthcare system. One of the primary challenges is the lack of a standardized accreditation system for MHPE programs. This can lead to variations in program quality, content, and assessment methods across different institutions. Such programs foster the growth of teachers, learner leaders, and researchers while enhancing knowledge and promoting transformational changes in educational practices.

Distance education universities have conventionally been thoughtful of the requirement to provide alternatives for their diverse range of students across the universal educational community. A university needs to frequently evaluate, transform, and reform teaching and learning strategies on an ongoing basis for the success of its mission competently within this setting. To achieve these goals, traditional distance education universities are expanding the range of teaching and learning options by utilizing online teaching and learning applications. Master in Health Professions education is relatively a new way of training adult teachers in our Southeast region, recently adopted in our education system and not many educators know about it. This study will let us know about the changes this program made from the perspective of the online transformation of the people who got this training. Because of the slower rates of technical change, processes of knowledge updation could be engrossed within the workplace. There were different assumptions and strategies about the development of technologies and work organization with thoughtful consequences for the development of policies and strategies for education training and competence development [3]. Many institutions in Pakistan, especially public ones, face resource constraints. The rapidly evolving healthcare landscape requires constant updates to curriculum and teaching methods. Developing fair and effective assessment methods that accurately measure students' knowledge and skills is a challenge. There's often a need for standardized and reliable assessment tools. Encouraging collaboration and teamwork among healthcare professionals from different disciplines is crucial for patient care. However, incorporating IPE into MHPE programs can be challenging due to logistical and cultural barriers. Promoting a culture of research and scholarship in health professions education is essential for continuous improvement. However, limited research funding and a lack of research infrastructure can hinder this aspect. Providing students with quality clinical training experiences can be challenging, particularly in rural and underserved areas. This can impact the practical skills and exposure of healthcare professionals. Ensuring that graduates of MHPE programs meet regulatory requirements and certification standards can be complicated. The lack of clear guidelines and coordination with regulatory bodies can be problematic. The integration of technology into health professions education is crucial for modernizing teaching and learning methods. MHPE programs often attract students from diverse backgrounds and with varying levels of prior education. Meeting the needs of a diverse student body can be challenging.

Measuring the outcomes and impact of MHPE programs on healthcare delivery and patient outcomes is essential but can be difficult to achieve comprehensively [3]. To address these challenges, it is essential for institutions offering MHPE programs in Pakistan to collaborate with relevant stakeholders, including regulatory bodies, healthcare providers, and professional associations. Developing a comprehensive and standardized accreditation process, investing in faculty development, and continually updating curricula are critical steps toward improving the quality of health professions education in the country.

At the same time, there has been growing concern over a new gap in skills for information and communications technologies, and the general abilities required to use new technologies in the workplace. New elementary skills or key qualifications in a modern context are being suggested as a means to meet this new challenge. This study accounted for the two components i.e., the online instrumental and the communicative components in figuring out the factors which have caused a change in the sample of study during the MHPE program. This study is necessary to expand the horizons of MHPE. In this study, researchers tried to identify the factors that caused a transformation in online applications of learning and to what extent the students felt the change in their learning at the postgraduate level. In this look, researchers attempted to explore the factors (challenges and benefits) that cause the transformation in distance learning of master in health professions education.

2 LITERATURE REVIEW

The number of master's degree programs in Health Professions Education (MHPE) has increased from 7 to 121 globally over the last 15 years [4]. Due to the growing demand for people with specialized expertise about how to best educate future health professionals, new MHPE programs continue to be established every year. A symposium was held in Lyon, France, in 2012 as part of the Association of Medical Education in Europe (AMEE) meeting to discuss the causes of the growth of MHPE programs globally. Formal certification, familiarity with a variety of theories and frameworks, fresh perspectives on issues and ways of thinking, guided projects, networking opportunities, and collaboration with professors and other students are just a few of the benefits of enrolling in a master's program in HPE [5]. The absorption in the medical school environment and integration of a new approach to scholarship and a new approach to leadership are what make being a trainee in an MHPE program special [6]. The Internet is well on its way to becoming the most pervasive technology of the twenty-first century in all of its manifestations and uses. The way the world does business, how formal education is delivered, and how people connect with one another are all being changed by it. The Internet has already proven to be a priceless resource for both formal health education and the dissemination of knowledge, instruction, and education to patients and staff by healthcare professionals. Modern Internet technology will change the delivery of healthcare practices and systems as new health paradigms emerge [7].

Transformative learning encompasses change in the frames of position that we use to make sense of our lives. In particular, an institutional philosophy that endorses the use of its funds to promote instructional and educational technology choices discussions with the faculty, encourage teamwork promotion, and the formation of communities of professional learning, helps to lay the foundation for transformative learning to take place [7]. Teachers need learning practices (transformative in

online application design) that are engaged in work with a diverse classroom. It is said that learning experiences for teachers are designed by online applications of learning that seek to transform their skills, knowledge, and insights to the level of professional teachers and also as change agents in certain places. University mission statements time and again describe learning that is envisioned to transform students and communities [8]. A study revealed that 35% of participating students stated experiencing transformative learning as a result of critical reflection on confusing online applications of learning [9]. Certain learning activities promote transformative online applications of learning like classroom discussions, personal reflection, critical thinking, and mentoring. Perspective transformation stages start as a process of transformative learning. This process begins with a dilemma and is regarded as intentional and conscious through critical reflections that get transformed through online applications of learning. This distorting dilemma can be any incident or a life event that a person experiences as a crisis that cannot be fixed by applying earlier problem-solving tactics. As a result, the engagement in hostile and undesired emotions in the context of the self-examination of a person leads to critical assessment as an outcome or result of that stress. This uncomfortable situation led the individual to consider and discover new possibilities. The effort does not stop till the time the individual fully integrates the new learning of beliefs, behaviors, and attitudes into their and develop fresh perspective transformation in online applications of learning [10].

Adult learners change their understanding and expectations to handle new information through perspective transformation experiences by applying new information to their lives. They just do not rely on the lectures from the teachers only. How new ideas and information can impact learning and belief and can cause confusion in the values and understanding of a learner is their own experience. The major changes are often momentous stages of a lifetime journey to their full strength [11]. Society benefited greatly from the generations of scientifically proficient doctors that medical education produced throughout the 20th century. However, significant changes started to emerge around the turn of the millennium. Every facet of medical education and doctors' intentions for choosing their careers have been impacted by this change. Graduate preferences have an impact on career decisions both before the medical education program begins and during their training after graduation. The shift from the relatively undifferentiated "stem doctor" to the fully-differentiated specialist, who is essentially limited to one particular area of medical practice, is the specialty [12]. Based on societal changes, rising public expectations, requirements of accrediting agencies, and evidence-based education requirements, interest in specialization in Health Professions Education (HPE) has increased recently. After going through empirical research articles, review articles and qualitative and mixed-method studies, literature review revealed that a lot of work has been done on transformative learning through online applications and factors that cause the transformation of learning in postgraduate learners all over the world. No such study has been done on how the transformation in online applications of learning occurs in students of Masters of Health Professionals education.

2.1 Challenges in online learning transformation

The transformation of education to an online format has brought numerous benefits, but it also comes with several key challenges that must be addressed to ensure

its success. Not all students have access to the necessary technology and high-speed internet connections. This digital divide can create inequality in access to education, disadvantaging students from lower-income households or rural areas [13]. Many students and even some educators may not be fully proficient in using online learning tools and platforms. Digital literacy is crucial for effective online learning, and lack of it can hinder the learning process. Online learning can be isolating, making it challenging to keep students engaged and motivated. The absence of face-to-face interactions can lead to feelings of detachment and disengagement. Ensuring the quality of online instruction is a significant challenge. Not all educators are experienced in designing and delivering effective online courses, which can lead to variations in the quality of education. Many educators require training and support to effectively transition from traditional teaching methods to online instruction. Professional development opportunities are essential to help them adapt to new teaching technologies and methods [14]. Online learning can lack the social interaction and collaboration that traditional classrooms offer. Building a sense of community and facilitating group work can be challenging in virtual environments. Online learning often requires students to manage their time effectively and exhibit self-discipline. Some students may struggle with these skills, leading to procrastination and poor performance. Ensuring that online learning is inclusive and caters to the needs of all students, including those with disabilities, can be complex. It's crucial to provide accommodations and accessibility features. Technical glitches, server outages, and other technical issues can disrupt online classes, causing frustration and impacting learning continuity. Developing and maintaining an online learning infrastructure can be costly for educational institutions [15].

Balancing the costs with the benefits and ensuring affordability for students can be challenging. Online learning platforms collect a significant amount of student data, raising concerns about privacy and data security. Protecting sensitive information is a priority. Prolonged periods of online learning can lead to feelings of isolation and negatively impact students' mental health. Providing support services and promoting well-being is essential. Ensuring that online course content remains up-to-date and of high quality can be challenging. Rapid developments in some fields require continuous updates to course materials. Meeting regulatory and accreditation requirements for online programs can be complex. Educational institutions must navigate these requirements while offering online courses. Addressing these challenges requires a collaborative effort involving educators, students, policymakers, and technology providers. Continuous improvement and adaptation to the evolving landscape of online learning are essential for its long-term success [16].

2.2 Mezirow's theory and its application in the context of health professions education

Mezirow's transformative learning theory has been applied and found relevant in various fields, including health professions education. Transformative learning theory, developed by Jack Mezirow, focuses on how learners can undergo significant personal and cognitive change through the process of critical reflection and self-examination [17]. In the context of health professions education, Mezirow's transformative learning theory plays a crucial role in several ways:

1. **Enhancing Critical Thinking:** Transformative learning encourages students to critically examine their assumptions, beliefs, and attitudes. In health professions

education, this can be particularly important as it helps students question pre-conceived notions and engage in evidence-based practice.

2. **Cultural Competence:** Healthcare providers need to be culturally competent to provide effective care to diverse patient populations. Mezirow's theory can help students reflect on their own cultural biases and develop a deeper understanding of the cultural perspectives of their patients.
3. **Professional Identity Formation:** Health professions education involves the development of a professional identity. Transformative learning helps students explore their roles and responsibilities as healthcare providers, leading to a more profound commitment to their chosen profession.
4. **Patient-Centered Care:** Transformative learning can promote a patient-centered approach to care. Through critical reflection, students can better understand the patient's perspective and collaborate with them in shared decision-making.
5. **Interprofessional Collaboration:** In healthcare, teamwork and collaboration are essential. Transformative learning can facilitate the development of skills necessary for effective collaboration, such as communication, empathy, and the ability to adapt to diverse team dynamics.
6. **Lifelong Learning:** Health professions are constantly evolving with new research and technologies. Transformative learning encourages students to become lifelong learners who are open to change and new information, a vital quality in the healthcare field.
7. **Emotional Intelligence:** Health professionals often deal with emotionally charged situations. Transformative learning can help students develop emotional intelligence and self-awareness, enabling them to navigate these situations with empathy and compassion.
8. **Ethical Decision-Making:** Healthcare providers frequently encounter ethical dilemmas. Transformative learning can assist students in examining their values and ethical principles, helping them make ethical decisions in complex situations.
9. **Adapting to Change:** The healthcare field is dynamic, with continuous changes in policies, procedures, and technologies. Transformative learning equips students with the skills to adapt to these changes and stay up-to-date in their practice.
10. **Self-Efficacy and Resilience:** Transformative learning can enhance students' self-efficacy and resilience, helping them cope with the challenges and stresses of the healthcare profession [18].

Incorporating Mezirow's transformative learning theory into health professions education typically involves creating reflective learning experiences, such as journaling, group discussions, case studies, and simulations. These activities encourage students to question their assumptions, consider different perspectives, and develop a deeper understanding of themselves and their roles as healthcare providers. Ultimately, this can lead to more competent, empathetic, and reflective professionals who provide high-quality patient care. Jack Mezirow's theory of transformational learning is a well-known framework that has been applied to various fields, including education and in the context of master's programs in Health Professions Education [18].

This theory provides a conceptual framework for understanding how adults can undergo significant cognitive and emotional changes through the process of learning. Mezirow's theory revolves around the idea of transformative learning, which is the process through which learners critically reflect on their beliefs, assumptions, and perspectives, and then make fundamental changes to these cognitive structures [19].

Transformational learning often begins with a disorienting dilemma, an experience or situation that challenges a person's existing beliefs or worldview. In the context of Health Professions Education, this might be a situation where students encounter ethical dilemmas, cultural differences, or complex healthcare issues that force them to question their preconceived notions [20]. Transformational learning involves critical reflection, where learners engage in deep self-examination and evaluation of their beliefs and assumptions. In Health Professions Education, students may reflect on their biases, values, and cultural competency in the context of patient care. The ultimate goal of transformative learning is perspective transformation, where individuals undergo a shift in their worldview and develop a more inclusive, open-minded, and adaptable perspective. This is particularly relevant in healthcare education, where professionals need to be flexible and culturally sensitive in their practice [21].

2.3 Application of master's in health professions education

Programs in Health Professions Education can be designed to incorporate disorienting dilemmas and opportunities for critical reflection. Case studies, simulations, and real-world healthcare experiences can be integrated into the curriculum to challenge students' existing beliefs and promote transformative learning. Reflective practice, such as journaling or group discussions, can be a key component of Health Professions Education [22]. Students can regularly reflect on their experiences in clinical settings, patient interactions, and ethical dilemmas, fostering critical reflection and perspective transformation. Given the diverse patient populations encountered in healthcare, addressing cultural competency and diversity is essential. Mezirow's theory can inform the development of modules or courses that challenge biases, promote empathy, and encourage learners to examine their assumptions about different cultures and communities. Faculty members in Health Professions Education can also benefit from understanding Mezirow's theory. They can use this knowledge to create an environment that encourages transformative learning, provide guidance on critical reflection, and model open-mindedness and adaptability in healthcare practice [23]. Research on the transformation of online learning has been evolving rapidly, and there are several key research gaps that have emerged between previous studies and current research. These gaps highlight the changing landscape of online education and the need for further investigation in various areas [24]. Here are some notable research gaps:

1. **Hybrid and Blended Learning Environments:** While previous studies often focused on fully online or traditional in-person learning, there is a growing need to understand the effectiveness and challenges of hybrid and blended learning models, which combine both online and in-person elements. Research should investigate how these models impact student outcomes, engagement, and the overall learning experience.
2. **Technological Advancements:** The online learning environment has witnessed significant technological advancements, such as the widespread adoption of artificial intelligence, virtual reality, and adaptive learning systems. Current research should explore how these technologies can enhance online education, personalize learning experiences, and improve student success.
3. **Accessibility and Inclusivity:** Current studies need to address the ongoing challenges related to accessibility and inclusivity in online learning. Research

should examine how to make online education more accessible to individuals with disabilities, those from diverse backgrounds, and learners with varying levels of digital literacy.

4. **Learning Analytics and Data-Driven Decision-Making:** There is a need for research that delves deeper into the use of learning analytics and data-driven approaches to improve online learning. This includes studying how institutions can effectively collect, analyze, and use data to inform instructional design, support services, and student interventions.
5. **Student Engagement and Motivation:** Online learning presents unique challenges related to student engagement and motivation. Researchers should explore strategies and interventions to enhance student engagement, address motivation issues, and foster a sense of belonging in virtual classrooms.
6. **Teacher and Instructor Training:** The role of online instructors is critical in the success of online learning. Research should focus on effective training and professional development programs for online educators, including strategies for building strong online instructor-student relationships.
7. **Assessment and Authentic Evaluation:** Current research should examine innovative approaches to online assessment and evaluation methods. This includes exploring ways to ensure the authenticity and integrity of online assessments, as well as the effectiveness of alternative forms of assessment beyond traditional exams.
8. **Global Perspectives and Cultural Adaptation:** Online learning is increasingly global, and research should consider the cultural and contextual factors that influence online education. How can online courses be adapted to suit diverse cultural and linguistic backgrounds, and how do these factors impact learning outcomes?
9. **Policy and Regulation:** As online education continues to grow, there is a need for research that examines the regulatory and policy frameworks governing online learning at the institutional, national, and international levels. How do these policies impact access, quality, and equity in online education?
10. **Long-Term Impact and Sustainability:** It's crucial to investigate the long-term impact of online learning on students' academic and career trajectories. Research should also consider the sustainability of online education models and their potential to complement or replace traditional educational approaches [25].

In summary, Mezirow's theory of transformational learning can be a valuable framework for master's programs in Health Professions Education. It can help educators design curricula that promote deep reflection, challenge existing beliefs, and prepare healthcare professionals to navigate the complex and evolving healthcare landscape with an open and adaptable mindset. These research gaps represent evolving challenges and opportunities in the field of online learning. This study was a try to address these gaps to inform the design, implementation, and improvement of the online education program of health professions education in Pakistan.

3 RESEARCH METHODOLOGY

Study Settings: The study was conducted on the medical health care professionals who completed their MHPE at Riphah University of Medical Sciences Islamabad

by using a distance approach to learning. The study duration was from 1st January to 30th July 2017. Ethical approval was given by the ethics review committee, Islamic International Medical College, for 1 year till January 17, 2018; Reference no. Riphah/FHMS/ERC/17/0180. Informed consent was taken from all the participants and were informed about the research protocols. Privacy and confidentiality of data were kept at all levels of conducting research.

Study population: A total of 15 students of MHPE batch 2, Riphah University of Medical Sciences participated in this study. The reason for selection for the study was to get in-depth knowledge about the transformation in online applications of learning in light of their master's journey in the MHPE program and also because of the reason that they are involved as faculty in active teaching in medical schools. In this study, 15 students of Master's in Health Professionals Education from Riphah University of Medical Sciences participated. The purposive sampling technique was used. Those involved in teaching at medical schools were preferred because of their online experience. The purposive sampling technique was used to achieve in-depth knowledge of online learning experiences.

Research Design, Data Collection Method, and Analysis: The use of phenomenological research methods in the field of health professions education (HPE) can be a valuable approach to exploring and understanding the experiences and perspectives of educators, students, or other stakeholders in the context of HPE. This method is suitable for research because phenomenological studies aim to uncover the essence of lived experiences and the meaning individuals ascribe to those experiences. Phenomenological studies typically focus on in-depth exploration of a specific phenomenon or experience from the perspective of individuals who have directly experienced it. While it is common to target one institute or a single setting for phenomenological research, the choice to do so depends on the research question, objectives, and the nature of the phenomenon of this study being studied. The phenomena of transformation in online learning of MHPE was tightly connected to a particular setting of Riphah International University because Riphah International University's MHPE program has gained recognition and accreditation, and it might attract students from both Pakistan and abroad. Researchers were interested in exploring the experiences of health professions educators in a specific institute where the online learning program of MHPE is offered. It makes sense to target that institution to gain a deep understanding of the phenomenon within that context. Focusing on one institute can allow researchers to collect rich and detailed data from a homogenous group of participants who have a shared experience. This depth of data can lead to a more comprehensive understanding of the phenomenon. Limiting the study to one institute can make the research more manageable in terms of data collection and analysis. It may also reduce logistical challenges associated with recruiting participants from multiple locations. Researchers may want to gain an in-depth understanding of how a particular phenomenon is influenced by the specific context or culture of a single institution. This can lead to valuable insights that might be lost in a broader study.

The data collection method adopted in-depth, semi-structured interviews, with a saturation point of exhaustion of new ideas. All interviews were conducted through telephone calls and were recorded. The interview started with an open-ended question: "How MHPE has influenced on your online learning?" This was the start of the interview and made room for further questions. No promises for awards to anyone for participation were made, it was solely voluntary. The consent participation information sheet was sent to the participant via email. Sensitization with the research

topic was done by emailing the information before the interview. Audio recording via adopter on the telephone was done for participants from geographically dispersed areas and participants' face-to-face interviews were recorded. The time limit of the teacher interview was 30 to 40 minutes. Phone calls were made and e-mails were sent before the interview was conducted.

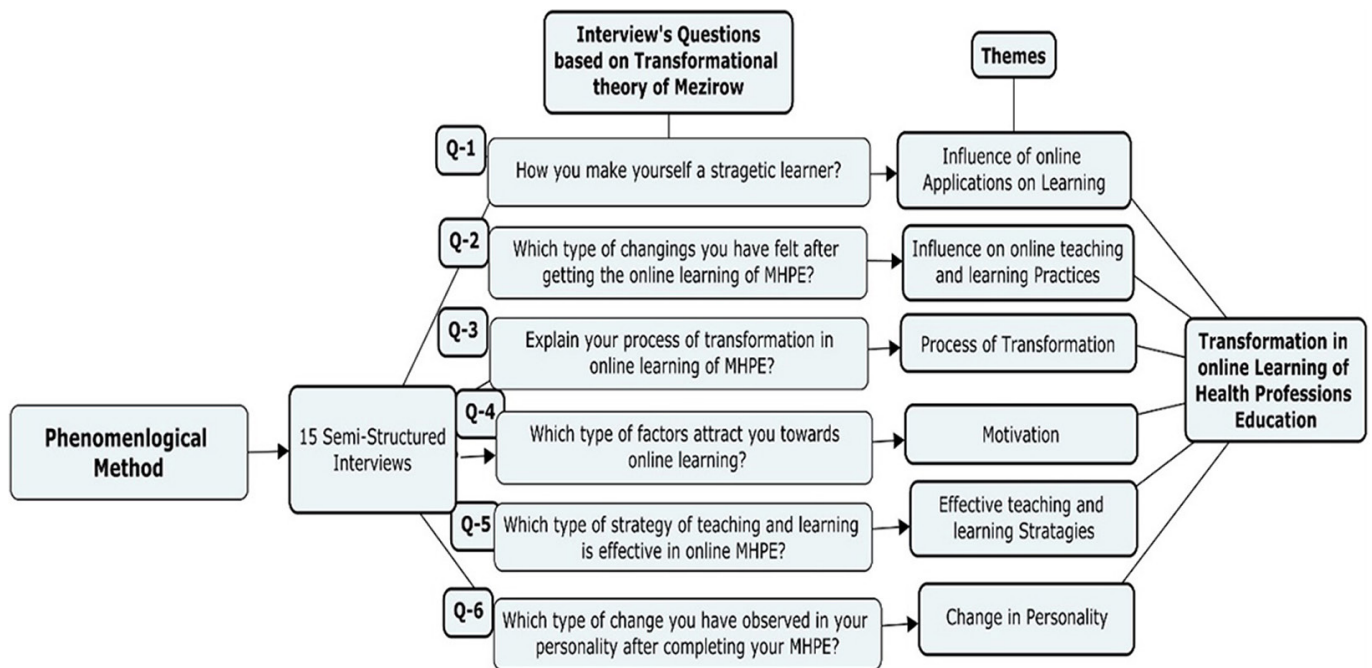


Fig. 1. Thematic framework

Data were imported into NVivo. This includes interview transcripts (text-based data). Researchers began by reading and familiarizing themselves with the data. Get a sense of the content and context. They created a coding framework by generating initial codes. These codes represent the first level of analysis and capture key concepts, phrases, or ideas from the data. Coded the entire dataset systematically using their coding framework. This involves applying relevant codes to segments of text within the data. After coding a portion of the data, they reviewed their codes to see if they accurately captured the information. They started to identify patterns and themes emerging from the data. Themes are broader, more abstract concepts that group together related codes. They collected and organized all coded data excerpts related to each theme. They again reviewed the themes and their associated data excerpts. Researchers defined and refined the themes, ensuring they accurately represent the content of the data. They created visual representations (e.g., mind maps, diagrams) of themes and their relationships if necessary. They analyzed the themes in-depth, considering the relationships between themes, the significance of each theme, and how they relate to the research question or objective. Researchers documented their analysis, explaining the themes, their meanings, and their relevance to the research. They used quotations or examples from the data to support their findings. To ensure the rigor and trustworthiness of the analysis, they discussed it with peers or used techniques like member checking to verify their interpretations with participants. It's essential to maintain a transparent and systematic approach throughout the analysis to ensure the credibility and trustworthiness of the results.

4 RESULTS

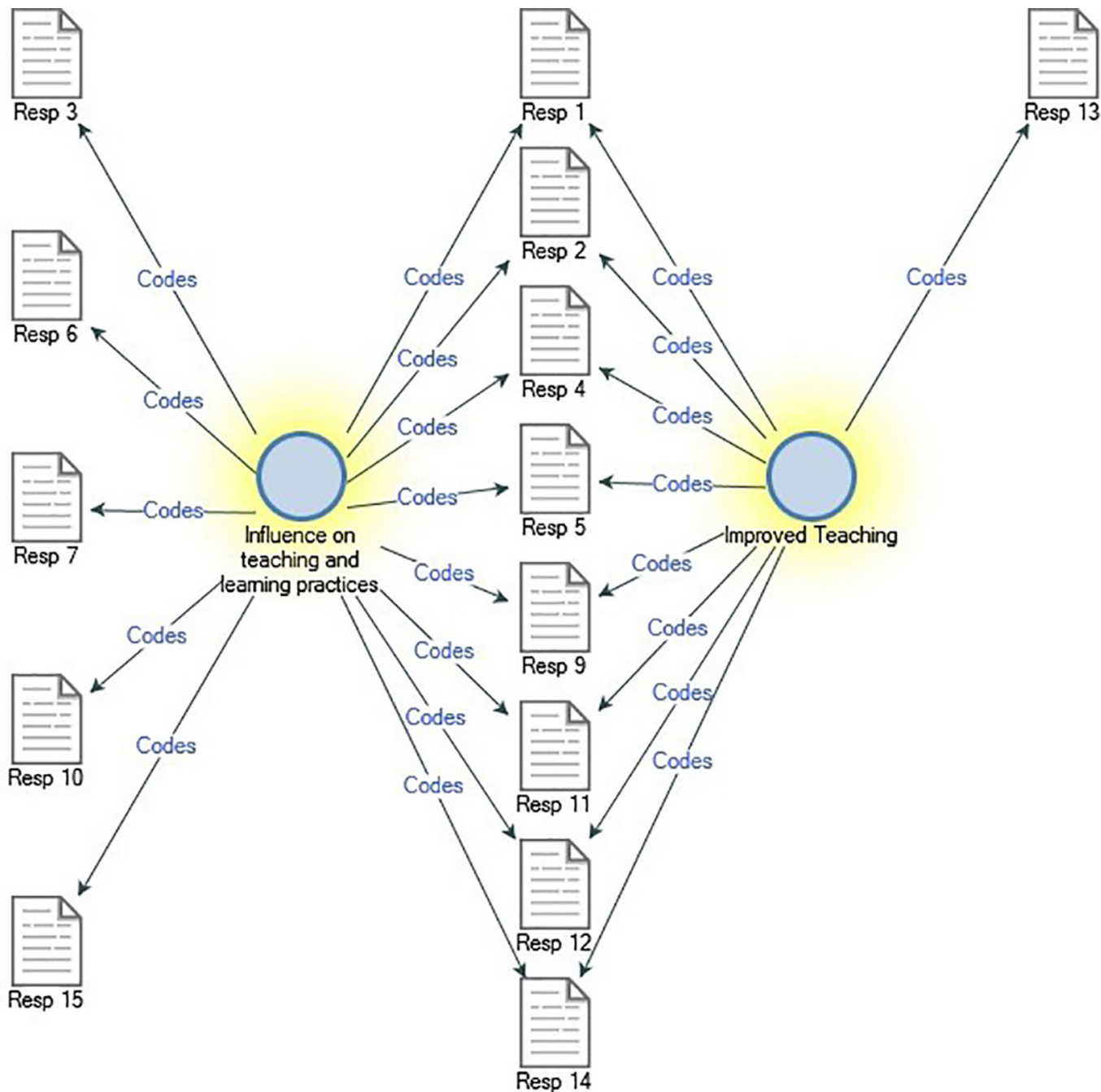


Fig. 2. Codes lead toward themes

After selective coding framework, six themes were found, including the influence on online application of learning, influence on online teaching and learning practices, motivation, teaching-learning strategies by the use of online application of learning, transformation process, and change in the personality of health care educators. It was found that the influence of online learning on various aspects of education, particularly health professions education, is a complex and multifaceted topic. Online learning can empower learners to take greater control of their education.

It allows students to choose when and how they engage with course materials. Online platforms often offer a variety of resources and materials, enabling learners to tailor their learning experience to their individual needs and preferences. Online learners often need to manage their time effectively and set goals, which can promote the development of self-regulation skills. Combining online and in-person instruction (blended learning) can provide a more versatile and effective learning environment. In health professions education, this approach can enhance both theoretical knowledge and practical skills. Online platforms can employ adaptive algorithms to personalize the learning experience, catering to individual student needs and abilities. Online platforms enable easy access to a wealth of educational resources, including videos, simulations, and interactive content. Online platforms can incorporate gamification, discussion forums, and interactive quizzes to keep learners engaged and motivated.

Learners can often track their progress, which can provide a sense of accomplishment and motivation to continue. Online discussions and collaboration tools can foster a sense of community and peer support, enhancing motivation. Online courses can facilitate interdisciplinary learning by connecting students from diverse backgrounds and promoting a broader perspective on health professions. Online education encourages lifelong learning, as professionals can access relevant courses and updates throughout their careers. Online platforms enable access to international perspectives and best practices, contributing to the transformation of health-care education. Online learning can require individuals to adapt to new technologies and learning methods, potentially fostering adaptability and openness to change. Managing one's own learning schedule and staying motivated in an online environment can lead to increased self-discipline. Online discussions and group work can improve written communication skills, which are essential in healthcare professions. It's important to note that the impact of online learning can vary depending on the specific context, the quality of the online courses, and the readiness of learners and instructors to embrace this mode of education. To maximize the benefits and mitigate potential challenges, educators in health professions should carefully design and implement online learning experiences that align with their educational goals and the needs of their learners. Additionally, ongoing assessment and evaluation should be conducted to ensure the effectiveness of online education in these settings. Each theme has been elaborated in the description given below:

A) Influence on online applications of learning

This theme emphasizes the changes the MHPE student felt in their learning styles and approaches. A few changes that were recognized are improved communication skills, becoming a strategic learner, and improved teaching skills because some respondents commented, *"It has opened a new vista of methodical learning to carry out the full range of responsibilities of a scholarly educator-leader."* Others said, *"We read somewhere "Confusion is not a bad thing, it is the first step toward understanding. I think, before these master's, many challenges I faced were confusion with no answers, but after doing this course, I feel not only have I found answers to the confusion but always face the challenges and understand the fact that education is an ongoing continuous process which can change according to the trends and cultures."* Similarly, a respondent described, *"Now being a strategic learner I feel I am clearer in concepts and to read everything about a topic does not make schemas in my mind but when I read whatever is required at that time it makes schemas clearer."* These themes relate to the fact that the students going through this program felt that they had a lot more to learn now. Their misconceptions about the learning process became clear and transformed them into

strategic learners so that they could carry out the responsibilities of an educationist better than before. Their communication skills have improved and they feel that they can stand up and speak.

B) Influence on online teaching and learning practices

Many students claimed that they were following the traditional way of teaching and learning which they learned from their typical traditional setups of teaching. Being teachers, they were not aware of the new trends in teaching and the modern ways of learning. They now feel as if they can handle the students in a better way by the use of online applications of learning, as the students of this age are not passive learners like they used to be. Most of them found the teaching and learning process as a burden and took it just as a duty except for a few who were motivated and enjoyed their work. The main factors that were identified were that the students felt that they are now better academic writers. They know how to do research, which was an impossible thing for them previously. The content of this theme emphasizes that new trends of online applications of learning made learning easier. The students of this modern era expect much more from their students, and for that purpose, it is required for today's teachers to be equipped with the new teaching methodologies. They felt that they were not technology friendly before and this MHPE has made them computer smart. A few respondents commented on their old and new practices as *"Umm... I can see a major difference in my teaching practices. Before joining MHPE I used to be a teacher who just delivered lectures without involving my students, without interacting with them, and without identifying the problems they might be facing in understanding the content. I was just a source of information transfer."* Others stated, *"Research is helpful in that now I am way more well aware of the statistical results, applying methodologies, student samples, and all these things. I am more confident than I was before. So, there is no more fear of writing and planning a research article for my topic and also for my students. Now I know the methodology much better than ever before."* Similarly, a respondent said, *"MHPE program has influenced my learning in a way that I was not used to reading from soft copies so the first thing I felt is that I can now study from soft copies. Initially, it was very difficult to read from the computer. But, with time, I found it easier as I found all my books in one computer and all my materials were available in a single location to study."* A few respondents commented that they were not that bad in their teaching and learning practices before as well but this course has made their concepts clearer and they feel refined in their practices. Some respondents were happy that they has shifted from book reading to computer reading, they are now aware of using much software like Mendeley and NVivo.

C) Motivation

In this theme, the content tells us about the motivational factors which made the respondents join this program and kept them motivated for two years till its completion. Certain factors were recognized through the opinions of the respondents like it was the need for the time to groom themselves and to be equipped with the latest teaching and learning methodologies. The other factor which came up was that it was required for their academic progress and further betterment in their teaching profession. A few respondents said, *"As far as the motivational factor is concerned, we think you should always learn to change your practices. If you learn something and it is not translated into your practices, then you have wasted your learning. So, just to match what you learn and what you practice was always the motivational force behind most of the forces we feel in ourselves."* These views revealed that a formal training program for the teachers is a need of the hour to make them useful for the students of this era.

D) Process of Transformation

This theme explains the different ways the respondents felt they have gone through a process of transformation. The main changes they mention are the practical implications of knowledge, the previous teaching practices, what is the student's response to this change, and their satisfaction level. The responses of some respondents revealed this when they said, *"The process of transformation includes the growth of knowledge which brings a change in yourself or it is moving towards a future desired state. And, of course, I relate this change in me with the process of transformation that I have gone through which is change with knowledge."* Another respondent said, *"Yes, it is a change of heart and I think the change should be adopted. One of my teachers once said that either you be the part of the system or the system will kick you out."* Respondent 9 commented on the student response, *"I can appreciate the change because I find now that the students are attracted more towards my classes and my wards. Even when I do not call them, they come there and want me to take their class and give them more time. They keep telling me their issues and they keep coming to me."* Similarly, Respondent 12 shared the view, *"So, when I go to the lectures, I tell them a few symbolic representations regarding the topic. For example, recently in my lectures I used cartoons for the liver, gallbladder, and the function of the liver and how it develops and things like that. So symbolic representations, pneumonic and simulations make them remember things."* A few respondents took this training as a change and improvement in their teaching and learning process rather than a transformation. Student satisfaction with the delivery of content and the methodology has greatly increased.

E) Teaching and Learning strategies

Covered under this theme are certain teaching and learning strategies highlighted by the respondents of the study with those they got familiar with after these master's in health professions education which helped them in learning. These are small group discussions, peer-assisted learning, and team-based learning. Respondents mentioned the principles of adult learning and the different approaches stressing the constructivist approach. Feedback and a friendly environment are also mentioned as adjuvants to effective teaching and learning strategies. Teamwork and a student-centered approach are other content of the theme. Respondents mentioned the PowerPoint presentations and certain hands-on activities as good teaching and learning strategies. Following are the few views of the respondents; Respondent 8 described, *"We were given small tasks, teams were made and discussions were done. The strength of MHPE was my group, my colleagues, and when all of us used to work together on different tasks, it enhanced our learning."* Respondent 9 said, *"Constructivist approach and social tasks and the class tasks which were assigned to us. The small class format and the interaction with the teacher after the tasks boosted our learning."* Respondent 7 was with the view, *"One thing that learned, understood and that influenced me was that I have to take my students along with me. They are grownups and we have to treat them like adult learners. We have to act like a facilitator and not a dictator."* Respondent 1 said, *"I think there are different teaching and learning strategies, but I think small group discussions were most important and helpful as far as the clinical aspect of teaching is concerned. I found it more assertive."* Student interaction and their feedback were also recognized as an effective strategy for learning and better teaching.

F) Change in Personality

The theme focuses on the personality aspects of the respondents which they experienced after this MHPE. These include a friendlier behavior toward their students and improved listening skills. This has increased their confidence levels, and they feel less

hesitant to stand up and speak in front of the audience. They also have more knowledge now and fully understand their responsibilities towards their students as a teacher. They can manage time much better than before and value the feedback of the students. Another aspect was creating a self-groomed role model who knows all the moral obligations of teachers towards students. Respondent 10 said, *“So overall I have become a better facilitator, a better teacher, and a better collaborator with my colleagues and students. Patience level in me has increased.”* Respondent 12 described it as *“I have modified my style and have modified myself into a humble teacher who has given the students freedom to learn. I think they are an intelligent generation and like to learn in a conducive environment.”* Respondent 3 commented, *“Previously I was very scared to make MCQs and compile them as question papers. And this goes for the assessment of the students too. Now I have a grip over all these things as well as the teaching strategies. Previously whenever a student used to raise a question in the class, I used to feel disturbed and used to find it difficult to handle the students and their questions.”* Another respondent mentioned, *“This program has helped me to change my habits and my attitude towards teaching.”* In this phenomenology study, the results explain the impact of the training during MHPE on the learning of the respondents which was transformed or changed positively. Different strategies like small group discussions and teamwork, as well as new trends in technology, made them equipped to provide for the needs of the students of today’s generation.

5 DISCUSSION

In this study, through thematic analysis, numerous factors emerged which are labeled here as the causes that led to the transformation in online applications of learning in the postgraduate students of MHPE. The factors that influenced the learning came out to be the communication skills, the impact of teachers on the students, and strategic learning. The participants experienced a drastic improvement in their communication skills. The factors that evolved from the themes regarding teaching and learning strategies were the teaching and learning environment, the process of feedback, peer-assisted learning, teamwork, small group discussions, and a student-centered approach. The findings of this study show that online classroom activities like assigned readings, teamwork, and classroom discussion were highly related to experiencing transformative learning. They wanted to equip themselves with the latest contemporary medical education that was going on internationally and was today’s requirement to become a successful teacher. For the rest of the participants, there was no such motivation to enter this program, they just wanted to enhance their qualifications. There should be a learner-centered perspective in the educational system of the future. This would maximize standards of learning and motivation resulting in success for the teacher and the learner. Technology transforms teachers a great deal as the study suggested. In technology adoption and teacher transformation schools, culture plays an important role. On the other hand, changes in the self-perceptions of the elder students also suggest the influence of the study experience on psychological habits of mind, but the experience of the student who succeeded in the course but did not show signs of perspective transformation. This indicates that success can occur without a transformative experience because students start to reflect on their values, beliefs, assumptions, and opinions as they go through transformational phases. They understand that they are in a new situation and must learn to accept the challenges they are being offered. They adapt to follow their targets despite these challenges. Students may end up with challenges and frustrations in their academic and social lives as some of the changes offer considerable barriers.

They just end up building up frustrations in their social and academic lives. These results were quite similar to the work of another researcher, as they also found that in this diverse globalized world, there is interdependency with an environment where adult learners go through transformative learning for the acquisition of knowledge [26]. In most countries, the curriculum of the institutions does not allow the students to participate in online activities and any research projects. Teacher-centered learning prevails mostly in these educational systems. Students depend solely on teachers for knowledge within this framework as teachers become the center of attention [28]. Major factors recognized were student-centered learning, small group discussions, peer-assisted learning, technology awareness, motivation, and awareness of the adult learning theories and their practical implication in the class. 50% of the participants appreciated the transformation of learning after the course and were able to implement this learning at their workplaces. The findings of the study are conclusive of the fact that transformation of learning took place in students of MHPE.

It was found that transformation in Master of Health Professions Education (MHPE) programs involves adapting to changing educational and healthcare landscapes, incorporating innovative teaching methods, and ensuring graduates are equipped with the skills and knowledge needed for effective healthcare practice. MHPE programs need to continually update their curricula to reflect the evolving healthcare environment. This includes incorporating new technologies, addressing emerging healthcare challenges, and aligning with international best practices. Shifting from traditional, content-driven education to competency-based education is a transformative approach [29]. MHPE programs should define clear competencies and assess students' ability to meet these competencies throughout their education. Encouraging collaboration among healthcare professionals from various disciplines is essential for effective patient care. MHPE programs should integrate IPE into their curricula to prepare students for teamwork in real healthcare settings. Embracing technology-enhanced learning methods, such as online courses, simulations, and virtual patient encounters, can make MHPE more accessible and adaptable to the needs of modern learners [30].

Similarly, it was found that providing students with hands-on clinical experiences and exposure to real healthcare settings is crucial. MHPE programs should incorporate experiential learning opportunities to bridge the gap between theory and practice. Transformation involves rethinking assessment methods. Formative and summative assessments should align with program goals and competencies, and they should focus on evaluating critical thinking, problem-solving, and practical skills. Supporting faculty members in their roles as educators is vital. Training and development programs can enhance teaching skills, keep educators updated on the latest pedagogical methods, and promote a culture of continuous improvement [31]. Encouraging faculty and students to engage in educational research and scholarship is transformative. This can lead to the development of evidence-based teaching methods and contribute to the broader field of health professions education. It was also found that considering international perspectives and best practices in health professions education can lead to a more globally competitive program. Collaborative partnerships with institutions abroad can facilitate knowledge exchange and cross-cultural learning. MHPE programs emphasize patient-centered care, ensuring that healthcare professionals are skilled in their fields and compassionate and responsive to patient needs and preferences. Preparing healthcare professionals to work with diverse patient populations is essential. Cultural competency training was integrated into the curriculum. Instilling a culture of quality improvement and patient safety within MHPE programs can transform healthcare delivery. Graduates should be equipped to identify and address system-level issues. This result is quite similar to the findings of another researcher in which authors found that MHPE programs can incorporate themes of sustainability

and social responsibility to address healthcare disparities, promote equity, and engage students in addressing societal health challenges. Transformation in MHPE programs requires collaboration among educators, healthcare institutions, and regulatory bodies. It involves a commitment to ongoing assessment and improvement, a focus on producing healthcare professionals who are adaptable and lifelong learners, and an alignment with the changing needs of the healthcare system and society [32].

6 CONCLUSIONS

About three-fourths of the sample population experienced the transformation in online applications of learning after going through a Master's in Health Professions Education. As a whole, there was a relationship between online classroom activities like certain online class tasks, small group discussions, technology awareness (computer expertise) hands-on activities, PowerPoint presentations, and intrinsic motivation and transformation in online applications of learning in students. The transformation was observed in almost all learners among all age groups as the sample size consisted of a population of varying ages. The impact of hands-on activities and small group discussions turned out to be the strongest factors that caused the transformation in online applications of learning. The study was led by a sample population of MHPE students. The researcher could not make conclusions about factors that cause transformative learning experiences of graduate learners of other universities or institutions as this study was limited to the learners from only one university. The information was inadequate for making any conclusion about the international graduates as this study did not consider international learners in universities across the world. The study did not mention other populations who experienced transformative learning. Interviews with a large sample size would augment better results and conclusions.

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