

Teachers' Learning Enhancement to Develop Empathy Skills for Nursing Students

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Abstract

This research investigated the development of empathy skills among nursing students through a comprehensive framework. It addressed critical dimensions such as the definitions and significance of Empathy in healthcare, characteristics, developmental guidelines, implementation strategies, and assessment methods. The primary goal was to create an extensive knowledge base to enhance empathy skills essential for effective patient-centered care. The study led to an innovative online self-training program for nursing educators. This program comprised two key projects: the first focused on deepening faculty understanding of Empathy in clinical contexts.

In contrast, the second provided tools and strategies for integrating empathy training into the nursing curriculum. The initiative equipped educators with vital resources by fostering an empathetic educational atmosphere, promoting better learning outcomes for nursing students. The research also emphasized the role of academic administration in enhancing teaching quality at the institutional level. It aligned with the school-based management model, positing that empowering Faculty directly influenced student development. The study aimed to yield statistically significant improvements through a research and development methodology, ensuring the practical application of its findings across Boromarajonani Colleges of Nursing nationwide and enhancing healthcare education and patient care outcomes.

Keywords: faculty members' learning, skill development, empathy skills, nursing students

1. Introduction

1.1 The Significance of Research Problems in Nursing Education: Developing Empathy Skills

Research problems are the foundation of academic inquiry, providing direction and purpose to studies. Identifying and understanding specific research problems in nursing education can lead to significant advancements in educational practices and outcomes—particularly in soft skills development. A notable example is the exploration of empathy skills in nursing students, which has profound implications for patient care and professional development.

Empathy is widely recognized as a crucial soft skill in nursing, essential for fostering trust, enhancing communication, and improving patient satisfaction (Hojat, 2016). As healthcare environments become increasingly complex, the demand for empathetic nurses grows. Existing literature emphasizes that Empathy improves patient outcomes and positively affects healthcare providers' emotional well-being (Sabo, 2013; Stair et al., 2019). Consequently, the significance of developing empathy skills in nursing students cannot be overstated; it is imperative for nurturing effective healthcare professionals who are sensitive to the needs of their patients.

The research described in the initial inquiry revolves around creating a Research and Development (R&D) methodology designed to enhance Faculty's understanding and teaching of empathy skills through an Online Self-training Program. This approach aims to equip educators with the necessary tools and knowledge to foster Empathy within their students, leading to a more emotionally intelligent nursing workforce. The significance of this research problem lies in its dual focus: enhancing faculty competency while simultaneously addressing the empathetic training needs of nursing students.

First and foremost, incorporating the R&D methodology allows for a structured process of creating educational

innovations. This systematic approach encourages the identification of current gaps in empathy training among nursing faculty, enabling targeted responses to these deficiencies (Reiser & Dempsey, 2012). By focusing on faculty development, the project addresses the ripple effect—when Faculty are well-trained in empathy skills, they are better positioned to cultivate these skills in their students.

Moreover, addressing the research problem of enhancing empathy skills also responds to the broader context of nursing education, which faces challenges in integrating soft skills into curricula. Traditional nursing education has often prioritized technical skills over interpersonal competencies, creating a workforce that may be clinically proficient but lacking in essential humanistic qualities (McNaughton, 2015; Lapit et al., 2021). As the healthcare sector recognizes the importance of holistic patient care, research that underscores the importance of Empathy and develops actionable strategies for its implementation becomes increasingly vital.

Scholars have suggested numerous strategies for developing empathy skills tailored to nursing students, emphasizing the need for innovative educational models that transition from theoretical frameworks to practical applications (Nielsen et al., 2017; Hojat et al., 2019). The current research identifies these suggestions and proposes to transform them into instructional modules for Faculty. Such an initiative enhances faculty understanding and fosters a culture of Empathy within nursing education, ultimately benefiting patient care with a new generation of empathetic practitioners.

The project culminates in experimental research to evaluate the effectiveness of the Online Self-training Program, which will enable researchers to assess the impact of enhanced faculty training on student outcomes. This aligns with the notion that educational innovations must be rigorously evaluated to ascertain their effectiveness before widespread implementation (Graham et al., 2019; Rideout & Palmer, 2021). The research problem, therefore, encompasses not only the development of empathy skills but also the assessment of educational interventions that can be adapted and adopted by nursing colleges nationwide.

In conclusion, the significance of research problems in nursing education lies in their capacity to drive meaningful changes in practice and educational outcomes. By focusing on developing empathy skills among nursing students using an R&D methodology, this research addresses a critical gap in current nursing education and offers a sustainable model for faculty development. As nursing continues to evolve in response to societal needs, this research not only contributes to the academic field but also has the potential to impact patient care significantly.

1.2 Research Purpose

This research examined empathy skills in-depth, addressing several critical dimensions, including precise definitions, the significance of Empathy in healthcare, its defining characteristics, developmental guidelines for cultivating these skills, practical implementation strategies, and effective assessment methods. The primary objective was to establish a comprehensive and well-structured body of knowledge that enhanced empathy skills, particularly among nursing students, who were crucial in delivering patient-centered care.

The insights derived from these focal areas informed an innovative educational initiative to develop a comprehensive online self-training program tailored to the specific needs of nursing education. This initiative encompassed two principal projects: The first project concentrated on enhancing faculty members' understanding of empathy skills, ensuring they appreciated the nuances and complexities of Empathy in clinical settings. The second project equipped Faculty with the necessary tools and strategies to implement the learning outcomes effectively within their classrooms, thereby fostering a curriculum that actively promoted the development of empathy skills among nursing students.

This initiative aimed to cultivate a more empathetic educational environment within nursing programs by providing educators with essential resources, knowledge, and training. Ultimately, this nurturing approach to Empathy was expected to enhance the educational experience for students and positively impact their future interactions with patients, leading to improved patient care and enhanced outcomes within the healthcare system.

1.3 Research Hypothesis

The research and development of a self-learning online training program aimed at enhancing faculty members' capabilities to cultivate caring skills in nursing students is based on the insights of Sanrattana (2023). Sanrattana asserts that equipping educational personnel with knowledge and promoting its practical application enables them to execute their responsibilities more efficiently and effectively. This notion is encapsulated in the principle of "Knowledge + Action = Power."

The research and development methodology employed in this study encompasses several critical phases: the creation of a comprehensive manual for faculty members, the evaluation and refinement of the manual's quality, the development of experimental instruments, and the execution of field research. These phases are designed to

ensure the integrity and quality of the research outcomes.

Consequently, the research hypothesis posits that the self-learning online training program, which enhances faculty members' competencies in fostering caring skills for nursing students, will yield beneficial results upon experimental implementation. Two evaluation criteria substantiate this hypothesis.

- 1) The learning assessment outcomes of faculty members in the experimental group after the completion of Project 1 are anticipated to meet the standard criteria of 90/90 and demonstrate a significant increase in post-experimental scores compared to pre-experimental scores.
- 2) The assessment of the caring skills of nursing students in the experimental group under Project 2 should indicate a significant enhancement in mean scores following the experiment.

1.4 Literature Review

1.4.1 Results of the Review

This research explored various perspectives on developing empathy skills for nursing students across multiple issues. The goal was to gather data that facilitated the creation of learning modules for Faculty in nursing colleges and a comprehensive manual to help Faculty utilize the learning outcomes to guide nursing students effectively. The key areas covered in this literature study included definitions, significance, characteristics, developmental guidelines, implementation steps, and assessment methods.

A particularly crucial element of the study was the "Guidelines for Enhancing Empathy Skills for Nursing Students." This section offered recommendations for a range of practices—principles, techniques, strategies, and activities—that Faculty should have implemented to foster positive outcomes for nursing students. While some suggestions were familiar, many new ideas emerged due to the evolving academic landscape in the digital age.

Through analysis and synthesis, we identified 44 suggestions for developing empathy skills among nursing students. Each guideline in the learning modules accompanied detailed explanations to serve as references for effective implementation. The suggestions were as follows: 1) Value listening. 2) Connect with patients and be curious. 3) Listen to understand. 4) Ask for feedback. 5) Speak less, listen more. 6) Be curious about others. 7) Ask genuine questions. 8) Build curiosity. 9) Help when you can. 10) Volunteer. 11) Support advocacy. 12) Offer assistance. 13) Recognize biases. 14) Challenge prejudices. 15) Let biases go. 16) Share feelings. 17) Acknowledge feelings. 18) Practice loving-kindness. 19) Be mindful. 20) Push your limits. 21) Use imagination. 22) Understand others' experiences. 23) Take notes. 24) Follow directions. 25) Do not give unsolicited advice. 26) Ask sensitive questions. 27) Dig deeper. 28) Improve your questions. 29) Maintain eye contact. 30) Avoid assumptions. 31) Validate experiences. 32) Share similar experiences. 33) Lead by example. 34) Understand others' lives. 35) Respect cultures. 36) Be vulnerable. 37) Make it personal. 38) Seek patient feedback. 39) Accept opinions. 40) Change your environment. 41) Connect emotionally. 42) Talk to new people. 43) Collaborate for a cause. 44) Clearly express thoughts.

1.4.2 Synthesizing 44 Suggestions for Implementation

Developing empathy skills among nursing students fosters compassionate care and improves patient outcomes. Synthesizing 44 suggestions reveals several key themes and practical strategies to implement in nursing education. Here is a critical analysis of these suggestions:

1) Curricular Integration

- Incorporation of Empathy Training: Incorporating structured empathy training modules in the curriculum helps students understand the importance of Empathy in patient care. These modules can include interactive workshops, role-playing, and case studies to facilitate learning.
- Literature and Arts: Engaging students with literature, poetry, and visual arts can deepen their emotional understanding and encourage reflection on human experiences and emotions.

2) Simulated Experiences

- Standardized Patient Interactions: Utilizing standardized patients in simulation exercises allows students to practice and develop their empathetic responses in a controlled environment. Reflection sessions afterward can consolidate learning.
- Virtual Reality: Implementing virtual reality scenarios lets students experience patients' challenges, promoting a deeper understanding of their emotions and struggles.

3) Reflective Practice

Journaling: Encouraging students to maintain a reflective journal where they document their experiences and feelings can enhance self-awareness and empathetic attitudes.

- Debriefing Sessions: Regular debriefing sessions after clinical placements or simulations can foster discussions around emotional responses and promote collective learning among peers.

4) Mentorship and Role Models

- Peer Mentorship: Pairing experienced nurses with students can provide practical examples of Empathy. Observing and discussing empathetic interactions can reinforce the importance of these skills.
- Guest Speakers: Inviting healthcare professionals who exemplify empathetic care to share their experiences can inspire students and clarify Empathy's role in nursing.

5) Community Engagement

- Service Learning: Involving students in community service projects or outreach programs helps them connect with diverse populations, enhancing their understanding of different backgrounds and experiences.
- Patient Interaction Programs: Opportunities for students to engage with patients in non-clinical settings can provide insight into patient needs and perspectives, fostering Empathy.

6) Cultural Competence

- Diversity Training: Education on cultural differences and social determinants of health prepares nursing students to understand and appreciate the contexts from which their patients come.
- Interprofessional Collaboration: Working with students from other health disciplines encourages a broader perspective on patient care and highlights the importance of Empathy across professions.

7) Emotional Intelligence Development

- Workshops on Emotional Intelligence: Workshops focused on developing emotional intelligence that can help students recognize their emotions and those of others, leading to enhanced empathetic responses.
- Stress Management Techniques: Teaching coping strategies and mindfulness can reduce stress among students, allowing them to be more present and empathetic when caring for patients.

8) Feedback Mechanisms

- 360-Degree Feedback: Implementing a feedback system where peers, instructors, and patients provide input on empathetic behavior can help students identify strengths and areas for improvement.
- Self-Assessment Tools: Self-assessment tools that measure empathy levels can encourage students to reflect on their growth and make necessary changes.

The synthesis of these 44 suggestions underscores the multifaceted approach needed to develop empathy skills in nursing students. Integrating theoretical knowledge with practical experiences fosters self-awareness and encourages a supportive learning environment. By focusing on these areas, nursing programs can cultivate compassionate healthcare providers equipped to meet their patients' emotional and psychological needs.

1.4.3 Critically Integrate Existing Literature Concerning 44 Approaches

The exploration of strategies for developing empathy skills among nursing students presents a thorough and intricate approach to nurturing these vital qualities through a compilation of 44 targeted suggestions. Employing a theoretical framework encompassing a range of scholarly viewpoints on Empathy in nursing proves advantageous for synthesizing and critically assessing these recommendations. By engaging with these suggestions through a well-defined model, the research effectively integrates existing literature while revealing areas where differing opinions may emerge.

1.4.3.1 Theoretical Framework

A particularly insightful framework for examining Empathy in nursing is the Biopsychosocial Model, initially proposed by Engel in 1977. This model emphasizes the interconnectedness of biological, psychological, and social dimensions in healthcare, fostering a holistic understanding of patient care and the essential role that Empathy plays within it. By recognizing that emotional reactions and social contexts are fundamental to nursing practice, each of the 44 suggestions can be scrutinized through this lens, allowing for a richer understanding of their importance in cultivating empathetic nurse-patient relationships.

1.4.3.2 Key Themes and Analysis

1) Communication Skills: A significant portion of the suggestions (specifically suggestions 1-9) centers on

enhancing listening and communication capabilities. These suggestions underscore the necessity of genuinely comprehending the patient's perspective, which is foundational to nursing practice. Techniques such as active listening, where the nurse fully engages with the patient and reflects on what they have heard, alongside asking thoughtful, open-ended questions, can facilitate deeper conversations. Actively seeking patient feedback creates a participatory dialogue that enhances understanding and trust, directly impacting patient satisfaction and elevating care quality, as McCabe (2004) supports.

2) Self-Awareness and Reflection: Several suggestions advocate for nursing students to engage in self-reflection, focusing on recognizing their biases (suggestion 13), challenging ingrained prejudices (suggestion 14), and embracing vulnerability (suggestion 36). This emphasis on self-awareness is essential, as it allows students to uncover and address potential blind spots that could impede empathetic interactions with patients. Acknowledging and combating implicit biases, such as those described in suggestion 15, is critical in patient care. These biases can subconsciously influence clinical decisions and affect patient outcomes, highlighting the need for sustainable discussions around implicit bias as an essential component of nursing education (Hoffman, 2000).

3) Emotional Connection: Suggestions to foster emotional bonds with patients highlight the significance of building rapport (suggestion 41) and engaging in meaningful emotional exchanges (suggestion 16). Research consistently demonstrates that emotional intelligence is pivotal in enhancing the quality of care delivered in healthcare settings. By fostering genuine emotional connections and encouraging nurses to share their feelings where appropriate, the nurse-patient relationship can be profoundly enriched, ultimately leading to better patient experiences and outcomes, as Mayer and Salovey (1997) emphasized.

4) Cultural Competence: The emphasis on respecting and understanding diverse cultures (suggestion 35) and the unique life experiences of individuals (suggestion 34) underscores the growing recognition of cultural competence in healthcare. This focus is supported by contemporary research indicating that culturally competent care can significantly improve patient outcomes and satisfaction (Campinha-Bacote, 2002). As such, a critical review of nursing curricula to ensure they thoroughly prepare students to navigate and respect diverse cultural backgrounds is essential in today's increasingly global healthcare environment.

5) Personal and Professional Development: A range of suggestions, including challenging personal limits (suggestion 20), engaging in collaborative efforts for shared causes (suggestion 43), and personalizing clinical experiences (suggestion 37), suggest that personal development is intrinsically linked to professional growth. Encouraging nursing students to step beyond traditional classroom learning and immerse themselves in real-world experiences equips them to navigate the complexities and challenges they will face in their nursing careers. These recommendations resonate with Kolb's principles of experiential learning (1984), which highlight the importance of reflection and active involvement in the learning process.

1.4.3.3 Controversial Aspects

Although many of these suggestions coincide with recognized nursing practices, including more unconventional strategies—such as cultivating loving-kindness (suggestion 18) and utilizing imaginative exercises (suggestion 21)—may provoke significant debate regarding their practicality in actual healthcare settings. Critics may raise concerns that while these ideals are commendable, they risk overshadowing the demanding realities faced in clinical environments (Rogers & Leung, 2017). This discussion raises pertinent questions regarding the feasibility of implementing specific suggestions and how they might be best integrated into established nursing curricula without compromising essential skill development.

In conclusion, synthesizing these 44 suggestions presents a multifaceted strategy for fostering Empathy among nursing students. By integrating theoretical frameworks with practical applications, nursing education can significantly enhance the empathetic skills of tomorrow's healthcare providers. This comprehensive approach equips students to tackle contemporary healthcare environments' challenges while promoting a more compassionate and patient-centered practice. Continued research and adaptation of educational strategies will be imperative to ensure that the next generation of nurses is well-versed in clinical care and imbued with the Empathy needed to foster positive patient relationships and outcomes.

2. Research Methodology

2.1 Concept and Process

This research utilized a Research & Development (R&D) methodology to create a self-paced online training program for Faculty. The program has two main projects: one aimed at developing faculty learning and the other focused on applying that learning to improve student skills. Once tested in a representative area and proven effective, the innovation can be shared with a wider audience. The research follows a multi-step R&D process,

known as R1&D1... Ri&Di, as outlined by Sanrattana (2023):

R1D1 Process: This initial phase involved a comprehensive literature review related to empathy skills, focusing on aspects such as definitions, significance, characteristics, developmental approaches, stages, and assessment methods. Each topic was informed by credible sources, ensuring that the content could be effectively utilized to create learning modules for the “Faculty Members Learning Development Project.”

The R2D2 Process represents the culmination of an initiative focused on significantly improving faculty training and nurturing empathy skills among nursing students. This innovative program is structured around two main initiatives: the “Online Self-training Program for Faculty Learning Enhancement to Develop Empathy Skills for Nursing Students.”

The Faculty Learning Development Project’s first initiative features several thoughtfully designed self-learning modules rooted in thorough research and extensive literature reviews. Each module covers essential topics crucial for educators facing today’s dynamic educational landscape, including:

- 1) Definition of Empathy Skills
- 2) The Importance of Empathy Skills
- 3) Characteristics of Empathy Skills
- 4) Guidelines for the Development of Empathy Skills
- 5) Steps of Empathy Skills Development
- 6) Assessment of Empathy Skills

These learning modules were crafted with a clear framework, incorporating objectives based on Bloom’s Taxonomy to ensure that content is accessible and challenging. They were delivered in Thai and accompanied by links to the original English texts, making it easier for a diverse audience to engage with the materials. Throughout, interspersed questions allowed for self-assessment among educators, fostering active participation in the learning process. The approach drew upon classical learning psychology principles from Pavlov and Skinner, emphasizing environmental stimuli and the consequences of actions within education. Each module also included interactive activities urging educators to critically evaluate questions, allowing them to assess their knowledge and teaching experiences effectively.

The second initiative, the Faculty Leading Learning Outcomes to Development Project, was created to enhance nursing students’ empathy skills acquisition. This comprehensive work manual included several key components to provide educators with a solid framework for effective teaching, such as:

- 1) Instruction: Detailed guidance on effectively delivering the curriculum to ensure all learners are engaged and can interact meaningfully with the material.
- 2) Summary of Expected Characteristics: This outline of the specific competencies nursing students should develop throughout the program aligns faculty efforts with educational objectives.
- 3) Development Guidelines: These guidelines provide Best practices and principles for cultivating these competencies in classroom settings, offering tangible steps for creating a thriving learning environment.
- 4) Overview of the Development Process: A step-by-step guide on effective teaching strategies to bolster faculty confidence and adaptability to diverse student needs.
- 5) Questionnaire for Assessing Empathy Skills of Nursing Students: An assessment tool to gauge students’ proficiency in Empathy, providing actionable insights for targeted improvements.
- 6) Self-Assessment Form for Faculty: This is a Google Form for faculty self-evaluation and alignment with development guidelines, highlighting areas for growth.
- 7) Teachers’ Self-Assessment on Development Model Selection: A reflection tool to ensure the chosen teaching models suit the context and needs of students.
- 8) Self-Reflection Form for Faculty: A form designed to facilitate critical reflection on teaching practices, promoting a culture of continuous improvement.

This methodology seeks to enhance faculty development while actively engaging nursing students in their educational roles. Consequently, the program aims to improve nursing students’ learning outcomes significantly.

To further develop their educational skills, Faculty are encouraged to explore the structured presentation format outlined in each learning module at this website: <http://www.mbuisc.ac.th/phd/Module9/Thidarat.pdf>. This format

includes a detailed framework with essential elements, such as learning objectives, core concepts, interactive components, and assessment criteria, to ensure an engaging and inclusive learning experience for all participants. This effectively supports diverse learning styles and encourages student participation.

Please note that in this research, we utilize the online self-grading program because the significance of online programs has grown exponentially in recent years, reflecting the changing landscape of education and professional development. These programs offer unparalleled flexibility, allowing individuals to balance their studies with personal and professional commitments. With the power of the internet, learners from diverse geographical locations can access high-quality courses and resources, breaking down traditional barriers to education. Furthermore, online programs often foster a global learning environment, enabling students to connect with peers and instructors from around the world, enriching their perspectives and collaborative skills. This accessibility not only democratizes education but also equips individuals with essential skills needed in a rapidly evolving job market, making online programs a vital component of lifelong learning.

R3D3 Process: This phase involved quality assurance for the online self-training program, focusing on both the presentation format and the relevance and usefulness of the content. Focus group discussions were conducted with instructors in two stages: The first stage, termed “Preliminary Field Testing and Revision,” involved five instructors from a nursing college not associated with the experimental research area. The second stage, “Main Field Testing and Revision,” included ten instructors from another nursing college who were not involved in the experimental research.

R4D4 Process: Two sets of instruments were created for the experimental research: 1) a faculty member’s learning outcome test and 2) an empathy skills assessment form (details will be discussed in the research tools section).

R5D5 Process: This final stage of our journey involved a vital assessment of the online self-training program’s effectiveness through a Group Pretest-Posttest Design conducted within a selected Thai Teaching program. We engaged an experimental group comprising 10 Faculty members and 80 nursing students during the second semester of 2024. Our research unfolded across two significant phases:

Phase 1: This phase was dedicated to developing the faculty learning project. Faculty in Project 1 embraced self-training through online Learning Modules and the Work Manual from Project 2. Our primary goal was to empower Faculty to meet specific learning outcomes aligned with the 90/90 standard and to witness meaningful progress in their post-experiment results. The activities included:

- 1) Introduce the research and administer a pre-test to evaluate the Faculty’s initial competencies (2 days).
- 2) Facilitating self-training through immersive online resources for self-directed learning (30 days).
- 3) Encouraging Faculty to evaluate the quality of learning units collaboratively, culminating in a post-test to measure their progress (2 days).
- 4) Analyzing and comparing the test results against the 90/90 criteria to illuminate the program’s effectiveness (2 days).

Phase 2 focused on the Faculty’s practical application of learning outcomes. We aimed to evaluate their ability to effectively implement the insights gained from the Learning Modules and Work Manual. The timeline included:

- 1) Inform Faculty about the research and assess students using a baseline evaluation form (2 days).
- 2) Faculty implementing transformative learning outcomes according to the work manual guidelines (60 days).
- 3) Conducting a post-test assessment of students using the same evaluation form (2 days).
- 4) Analyzing the comparative results to gauge the impact of the implemented strategies (2 days).

2.2 Research Tools

The Faculty Members Learning Outcome Test consisted of a four-choice multiple format covering content from the learning modules in Project 1, explicitly addressing “Definitions, Importance, Characteristics, Development Approaches, Development Stages, and Assessment Approaches to Empathy Skills.” The test was meticulously designed to align with the cognitive domain in Bloom’s Taxonomy (Krathwohl, 2002), progressing from remembering and understanding to applying, analyzing, evaluating, and creating.

The test underwent a rigorous two-phase quality assessment process:

- 1) In the first phase, content validity was evaluated using the Index of Item-Objective Congruence (IOC) method proposed by Rovinelli and Hambleton (1977). This phase involved five educational experts reviewing the test items. The analysis confirmed that all questions were practical for their intended purpose, yielding an IOC

value that exceeded the benchmark of 0.50 (Chaichanawirote & Vantum, 2017).

- 2) The second phase consisted of a trial administered to 30 faculty members from a nursing college unrelated to the experimental research area. The results demonstrated that 1) all questions had an Index of Difficulty falling within the acceptable range of 0.20 - 0.80 and a Power of Discrimination between 0.20 and 1.00; 2) the KR-20 reliability coefficient was equal to 0.90, surpassing the acceptable threshold of 0.70; and 3) the overall test difficulty was determined to be equal to 64.35

The Assessment of Student Empathy Skills was structured using a five-level rating scale: most, much, moderate, tiny, and most diminutive. This assessment framework was developed based on the characteristics of empathy skills identified through research by Legg (2019), Clarke (2021), Indeed Editorial Team (2021), Cherry (2022), Master Class (2022), Lahey (n.d.), and Skills You Need (n.d.). Additionally, it incorporated findings from studies by Spreng et al. (2009), Gaumer Erickson et al. (2016), Danko and Nemanja (2020), Brett et al. (2022), Engelbrecht (2022), as well as resources from Psychologia (n.d.) and Psychology Tools (n.d.).

The quality assurance process for the assessment consisted of two critical stages:

- 1) Content Validity: Five academic experts reviewed the assessment items in the initial stage, confirming content validity. All questions achieved an Index of Item Objective Congruence (IOC) value exceeding the 0.50 threshold, indicating their relevance for the intended measurement.
- 2) Reliability Evaluation: The second stage involved a reliability trial with 30 nursing students from an unrelated college. The assessment yielded an overall Alpha Coefficient of Reliability of 0.80, with individual dimensions of Empathy—cognitive Empathy, Emotional Empathy, Affective Empathy, Open-Mindedness, Active Listening, and Compassionate Empathy—producing scores of 0.76, 0.78, 0.81, 0.76, 0.91, and 0.80 respectively. All scores surpassed the acceptable threshold of 0.70 (George & Mallery, 2003).

These stages ensured that the assessment provided a valid and reliable means of measuring empathy skills among nursing students, thus supporting the research's overall objectives.

2.3 Data Analysis

For the standard criteria of 90/90, data were analyzed according to the definition provided by Yamkasikorn (2008). The first "90" represents the average percentage score achieved by the entire group of teachers. In contrast, the second "90" signifies the percentage of teachers who successfully met the testing objectives across all criteria. To evaluate the effectiveness of the educational program, the mean scores from the pre-tests and post-tests were compared using the dependent t-test methodology. This analytical approach yielded insights into the improvement in teachers' understanding and application of empathy skills following the intervention.

3. Results

Hypothesis 1: The experimental research conducted for the first project, "Project for Development of Faculty Members' Learning," involved faculty members in an experimental group of ten individuals who rigorously assessed their learning outcomes using the "Test of Faculty Members' Learning Results." This evaluation effectively measured the project's success against the established 90/90 standard criteria. The results clearly showed that 1) the average post-experiment score for the faculty members in the experimental group was 34.50 points, representing 95.83% of the total score of 36 points, thereby meeting the first 90 standard criteria, and 2) 100% of the faculty members in this group successfully passed the test according to all specified objectives, fulfilling the final 90 standard criteria.

Moreover, a robust comparison of the average scores from the learning outcome test before and after the experiment revealed that the ten faculty members in the experimental group achieved an average pre-test score of 23.90 with a standard deviation of 1.37. In contrast, they attained a post-test average score of 34.50 with a standard deviation of 0.52. The analysis using the dependent t-test unequivocally confirmed that the post-test scores were significantly higher than the pre-test scores at the 0.05 level, reinforcing the effectiveness of the learning initiative, as illustrated in Table 1.

Table 1. Comparison of mean scores from the faculty members' learning achievement test before and after the experiment using dependent t-test

Testing	Sample size	Mean	Standard Deviation	t
Pre-test	10	23.90	1.37	23.44*
Post-test	10	34.50	0.52	

Note. *Significant at ($p < 0.05$).

The research findings substantiate the effectiveness of the "Faculty Members Learning Development Project," meeting the 90/90 standard criteria. Analysis of mean scores pre- and post-intervention, conducted using a dependent t-test, reveals a significant improvement in learning outcomes among faculty members at nursing colleges, the primary demographic targeted by this initiative. This enhancement highlights the program's ability to elevate teaching practices and ultimately foster better caring skills in nursing students.

Hypothesis 2: Following the experimental research conducted under the second project, "Project of Faculty Members Bringing Learning Outcomes to Practice with Students," the 80 nursing students in the experimental group evaluated their empathy skills using the "Empathy Skills Assessment Form" to assess the effectiveness of the educational innovation created. Our data analysis indicated that the average score from the pre-development assessment was 3.22, with a standard deviation of 0.69. In contrast, following the development intervention, the average score increased significantly to 4.63, accompanied by a standard deviation of 0.50. The subsequent Dependent T-test analysis reaffirmed that the average scores post-development were markedly higher than those recorded during the pre-development phase, achieving statistical significance at 0.05, with a resulting t-test value of 71.17, as shown in Table 2.

Table 2. Comparison of mean scores from the empathy skill" assessment of students before and after the experiment analyzed using a dependent t-test

Evaluating	Sample size	Mean	Standard Deviation	t
Pre-development	80	3.22	0.69	71.17*
Post-development	80	4.63	0.50	

Note. *Significant at ($p < 0.05$).

The research findings indicate that the "Faculty Members-Leading Learning Outcomes into Practice with Students" project effectively confirms the research hypothesis. This project demonstrates its capability to improve faculty members' skills in fostering Empathy in nursing students. Similar to the initial project, it is suitable for distribution among the target audience.

In summary, the "Online Self-Training Program for Enhancing Faculty Members' Learning to Develop Skills of Empathy for Nursing Students" was structured around two pivotal components. The first component, titled "Project for Development of Faculty Members' Learning," focused on equipping educators with advanced pedagogical strategies and resources to foster Empathy within their teaching practices. This involved a comprehensive curriculum that included interactive modules, real-life case studies, and reflective exercises designed to deepen faculty understanding of Empathy in nursing education.

The second component, the "Project for Faculty Members to Apply Learning Outcomes to Students," emphasized the practical application of these learned skills in the classroom. Faculty members engaged in strategies that encouraged nursing students to develop their empathetic capabilities. This included implementing role-playing scenarios, community engagement projects, and collaborative learning exercises that reinforced the importance of Empathy in patient care.

This initiative was not merely an innovative educational program but a transformative approach to nursing education. By adhering to the principles of research and development (R&D) methodology, the program emphasized systematic testing and evaluation within designated pilot areas. Throughout this pilot phase, criteria were established to measure the program's effectiveness in enhancing empathy skills among Faculty and students.

When the outcomes of this initiative demonstrated a successful impact, indicating that faculty members were effectively nurturing Empathy in their students, plans were made to broaden its implementation across a wider audience of nursing educators. This strategic expansion aimed to cultivate a richer, more empathetic nursing workforce capable of delivering compassionate care in diverse healthcare settings.

4. Discussion

4.1 Introduction

This research in the field of educational administration conducts an in-depth study of knowledge regarding Empathy Skills, focusing on various aspects such as definition, importance, characteristics, development approaches, stages of development, and evaluation methods. The goal is to acquire comprehensive knowledge to guide the cultivation of Empathy Skills for nursing students. This knowledge was instrumental in creating an educational innovation in the form of an online self-training program consisting of two projects: 1. A development project aimed at equipping Faculty with a thorough understanding of Empathy Skills. 2. A project focused on enabling Faculty to implement their learning outcomes to foster Empathy Skills among nursing students.

4.2 Importance of Institutional Quality

The main conceptual framework for designing this research plan is recognizing the importance of enhancing educational quality at the institutional level. Scholars suggest that educational administration occurs at various levels—from central to institutional—but emphasize that administration at the institutional level (such as schools, colleges, universities, or other academic institutions) is particularly crucial. This serves as the practical foundation for effectively mobilizing human and material resources to enhance teaching and learning, ensuring that students receive quality education from qualified faculty members, and creating environments that guide students toward their goals, with Faculty serving as change leaders (Kashyap, n.d.). This perspective aligns with the School-Based Management (SBM) model, which decentralizes power to schools, recognizing them as the primary units of educational management (Edge, 2000).

4.3 Faculty Development and Student Outcomes

Simultaneously, the research acknowledges the importance of the principle that “developing faculty members leads to improved student development.” This principle is central to educational administration and focuses on the “enhancement of teaching and learning” (Amadi, 2008). It ensures that “the right students receive the right education from qualified faculty members” (Dhammei, 2022) and stimulates the development of effective programs tailored for teaching and learning (Bamte, n.d.).

4.4 Functions and Objectives of Educational Administration

This concept aligns with various functions of educational administration as outlined by Amadi (2008), including curriculum and instructional functions, staff personnel functions, and student personnel functions. It resonates with the objectives of educational administration, which are to provide quality education for students, ensure professional development among teachers, and achieve qualitative improvements in education (Kashyap, n.d.).

4.5 Role of Educational Administrators

Moreover, this principle underscores the role of educational administrators in supporting Faculty through training and guidance, as suggested by the University of Bridgeport (2022) and Target Jobs (n.d.). It advocates for a model of teacher professional development that recognizes its impact on student development as the ultimate objective of education, as highlighted by Guskey (2000) and Hoy and Miskel (2001).

4.6 Professional Standards in Educational Research

The main conceptual framework for designing the research plan, in professional terms, considers the professional standards for school administrators and educational leaders established by the Teachers' Council of Thailand. These standards encompass effectively developing teachers and staff and applying knowledge of principles and theories to enhance educational practice. They also involve skills in analyzing, synthesizing, and creating knowledge within educational management.

4.7 Research Processes and Standards

These standards emphasize using research processes, measurement, and evaluation as essential components of educational management. They promote the integration of information technology in education and efficient management of information flow to students, teachers, and school personnel. Performance standards affect personnel, students, and community development, including fostering colleagues' potential, developing and implementing management innovations that lead to high-quality outcomes, and creating development opportunities in all contexts (The Teachers Council of Thailand, n.d.).

4.8 Research Methodology

This research utilized a Research and Development (R&D) methodology aligned with structured research plans or project sets. According to Sawangdee (n.d.), employing an R&D approach is essential because it entails seeking

knowledge and measuring initial conditions (Formative Evaluation) using verified indicators. The process includes development, creation, trial implementation, measurement, monitoring, observation of indicator changes, and evaluation (Summative Evaluation) based on these indicators. Consequently, this can lead to statistically significant changes, tested through comparisons using t-tests before and after implementation.

4.9 Developmental and Application Concepts

Furthermore, this research adheres to an R&D methodology emphasizing developmental and application concepts beneficial for enhancing education, as defined by the National Research Council of Thailand. This involves creating new materials, implementing new processes, or enhancing existing systems while allowing for the practical application or scaling of research findings and innovations.

Based on these conceptual frameworks for research design—both academically and professionally—and the use of an R&D methodology supporting research plans or project sets, our research team believes these elements are vital in contributing to the success of the educational innovation produced: “Online Self-Training Program for Enhancing Faculty Members’ Learning to Develop Skills of Empathy for Nursing Students.” This innovation fulfills the criteria established in the research hypothesis. It is set to be shared widely among the target audience, which includes all 30 Boromarajonani Colleges of Nursing under the Faculty of Nursing, Praboromarajchanok Institute, on a national scale.

5. Conclusion and Recommendations

This research highlights the critical importance of empathy skills within nursing education, particularly in fostering a patient-centered approach to healthcare delivery. A comprehensive examination of empathy skills illuminated their definition, significance, developmental guidelines, and practical assessment methods. The insights from this study informed the design of an innovative online self-training program explicitly tailored for nursing faculty, emphasizing the necessity of equipping educators with the knowledge and strategies needed to enhance Empathy among nursing students. This dual-project initiative focused on enhancing faculty understanding of Empathy and implementing these insights in classroom settings (Kashyap, n.d.; Amadi, 2008).

The findings indicate that fostering a robust understanding of empathy skills among Faculty is indispensable for creating a nurturing and effective educational environment. Research shows that faculty development correlates directly with improved student outcomes (Dhammei, 2022). Therefore, it is essential for educational administrators to prioritize faculty training that enhances teaching skills, particularly in areas integral to the healthcare profession, such as Empathy (Edge, 2000; Bamte, n.d.).

To successfully implement these recommendations, educational administrators should adopt a strategic approach incorporating ongoing professional development programs. This ensures that faculty members acquire the requisite knowledge and have access to continuous support and resources as they integrate empathy training into their curricula (University of Bridgeport, 2022). Additionally, using evidence-based techniques and incorporating research methodologies into the training program can facilitate practical assessment of faculty preparedness and student outcomes in Empathy (Sawangdee, n.d.).

Furthermore, institutions should embrace the principles of School-Based Management (SBM) to foster a decentralized approach to educational administration. Empowering individual colleges and Faculty to tailor empathy training initiatives to their specific contexts can achieve more significant engagement and better educational outcomes (Hoy & Miskel, 2001).

In conclusion, the research underscores the necessity for a structured, comprehensive strategy to develop empathy skills within nursing education. By enhancing faculty knowledge and equipping them with practical teaching tools, we can cultivate more empathetic nursing professionals better equipped to provide high-quality, patient-centered care. The successful implementation of the “Online Self-Training Program for Enhancing Faculty Members’ Learning to Develop Skills of Empathy for Nursing Students” is a robust step forward in this direction, with the potential for widespread impact across nursing institutions in Thailand.

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Appendix

Empathy skills questionnaire and assessment data from research studies

Characteristics that demonstrate the Empathy Skills expected in Students	Evaluation			
	Pre-development		Post-development	
	$\bar{X}$	S.D.	$\bar{X}$	S.D.
Cognitive Empathy	2.98	0.62	4.63	0.52
1. I understand people better by imagining what their perspective is like.	2.94	0.61	4.68	0.50
2. I can tell how they feel by seeing or hearing someone talk.	2.90	0.69	4.68	0.47
3. I can imagine what I think or feel in other people's situations.	2.95	0.53	4.58	0.50
4. I can quickly perceive or understand when someone says one thing but means something else.	2.86	0.66	4.54	0.62
5. I can sense whether their genuine emotions are being hidden.	2.99	0.44	4.69	0.46
6. When I don't understand someone, I often remind myself to try to "walk in their shoes" for a while.	2.86	0.55	4.51	0.66
7. I try to look at a person's context before I make a decision.	2.86	0.82	4.67	0.47
8. I can predict what someone might want to do.	3.17	0.69	4.65	0.48
9. People often tell me that I understand their feelings or thoughts.	3.26	0.59	4.63	0.51
Emotional Empathy	3.20	0.70	4.62	0.49
10. When someone is suffering, I try to think of a time when I felt the same.	3.24	0.74	4.64	0.51
11. I can tell when someone is sad, even if they say nothing.	3.36	0.70	4.58	0.50
12. I can quickly tell when someone wants to talk to me.	3.22	0.73	4.59	0.50
13. I feel tender and caring towards those less fortunate than me.	3.21	0.74	4.67	0.47
14. When a friend or family member feels sad, I tell them I understand.	3.31	0.67	4.67	0.47
15. I am passionate about helping others, making me different.	3.13	0.69	4.60	0.49
16. I could "adjust" other people's emotions.	2.94	0.63	4.60	0.49
Affective Empathy	3.23	0.74	4.63	0.48
17. I can predict how someone is feeling.	3.05	0.75	4.73	0.45
18. I quickly noticed when someone in the group was feeling uncomfortable.	3.24	0.61	4.60	0.49
19. I'm reaching out even if others don't tell me.	2.95	0.87	4.50	0.50
20. I encourage my friends and family by enabling them to share their feelings.	3.28	0.77	4.65	0.51
21. I tried to talk to him When I found out that one of my friends was suffering.	3.21	0.71	4.67	0.47
22. My friends like to talk to me about their problems because I understand them.	3.67	0.71	4.65	0.48
Open-Mindedness	3.08	0.62	4.58	0.53
23. I can appreciate other people's perspectives even if I disagree with them.	3.05	0.82	4.64	0.48
24. It's suitable for strangers when I try to get them to join the group.	3.12	0.76	4.56	0.50
25. It's easy for me to explain it to others when they don't understand it the first time they hear it.	3.14	0.60	4.55	0.66
26. I am determined to adapt quickly to other people's feelings.	3.10	0.32	4.60	0.49
27. I always have new ways to help others.	3.00	0.62	4.56	0.50
Active Listening and Compassionate Empathy	3.59	0.75	4.67	0.50
28. I focus more on what the speaker is saying than my thoughts.	3.13	0.73	4.65	0.48
29. In conversation, I care more about their experiences than my own.	3.33	0.71	4.63	0.58
30. I will postpone work and other activities to give time to friends who need to vent to me.	3.49	0.85	4.65	0.48
31. I like to say, "I can see why you feel that way."	3.35	0.72	4.55	0.64
32. When I see someone being treated rudely, it makes me feel uncomfortable.	3.85	0.74	4.68	0.47
33. I always consider other people's feelings before doing anything.	3.76	0.76	4.59	0.63
34. I find true happiness in taking care of others.	3.76	0.67	4.69	0.46
35. I enjoy making other people feel better.	4.06	0.84	4.94	0.25
Total	3.22	0.69	4.63	0.50

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Authors contributions

Thidarat Huaisai, an EdD student in Educational Administration, conceptualized the research design, conducted the literature review, and drafted the initial manuscript. Wirot Sanrattana and Phrasrivajiravati, as advisors, provided methodological guidance and supervision. Both authors equally contributed to data analysis and interpretation.

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The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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