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Text Network Analysis of Core Nursing Skills Research in Korea

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Abstract

Purpose: The purpose of this study was to analyze research trends related to core nursing skills in Korean nursing education through text network analysis. A total of 82 academic papers published between 2012 and 2024 were collected from major Korean academic databases and analyzed to identify the primary research themes, knowledge structures, and temporal changes in research topics. **Research design, data and methodology:** The study applied a text network analysis method that included data preprocessing, frequency and topic modeling analyses, and network visualization. **Results:** The abstract should be unstructured, that is, one paragraph. The analysis revealed that research on core nursing skills has evolved from an emphasis on basic procedural education and clinical practice to an integration of simulation-based learning, digital technology, and self-directed learning. Keywords such as “nursing students,” “core nursing skills,” “confidence,” and “clinical competence” were found to be central within the network, indicating a close relationship between nursing education and competency enhancement. The findings suggest that core nursing skills education has transitioned toward multidimensional approaches that incorporate digital learning environments and learner-centered pedagogies. **Conclusions:** This study provides empirical insights into the structural relationships among research topics and offers a foundation for developing future educational strategies and policy directions to strengthen nursing competence in an evolving healthcare environment.

Keywords : nursing skills, text network analysis, nursing education, competency-based learning, research trends

JEL Classification Code : A10, A19, I14, I20, I31

1. Introduction

1.1. Research Significance

Nursing education aims to cultivate professionals capable of integrating theoretical knowledge with practical skills in a rapidly changing healthcare environment. Modern nurses are expected to go beyond the role of simple care providers and act as professional clinicians who identify patients' needs and make evidence-based decisions (Jeong & Park, 2022; Kim & Yi, 2020; Choi, 2021). Accordingly, nursing colleges have strengthened competency-based education (CBE) that integrates theory and practice. In

particular, the Korean Accreditation Board of Nursing Education (KABONE) has identified Core Basic Nursing Skills (CBNS) as essential procedures that must be performed in clinical practice and has recommended their inclusion in all nursing curricula (Korean Accreditation Board of Nursing Education, 2021; Kim et al., 2020). These core nursing skills serve as the foundation for patient safety and quality of care and are essential for the professional competency of nurses (Kim & Lee, 2021).

Within this educational context, major satisfaction among nursing students has been reported as a critical factor influencing the formation of professional values and academic outcomes. Major satisfaction refers to the degree

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to which expectations regarding the chosen major are fulfilled and how it is socially evaluated (Ryu & Park, 2024; Kwon et al., 2021). Higher levels of satisfaction are associated with increased learning engagement, academic achievement, and adaptation to university life (Choi, 2020), as well as with enhanced problem-solving and clinical performance abilities (Kim et al., 2023). In nursing education, where both theory and clinical practice are undertaken concurrently over four years, students' learning attitudes and competencies during training are directly linked to their professional performance after graduation. Thus, major satisfaction is a core factor throughout the entire nursing education process.

Meanwhile, self-confidence in performing core nursing skills refers to the belief that one can accurately and safely carry out nursing procedures in clinical settings (Kim & Yun, 2023; Hwang et al., 2022). This self-confidence influences actual performance ability and the development of a professional self-concept. Students with higher confidence levels demonstrate stronger problem-solving and self-directed learning abilities (An, 2023) and show positive correlations with learning efficacy, clinical competence, and metacognition (Kim, 2020). Recent studies have also found that self-confidence in performing core nursing skills acts as a significant predictor of clinical performance, suggesting that improvements in confidence during clinical practice lead directly to strength nursing competency (Park & Lee, 2020; Heo, 2019; Jang & Park, 2020). Hence, self-confidence has emerged as a critical learning outcome variable throughout the developmental process of becoming a nurse.

However, in real clinical settings, nursing students face limited opportunities to perform direct nursing procedures due to patient safety regulations and legal liability concerns, resulting in practice sessions that are often observation-oriented (Lee, 2020). Consequently, students lack sufficient hands-on experience with core nursing skills, which negatively affects their confidence. To overcome these limitations, various educational strategies have been proposed, such as Problem-Based Learning (PBL) (Park & Park, 2022), Flipped Learning (Kim & Yi, 2020), Reciprocal Peer Tutoring (Kim, 2020), Integrated Simulation Education (Kim, 2020; Lee, 2021), PETTLEP-based Imagery Training (Choi, 2021), and VR/XR-based practice training (Kim et al., 2021; Jung & Chae, 2020). While these methods commonly enhance students' confidence and motivation, the results have been inconsistent due to variations in subjects, teaching methods, and evaluation variables, and the long-term sustainability of their effects remains unclear (Kim, 2020; Lee, 2021; Kim & Lee, 2021).

Therefore, this study applies Text Network Analysis (TNA) to examine major keywords, conceptual linkages,

and changes in research topics related to core nursing skills in Korean nursing education. TNA is a data-driven analytical method that objectively identifies relationships among concepts within large textual datasets, making it a useful approach for exploring interdisciplinary patterns and knowledge diffusion in nursing research. This study thus seeks to reconstruct the overall landscape of core nursing skills research in Korea and provide insights into future educational and practical directions for strengthening nursing competence.

1.2. Research Purpose

The purpose of this study is to explore research trends on core nursing skills within Korean nursing education through Text Network Analysis (TNA). Specifically, the study aims to identify the core topics, analyze the semantic structures among major keywords, and examine the changes in research themes over time. By doing so, this study seeks to provide a comprehensive understanding of the knowledge structure of core nursing skills research and offer foundational insights for future directions in nursing education and practice.

2. Literature Review

Since the onset of the COVID-19 pandemic, nursing education has undergone rapid transformation, with online and hybrid learning environments becoming increasingly prevalent. These shifts have led to a growing body of research investigating the relationships among self-directed learning, academic self-efficacy, and performance confidence among nursing students. Although online and blended learning have been found to enhance students' autonomy, technological adaptability, and perceived academic efficacy, their direct impact on practical performance confidence has been limited (Kim et al., 2020). This suggests that indirect learning experiences through virtual platforms alone are insufficient to foster self-confidence in performing core nursing skills, which are inherently hands-on and require repeated practice and feedback. Consequently, there is a growing need for integrated educational approaches that combine experiential learning, emotional support (Hong & Kim, 2020), and peer-assisted or feedback-based learning environments to strengthen both technical proficiency and confidence.

In the Korean context, research on Core Basic Nursing Skills (CBNS) has been steadily expanding, reflecting the educational emphasis on clinical competence and patient safety. Studies have explored diverse themes, including performance confidence, self-efficacy, clinical competence, major satisfaction, learning motivation, and stress

management (Lee, 2020; Park & Park, 2022; Kim & Yi, 2020; Lee, 2021; Choi, 2021; Kim et al., 2021; Jung & Chae, 2020; Gu, 2021). In addition, recent works have examined the effects of innovative teaching strategies such as simulation-based learning, flipped classrooms, reciprocal peer tutoring, and VR/AR-based practice on students' learning outcomes and confidence. These educational interventions have generally shown positive outcomes in improving students' engagement and procedural confidence; however, the results have been inconsistent depending on learner characteristics, instructional design, and evaluation measures (Kim, 2020; Lee, 2021; Kim et al., 2021). Moreover, the sustainability and long-term effects of these methods on actual clinical performance remain uncertain.

Despite the growing number of individual studies, few have systematically analyzed the overall knowledge structure and interconnections among research themes in the field of core nursing skills. Most prior studies have focused on small-scale interventions or specific educational programs, rather than exploring how research topics have evolved and interacted over time. A comprehensive understanding of the thematic landscape—such as identifying which topics are central, peripheral, or emerging—remains limited.

Therefore, to fill this gap, this study employs Text Network Analysis (TNA) as a quantitative and data-driven approach to map and visualize the conceptual relationships among keywords in core nursing skills research. By examining keyword centrality, clustering patterns, and temporal trends, this study aims to uncover the structural characteristics and evolution of knowledge within Korean nursing education. Such an analysis is expected to provide a more holistic understanding of the research ecosystem and offer valuable insights for future curriculum development and competency-based educational strategies

3. Research Methods

3.1. Research Design

The purpose of this study is to examine the overall research trends related to core nursing skills within Korean nursing education. To achieve this, Text Network Analysis (TNA) was employed to extract the core themes and semantic structures presented in previous studies and to analyze the temporal evolution of research topics. Through this process, the study aims to elucidate the knowledge structure of research on core nursing skills in Korea and to provide foundational data for suggesting future research directions in nursing education.

3.2. Research Procedure

This study applied Text Network Analysis (TNA) to analyze research trends related to core nursing skills within the field of nursing education in Korea. The research procedure consisted of four main stages: data collection, data preprocessing, network construction, and analysis and visualization.

In the data collection stage, academic papers published in Korea on the topics of nursing education and core nursing skills were selected. Data were obtained from major domestic academic databases that provide a “bibliographic information export” function capable of extracting a large volume of references at once. The main databases included RISS (Research Information Sharing Service), KISS (Korean Studies Information Service System), DBpia, and the Korea Education and Research Information Service (KERIS). The search terms combined “core basic nursing skills,” “core nursing skills,” “self-confidence in performing nursing skills,” and “nursing education.” The inclusion period was limited to papers published between January 2012 and December 2024, encompassing the most recent 14 years of research.

In the data preprocessing stage, text refinement was conducted to ensure meaningful analytical outcomes from the TNA. The titles, abstracts, and keywords of the collected papers were reviewed, and stop words were removed while plural forms, synonyms, and similar expressions were unified. A morphological analysis was then performed to verify the part of speech and semantic relevance of each term, and words unrelated to nursing education or core nursing skills were excluded. Through this process, the final list of core keywords for analysis was established.

In the network construction stage, co-occurrence relationships among the finalized keywords were analyzed. The frequency of keyword appearance and co-occurrence in each paper was converted into a mathematical matrix, in which rows and columns represented individual keywords. If two keywords appeared together in the same paper, a value of 1 was assigned; otherwise, 0 was assigned. The co-occurrence matrix was thus created, and weights were applied to represent the strength of relationships based on frequency.

Finally, in the analysis and visualization stage, network analysis was performed based on the constructed co-occurrence matrix. The analysis consisted of centrality analysis and clustering analysis. Centrality analysis included degree centrality, betweenness centrality, and closeness centrality to identify the most influential keywords. Clustering analysis was used to identify groups of highly related keywords, thereby clarifying the structural patterns of research topics. The analytical results were visualized through a sociogram, allowing for an intuitive understanding of the major semantic structures and temporal changes in research topics related to core nursing skills in

Korean nursing education.

3.2.1. Data Collection for Academic Research

This study applied Text Network Analysis (TNA) to identify research trends related to core nursing skills within Korean nursing education. TNA is a method that visualizes the relationships among major words (keywords) in academic literature as a social network and identifies the interconnected structure of key topics and concepts through centrality analysis. In social network analysis, centrality measures are used to identify nodes that play the most important roles within a network. The sociogram, a visual representation of the network, helps analyze how concentrated these nodes are. When applied to text analysis, this approach allows researchers to determine which keywords are most closely connected to others, thereby identifying the research topics that occupy central positions. In other words, the degree of connectivity among keywords reveals both the central research themes and the contextual meaning structure of peripheral concepts (Kwon et al., 2021).

Based on this principle, the present study used centrality analysis to extract core keywords. Keywords that ranked within the top 30 positions in each centrality measure were defined as core topics. To reflect the temporal evolution of research, the collected studies were divided into specific time intervals according to their publication year, and separate text networks were constructed for each period. This allowed for a comparative analysis of temporal trends in research topics. The academic papers analyzed in this study were collected from Korean scholarly databases that allow bibliographic data export. Specifically, the Research Information Sharing Service (RISS), Korea Citation Index (KCI), and Korean Medical Database (KMBASE) were used as the primary data sources. The search terms were set to “Subject: Core Nursing Skills” OR “Subject: Core Basic Nursing Skills,” and the document type was limited to peer-reviewed academic journal articles.

A total of 94 papers were initially identified. Among them, two papers without accessible abstracts and ten papers with weak relevance to core nursing skills were excluded. Consequently, 82 papers were finalized for analysis. Text data—including titles, abstracts, and keywords—were extracted from each paper and used to construct a co-occurrence network representing the relationships among keywords.

Subsequently, centrality analysis was conducted to calculate the relative importance of each keyword within the network. The study employed degree centrality, betweenness centrality, and closeness centrality to identify the most influential keywords. The analytical results were visualized in a sociogram, which illustrated the core topics, semantic structures, and temporal evolution of research

trends concerning core nursing skills in Korean nursing education.

3.2.2. Data Preprocessing

The collected abstracts were processed through morphological analysis, during which only nouns were extracted. Stop words were removed, and all text was standardized to lowercase for consistency. In cases where Korean and English terms were mixed but shared the same meaning, the English form was adopted for uniformity. The keywords provided by the authors were organized while maintaining duplicates to reflect the characteristics of the original data. These author keywords, combined with the noun-extracted keyword list from the abstracts, were utilized for subsequent analysis.

3.3. Analysis Method

This study examined research trends on core nursing skills in the field of nursing education in Korea by conducting a series of analyses, including Frequency Analysis, Topic Modeling, Network Analysis, and Visualization, based on text data.

First, the abstracts and keywords of the 82 selected papers were converted into text data. Through morphological analysis, unnecessary particles and suffixes were removed, and only noun morphemes were extracted and used as the primary dataset for analysis.

Next, a frequency analysis was performed to calculate the occurrence of key terms and identify the most frequently studied topics in the field. In addition, topic modeling was conducted using the abstract texts to derive major research themes, which were then categorized according to the top-ranked keywords. These topics were compared across different time periods to examine the temporal evolution of research themes.

Subsequently, a network analysis was performed based on the co-occurrence relationships among keywords across the papers. Each keyword was represented as a node, and the co-occurrence relationships between keywords were represented as edges, forming an undirected network. The edge weights were determined by the frequency of co-occurrence between keywords. Network analysis was conducted using the Gephi (Ver. 0.10) program, and two centrality measures—Degree Centrality and Betweenness Centrality—were calculated to identify the most influential keywords in the network.

Finally, in the visualization stage, the relative importance of keywords was intuitively represented using a word cloud created with WordArt (<https://wordart.com>). In addition, the number of papers published each year was aggregated to visualize the temporal distribution of research activity, thereby illustrating the major topics and shifts in

core nursing skills research over time.

3.3. Analysis Tools

In this study, Python (Ver. 3.11) was used for data preprocessing and topic modeling, while Gephi (Ver. 0.10) was employed for network analysis. Additionally, WordArt (<https://wordart.com>) was utilized to visually represent the relative importance of keywords through the creation of a word cloud.

4. Results

4.1. Major Keywords in Nursing Research Related to Core Nursing Skills

An analysis of publication trends by year revealed a steady increase in the number of studies on core nursing skills since 2012, with a marked expansion between 2017 and 2021. Research activity has remained strong after 2022, indicating a growing academic interest in core nursing skills education. This trend appears to align with the transformation of the educational environment during the COVID-19 pandemic, which has further highlighted the importance of research on nursing education and competency-based skill training (Fig. 1).



Figure 1: Annual publication trends of research on core nursing skills

4.2. Relationships Among Major Keywords in Nursing Research

The analysis of relationships among keywords revealed the structural connectivity of research topics. Based on frequency analysis, the most frequently appearing keywords were “nursing students” (48 occurrences) and “core nursing skills” (46 occurrences), indicating that nursing students and the skills themselves are at the center of this research field.

In the degree centrality analysis, “core nursing skills” and “nursing students” demonstrated the highest values, showing that these terms are the most directly connected to

other keywords. This suggests that discussions of core nursing skills are strongly associated with various learning-related topics (Table 1).

In terms of betweenness centrality, “nursing students,” “confidence,” and “clinical practice” ranked the highest. These keywords function as intermediary nodes connecting different research themes, with “confidence” in particular serving as a bridge between studies on core nursing skills and those on learning outcomes. These findings indicate that student confidence, clinical practice experience, and competency enhancement are closely intertwined with research on core nursing skills and play a pivotal role in linking various educational themes within nursing research.

4.3. Topic Modeling Analysis Results

The topic modeling analysis identified the major themes and temporal changes in research on core nursing skills.

During 2012–2016, research primarily focused on basic nursing skills and nursing competence. Keywords such as “core fundamental nursing skills,” “nurses,” and “nursing students” appeared most frequently. Studies from this period emphasized the conceptual establishment of core nursing skills and the development of fundamental competencies, reflecting an educational priority on standardizing and reinforcing foundational nursing techniques. Between 2017 and 2021, the scope of research expanded to include learner characteristics and educational effectiveness. Core keywords during this period included “nursing students,” “confidence,” “problem-solving ability,” and “critical thinking.” These findings indicate an increase in studies aimed at enhancing learning outcomes, self-confidence, critical thinking, and problem-solving skills among nursing students. Additionally, digital and convergence-based teaching methods such as virtual reality (VR), simulation, and integrated education began to emerge, suggesting growing efforts to diversify educational strategies.

From 2022 to 2025, keywords such as “core nursing skills,” “self-efficacy,” “self-directed learning,” and “COVID-19” became dominant. These reflect a shift toward research themes that not only refine the concept of core nursing skills but also emphasize self-directed learning, enhancement of learning efficacy, and the integration of digital and non-face-to-face learning environments in response to the pandemic (Table 2).

Table 1: Relationships among major keywords in research on core nursing skills

Rank	Keyword (Freq)	Frequency	Keyword (Degree)	Degree Centrality	Keyword (Betweenness)	Betweenness Centrality
1	nursing students	48	core nursing skills	0.446154	nursing students	0.08353
2	core nursing skills	46	Nursing students	0.384615	confidence	0.046168
3	Performance ability	21	confidence	0.353846	clinical practice	0.035117
4	Clinical performance ability	16	education	0.338462	Nursing students	0.032454
5	Convergence	12	nursing students	0.338462	core nursing skills	0.030827
6	self-efficacy	9	clinical practice	0.292308	problem-solving skills	0.030415
7	clinical practice	8	knowledge	0.292308	self-directed learning	0.026654
8	critical thinking	8	problem-solving skills	0.292308	performance ability	0.02311
9	problem-solving skills	8	self-efficacy	0.292308	knowledge	0.021733
10	Nursing	7	performance ability	0.261538	self-efficacy	0.017225
11	nurse	7	Core nursing skills	0.215385	learning motivation	0.016551
12	self-directed learning	7	major satisfaction	0.184615	education	0.016424
13	qualitative research	6	satisfaction	0.184615	flipped learning	0.015052
14	Virtual Reality (VR)	5	Performance ability	0.169231	satisfaction	0.012557
15	Major satisfaction	4	clinical performance ability	0.169231	self-management strategies	0.012192
16	academic	4	convergence	0.169231	teaching and learning model	0.012015
17	confidence	4	self-directed learning	0.169231	clinical performance ability	0.011306
18	nursing education	4	Clinical performance ability	0.153846	Core nursing skills	0.010399
19	Needs analysis	3	critical thinking	0.123077	qualitative research	0.009286
20	simulation	3	flipped learning	0.123077	re-education	0.009186
21	Core Self-Assessment	2	Independent practice	0.107692	convergence	0.00684
22	Flipped learning	2	learning motivation	0.107692	Clinical practice	0.00675
23	Learning satisfaction	2	simulation	0.107692	Nurse	0.005573
24	Nursing performance ability	2	teaching and learning model	0.107692	major satisfaction	0.00525
25	Practical training satisfaction	2	attitude	0.092308	Clinical performance ability	0.004534
26	Recognition of importance	2	learning satisfaction	0.092308	Performance ability	0.002907
27	Satisfaction	2	qualitative research	0.092308	learning satisfaction	0.002796
28	Teaching and Learning Model	2	re-education	0.092308	critical thinking	0.002212
29	Transference motor	2	Clinical practice	0.076923	independent practice	0.001442
30	attitude	2	experience	0.076923	Independent practice	0.001294

Overall, these results illustrate an evolving research trend from basic procedural education to a broader focus encompassing learner autonomy and adaptation to changing educational environments, indicating a maturing and multidimensional perspective on nursing education.

4.4. Network Analysis Sociogram

The results of the network analysis revealed a radial structure centered around the keywords “nursing students” and “core nursing skills.” In the sociogram, the size of each node and the thickness of the connecting lines (edges) represent keyword frequency and connection strength, respectively. This visualization demonstrates that these core keywords function as central hubs within the research network.

The network structure highlights interactions and relationships among research topics that are not captured through simple frequency analysis. By visualizing these connections, the sociogram enables a comprehensive understanding of both the central and peripheral themes within the field of nursing education, illustrating how diverse research areas converge around the concept of core nursing skills (Fig. 2).

4.5. Word Cloud of Research Keywords Related to Core Nursing Skills

The word cloud analysis revealed that the most prominent keywords were “nursing students,” “core nursing skills,” “confidence,” and “clinical competence.” These results are consistent with the findings from both the frequency and centrality analyses, highlighting the keywords that are repeatedly emphasized across studies.

The word cloud visually represents the core thematic trends of research on core nursing skills, providing an intuitive overview of the most influential topics in the field. This visualization serves as a valuable reference for future research directions and policy development in nursing education (Fig. 3).

5. Discussion

The analysis identified the major keywords and topics frequently appearing in nursing education research related to core nursing skills. Terms such as “nursing student,” “education,” “simulation,” and “competency” emerged as

central concepts, demonstrating that core nursing skills education extends beyond simple procedural training and is

directly linked to competency enhancement among nursing students.

Table 2: Research trends based on topic modeling analysis

Year Group	Topic	Frequency n(%)	1 st Keyword	2 nd Keyword	3 rd Keyword	4 th Keyword	5 th Keyword
2012-2016	Nursing competence & fundamental skills	3 (11.5%)	core fundamental nursing skills	nurses	nursing students	core basic nursing skills	clinical Competence
2017-2021	Nursing students' competence & confidence	13 (14.0%)	nursing students	core basic nursing skills	confidence	clinical competence	core fundamental nursing skills
	Problem solving & critical thinking	4 (4.3%)	problem solving ability	critical thinking	critical thinking disposition	convergence	nursing education
2022-2025	Advanced nursing competence & core skills	14 (19.7%)	core nursing skills	nursing students	confidence in performing core nursing skills	Clinical performance	core fundamental nursing skills
	Critical thinking & learning strategies	2 (2.8%)	critical thinking disposition	self-directed learning	self-efficacy	major satisfaction	qualitative research
	Digital learning & COVID-19 impact	2 (2.8%)	virtual reality	covid-19	students	practice satisfaction	motivated strategies for learning

A chronological analysis revealed a clear progression in research focus. In the early period (2012–2016), studies primarily concentrated on basic nursing skill education and clinical training environments. During the mid-period (2017–2021), the focus expanded toward simulation-based learning, critical thinking, and clinical performance competence. In the recent period (2022–2025), research increasingly incorporated digital healthcare, metaverse, and augmented reality (AR)-based education, reflecting an integration of new instructional media and innovative learning environments (Kim, 2020; Choi, 2021; Lee, 2021; Kim et al., 2021; Jung & Chae, 2020).

This study comprehensively analyzed the topics and relational structures within research on core nursing skills education. The findings indicate that early studies emphasized basic competence and procedural mastery, whereas later research broadened to address learner characteristics and educational outcomes. Most recently, research has evolved further toward digital learning environments and self-directed learning. This shift underscores the growing importance of a multidimensional approach in nursing education that not only focuses on skill acquisition but also encompasses learner attitudes, competencies, and learning strategies.

The network analysis revealed that numerous keywords were connected around “nursing student” as the central node, with “simulation,” “competence,” and “education” showing strong relational ties. This pattern suggests that core nursing skills are intrinsically linked to student competency

development in nursing education, and that simulation-based methodologies occupy a central role in facilitating this connection. While repetitive practice remains essential for improving confidence in performing core nursing skills, the ability to apply such skills appropriately through clinical reasoning and critical thinking is equally crucial (Kim et al., 2023).

Furthermore, the network analysis demonstrated that certain keywords served as bridging nodes between research topics. Specifically, “nursing students,” “confidence,” and “clinical practice” functioned as mediating concepts that linked studies on core nursing skills with broader educational outcomes, thereby highlighting the interdisciplinary expansion potential of nursing education research. These findings suggest that strategies to enhance student confidence and clinical practice experience should be prioritized in both nursing education policies and curriculum design.

To enhance students' confidence in performing core nursing skills, it is necessary to implement educational strategies that combine repetitive face-to-face practice, emphasis on the theoretical value and importance of core skills, and appropriate evaluation systems. Moreover, developing teaching-learning methods that allow for repeated practice of core nursing skills through online or simulation-based learning—while reinforcing theoretical understanding and procedural accuracy—can further improve clinical competence (Cha & Kim, 2022).

Lastly, the visual outcomes of this study offer a valuable

foundation for policy development and future research directions in core nursing skills education. Emerging issues

such as self-directed learning, digital learning environments, and post-pandemic instructional models should be considered as central themes for upcoming studies. Through this analysis, the contextual framework of major research topics related to core nursing skills in nursing education was identified. The chronological trend analysis provided insight into current developments and highlighted areas that remain underexplored. In particular, themes associated with digital

and technology-based educational media present meaningful indicators for the future direction of nursing education.

Additionally, the visualized keyword network structure offers a basis for exploring other subjects that can be integrated with core nursing skills education. These findings can contribute to setting effective directions for curriculum design and policy formulation aimed at strengthening core nursing skills within nursing education.

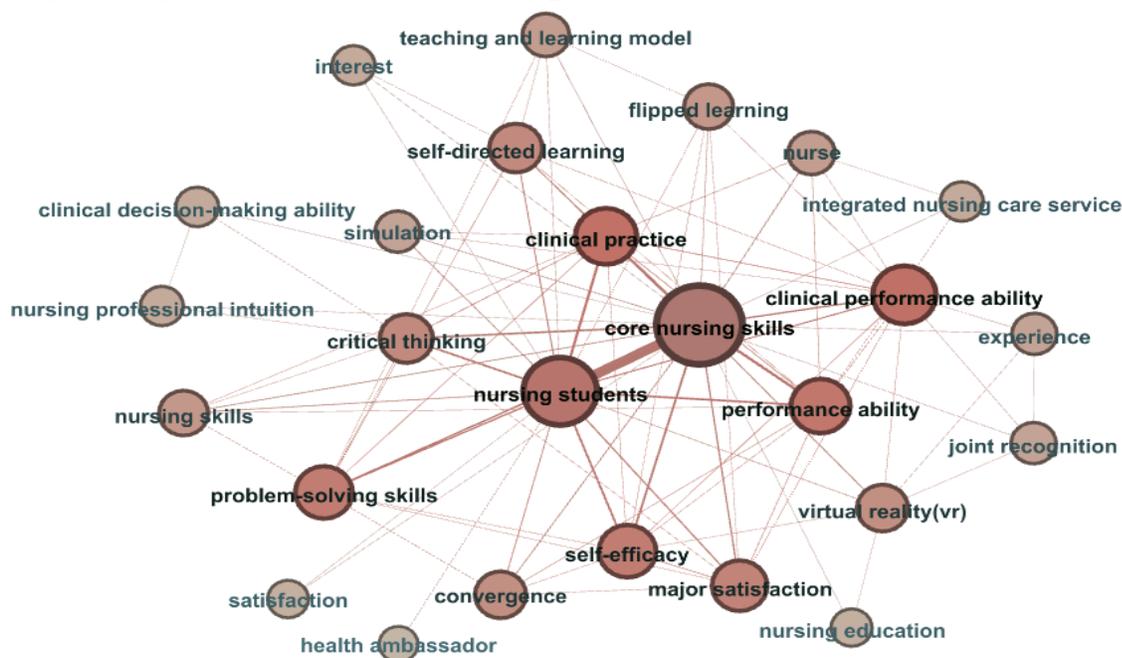


Figure 2: Network Analysis Sociogram

6. Conclusion and Suggestions

This study applied Text Network Analysis (TNA) to systematically explore research trends on core nursing skills within Korean nursing education. By analyzing 82 academic papers published between 2012 and 2024, the study identified the core topics, semantic structures, and temporal transitions in research themes related to nursing competency development.

The results revealed that research on core nursing skills has evolved through three distinct phases. The early period

focused primarily on the standardization of basic nursing procedures and fundamental skill education. The middle period emphasized simulation-based learning, critical thinking, and clinical competence, while recent research has shifted toward digital learning, self-directed learning, and educational innovation in response to the post-pandemic environment. The network analysis further demonstrated that “nursing students,” “confidence,” and “clinical practice” functioned as central and bridging concepts that connected diverse educational themes, underscoring the integrated nature of nursing education.

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