

즉흥연주 관련 국내 음악교육 분야 연구 동향 Research Trends on Improvisation in Music Education in Korea

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Abstract This study aims to analyze research trends in music education related to improvisation in Korea and to provide suggestions for future research. For this purpose, this study analyzed 91 papers based on six criteria: type of paper, publication year, research topic, keywords, research subjects, and research methods. The analysis revealed that studies focusing on teaching and learning strategies for improvisation targeting elementary school students were predominant. A literature review was the most commonly used research method, while quantitative and qualitative studies were relatively scarce. Therefore, the study suggests expanding research to include subjects such as middle and high school students and music majors, studies reflecting teachers' experiences with improvisation, the development of evaluation tools for improvisation, the use of Edutech, and the increased use of quantitative and qualitative data. These proposals emphasize the need for more diverse discussions regarding research subjects, topics, and methods. Based on these suggestions, it is hoped that the quality of research related to improvisation in music education will improve.

Key words: music education, improvisation, research trends, music education research, Korean music education

초록 본 연구의 목적은 즉흥연주와 관련된 국내 음악 교육 분야의 연구 동향을 분석하고 향후 연구 방향을 제시하는 데 있다. 이를 위해 91편의 논문을 대상으로 논문 유형, 출판 연도, 연구 주제, 주제어, 연구 대상, 연구 방법의 6가지 기준으로 분석하였다. 분석 결과, 초등학생을 대상으로 한 즉흥연주 지도 및 학습 방안 연구가 주를 이루었고, 연구 방법에서는 문헌 연구가 가장 많은 비중을 차지하였고, 양적 및 질적 연구는 부족하였다. 이에 중·고등학생과 전공생 대상 연구, 교사의 즉흥연주 경험을 반영한 연구, 즉흥연주 평가 도구 개발 연구, 에듀테크 활용 연구, 그리고 양적 및 질적 자료를 활용한 연구의 확대 등을 제안하여 연구 대상, 연구 주제, 연구 방법의 측면에서 보다 다양한 논의들이 필요함을 강조하였다. 이러한 제안들을 토대로 즉흥연주 교육과 관련 연구의 질적 향상을 기대해 본다.

주제어: 음악교육, 즉흥연주, 연구 동향, 음악 교육 연구, 국내 음악교육

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I . Introduction

Improvisation is the spontaneous creation and performance of musical ideas without a prepared score. This process is inherently multidimensional, as it not only requires the ability to generate new music in real time but also depends on social interaction and interpersonal skills (Biașutii, 2017). This is largely because improvisation often takes place in a group setting, where collaboration among performers is key to the creative process.

Historically and anthropologically, improvisation has been a fundamental part of many musical traditions (Higgins & Mantie, 2013). In particular, it was a common performance practice in European music until the 19th century (Sawyer, 2008). Given its rich history, it is no surprise that improvisation holds a vital place in music education. Yet, despite its importance, it continues to be regarded as a challenging area within the educational context (Higgins & Mantie, 2013).

Campbell (2009) suggests that improvisation skills can be developed through informal methods such as peer learning imitation and spontaneous activities often without structured guidance (Hickey, 2009). This informal learning can complement and connect with formal structured education creating a more holistic approach when combined with ear training music theory and performance in an engaging environment.

Improvisation also promotes self-reflection on spontaneous performances and fosters real-time musical dialogue with other performers. This interactive process enhances the understanding of musical flow, structure, and form, leading to a deeper comprehension when reading scores (Biașutii, 2017). Educational approaches such as Dalcroze and Orff place great emphasis on improvisation, viewing it as a skill that can be cultivated through instruction rather than being purely innate (Sawyer, 2011). Consequently, Biașutii (2017) emphasizes that improvisation should be integrated from the very beginning of music education with systematic opportunities for its development provided at all levels not only for general music education but also for specialized music programs.

Based on this background, this study was initiated with the recognition that further research on improvisation is needed as creation has been established as an independent domain in the 2022 revised music curriculum. The primary goal of this study is to examine how discussions surrounding improvisation in music education have evolved. To achieve this, the study undertakes a comprehensive review of the literature on improvisation, focusing on its concepts, teaching and learning methods, and evaluation processes. Additionally, it analyzes research trends in music education related to improvisation, with a particular focus on academic journals and theses

published in South Korea.

As improvisation gains prominence in music education through the 2022 curriculum's emphasis on creation, the findings of this study will provide valuable insights to inform future research and educational strategies in this area.

II. Literature Review

1. Concepts of musical improvisation

The issue of defining improvisation presupposes that there are various ways to perform it and that it can be viewed and practiced from multiple perspectives. In other words, there are diverse viewpoints on perceiving and engaging improvisation beyond understanding it as a single specific performance form. This section aims to examine the types of improvisation and perspectives on improvisation, focusing on the studies by Ju (2004) and Higgins and Mantie (2013).

1) Types of improvisation

Improvisation can be classified based on the form of the performance and the degree to which improvisation is manifested (Ju, 2004). Referring to his classification, this section will examine improvisation broadly in terms of constrained and unrestricted improvisation.

Constrained improvisation involves performing spontaneously using given musical elements. This means adding notes to a given melody, expanding or contracting rhythms, or changing timbres, among other methods, on the spot. Although this is similar to creative activities where changes are made to parts of a piece according to given conditions in music and curricula (Ministry of Education, 2022), the difference lies in that constrained improvisation is done spontaneously without special preparation or planning. Ju(2004) notes that this type of constrained improvisation likely began with adding voices to existing chant melodies during the Medieval period in Western music history. This practice of improvising additional voices on existing chant melodies gradually became established as a compositional method. Additionally, instrumental accompaniments for dance or songs, which lacked specific instructions, were likely infused with a degree of improvisation, and attempting improvisational changes to existing pieces was a typical

performance practice of that time.

In contemporary music, constrained improvisation can occur when performers are guided by instructions from the composer to improvise. Although Ju(2004) distinguishes this as ‘creative improvisation,’ this study considers such classification problematic. When partial improvisation is viewed as making spontaneous changes to existing materials or performing on the spot using given conditions, improvisation based on a composer’s guidance can be considered a form of constrained improvisation.

Unrestricted improvisation, in contrast to constrained improvisation, assumes no specific conditions or materials are imposed. While partial improvisation from the Medieval period gradually expanded into unrestricted improvisation by the Baroque era, Ju(2004) argues that since improvisation is based on the performer’s prior experiences in any form, it is difficult to consider it as an entirely new creative output. Even in unrestricted improvisation, the performer is likely to weave together previously held musical ideas in a new way. Therefore, Ju(2004) suggests improvisation is more accessible for performers with extensive musical experience and fewer technical constraints. Consequently, in school music curricula, it is advisable first to have students who are new to improvisation experience partial improvisation thoroughly and then gradually progress to unrestricted improvisation as they become more accustomed to the practice.

2) Perspectives on improvisation

This section explores improvisation from two perspectives: as a musical skill or talent and as a cultural product within its context.

Many music educators who see improvisation as a skill or talent argue that it effectively develops musicality. They believe that improvisational activities are practical tools for acquiring and enhancing various musical skills, such as audiation, musical expression, music creation, and playing by ear (Higgins & Mantie, 2013). For these reasons, improvisation is considered a means of cultivating musicality and a goal of music education. In other words, educators view improvisation as a skill, competence, and talent that should be developed in music education. Consequently, educators sometimes use improvisational ability as a benchmark for measuring musicality, as the various functions required in improvisation serve as indicators of one’s musical aptitude.

Another perspective on improvisation considers it an act and product arising from social and cultural contexts. Given its significant role in diverse musical practices worldwide, improvisation

is seen as a form of performance that transcends mere technical ability and finds meaning within social and cultural contexts. From the perspective that learning occurs within a context, improvisation can be understood and learned within social and cultural backgrounds (Higgins & Mantie, 2013). Jazz is a prime example of viewing improvisation as a socio-cultural product, where education in improvisation is deemed necessary to understand the genre truly. Beyond jazz, other musical traditions such as the blues and Indian raga also emphasize the importance of learning improvisation within their cultural contexts, as it deepens both musical expression and cultural understanding.

2. Improvisation education and assessment

The primary objective of this study is to identify the research conducted on improvisation within the field of music education. To achieve this, the concepts of improvisation have been explored, and it is now essential to examine the associated teaching, learning, and evaluation methods.

While the importance and educational benefits of improvisation are well recognized, challenges remain in teaching and learning improvisation in educational settings. Various approaches have been proposed to address these challenges. This section will examine the education and assessment of improvisation in music education based on previous studies (Azarra, 1999; Biastutii, 2017; Brophy, 2001; Hickey, 2009; Kratus, 1996; Larsson et al., 2018; Wright & Kanellopoulos, 2010).

1) Educational approaches to improvisation

Azzara(1999) proposes an ‘aural approach’ to developing improvisational skills. He suggests that training in recognizing and playing bass lines can aid in understanding harmonic progressions. He emphasizes the importance of relying on one's ear rather than sheet music and exploring motifs in bass lines and melodies through various pieces as a starting point for generating ideas for improvisation. In other words, one can start improvising by listening to other improvisers and making minor changes to rhythms or melodies. Azzara(1999) recommends that developing improvisational skills begins with listening extensively to music and taking risks with the unfamiliar challenges and uncertainties of improvisation. Expanding one's musical vocabulary is crucial, much like learning a language by ear. This extensive listening helps understand melodies and harmonic progressions across a broad range of music. Furthermore, Azzara(1999) suggests

training to play harmonies or melodies in various styles and keys without sheet music. Such practices contribute to the advancement of improvisational skills.

On the other hand, Kratus(1995) proposes a Developmental Approach to improvisation education, comparing the improvisations of beginners and experts to provide educational insights for students who still need to become familiar with improvisation. While both beginners and experts aim to produce musically meaningful outcomes over time, experts, unlike beginners, have superior audiation skills that allow them to predict and create music even during improvisation. This lack of ability in beginners often limits the musical significance of their improvisations. Beginners may view improvisation as a process, thus being ‘process-oriented.’ In contrast, experts can structure improvisation more effectively and can produce results that resonate more with audiences, making them ‘outcome-oriented.’ Kratus(1995) outlines seven stages of improvisational development, which reflect the progression from beginner to expert. As students advance, the role of the teacher also evolves. The stages include exploratory, process-oriented improvisation, outcome-oriented improvisation, fluid improvisation, structural improvisation, stylistic improvisation, and finally, personal improvisation. The characteristics of each stage are summarized as follows.

<Table 1> Teacher's role in Kratus's seven stages of improvisation development

Stage	Characteristic	Goal	Role of the teacher
Exploration	• Loose exploration of sound with little structural constraint or purpose • Lack of control over the medium of performance or musical materials	• Understanding the relationship between sounds and sound-producing actions. • Exploring the sensory characteristics of musical sound	• Providing students with opportunities for free play • Encouraging exploration by offering instruments and free time • Verbally supporting students' initial effort. • Enhancing ear training by limiting available pitch
Process-oriented improvisation	• Using repetitive pattern, increasing consistency • Recognizing and controlling the connection between sounds and performance action	• Enhancing fundamental musical control. • Increasing enjoyment of improvisation and understanding of the process	• Identifying and explaining the relationships between patterns that students are playing • Teaching to aid in understanding the relationships between pattern • Providing independent work time rather than group improvisation • Encouraging simultaneous or alternating improvisation during group improvisation session
Product-oriented improvisation	• Using structural principles such as tonality and meter • Being aware of the audience and focusing on the musical outcome	• Structuring and organizing musical ideas • Enabling the sharing and understanding of music with others	• Introducing various musical structural dimensions • Providing opportunities for collaboration by having students improvise in groups. • Training students to respond to changes in tempo, meter, and harmony • Supporting the enhancement of students' performance skill

<Table 1> Continued

Stage	Characteristic	Goal	Role of the teacher
Fluid improvisation	- Automation and ease in executing performance skill. - Gaining flexibility across various structural dimension	- Developing technically flexible and free improvisational skill - Expressing musical ideas quickly and accurately	- Emphasizing appropriate performance techniques in improvisation. - Providing context for practical music-making to enhance technical skill - Offering solo performance opportunities in various meter, tempo, chord change, and tonality
Structural improvisation	- Using various strategies to form the overall structure of improvisation - Developing musical ideas and creating interest through tension and release	- Enhancing the ability to organize and develop musical idea - Increasing the structural completeness of improvisation	- Introducing methods for connecting and structuring musical idea - Providing models through analysis of other musicians' performance - Demonstrating strategies for developing musical idea - Encouraging students to flexibly apply phrase rule - Assigning tasks in the form of performance challenge
Stylistic improvisation	- Mastery of the language and characteristics of specific styles or multiple style - Integration of unique rhythmic, melodic pattern, harmonic feature, and timbres of the style	- In-depth understanding and mastery of specific musical style - Expressing personal creativity within the style	- Guiding the rhythm, melodic pattern, harmonic characteristic, and timbres of a specific style - Encouraging analysis and imitation of performances by style expert - Encouraging the student to find their personal voice within the style - Encouraging breaking rules and expanding the boundaries of convention
Personal improvisation	- Developing new style that go beyond the boundary of existing style - Establishing new musical conventions and rule	- Creation and development of unique musical style - Pioneering new musical expressions beyond existing musical tradition	- Encouraging the student to develop proficiency in various style - Supporting creative exploration and innovative approach - Providing a free environment for developing new style

Teachers can systematically develop students' improvisational skills based on these stage-specific characteristics and goals. Biasutti(2017) advocates for a process-oriented teaching approach as outlined in Kratus's seven stages (Kratus, 1995), focusing on developing the process rather than just producing outcomes. Biasutti and Frezza view five processes during improvisation: Anticipation, Use of Repertoire, emotional communication, Feedback, and Flow (Biasutti & Frezza, 2009). He argues for an emphasis on fostering the actions required in each process rather than merely instructing and imparting improvisation skills. In this approach, the teacher is a facilitator, helping students develop their musical ideas. The core concepts and teaching-learning activities related to each process are in the table below.

<Table 2> Key concept and educational technique in improvisation process by Biastutti and Frezza

Improvisation process	Key concept	Educational techniques
Anticipation	Thinking in advance of elements at the melodic, harmonic and rhythmic level during musical improvisation	• Defining the context and determining the limits of the improvisation • Describing the condition and designing the improvisation • Defining the evolution of the improvisation • Singing to oneself the melody that one is performing • Practicing thinking the solo aloud
Use of repertoire	Utilizing repertoire formula such as clichés or short musical motives(licks) during improvisation	• Analysis of solo part • Singing, playing and learning the improvisation of different musical style • Learning by ear • Providing example of strategies for using short musical motive (lick) • Acquisition and application of principle for using lick • Reflective practice on the strategies used
Emotive communication	Communicating emotion through improvisation	• Improvising based on specific feeling • Verbalizing the emotions conveyed during improvisation • Reflective practice on emotive communication
Feedback	Making real-time changes to synchronize or improve an improvisation using monitoring processes	• Musical question and answer • Dialogues based on parameter such as rhythm, melody, harmony, and timbre. • Arranging improvisational cue that change unexpectedly and abruptly • Arranging improvisational cue through verbal directions • Arranging improvisational cues supported by various sensorial mode (aural, visual, kinesthetic). • Arranging stimulating and risk-taking musical activity
Flow	A state of mind of intense absorption during improvisation, including cognitive, affective and physiological aspect, linked to optimal experience	• Eliciting expectation and designing limpid objective • Sharing objective and goals with group mate. • Designing activity that are within the players' ability to perform. • Designing suitable levels of technical and musical situations joined with existing abilities. • When the action becomes boring, proposing a demanding task. • Designing conditions for enjoyment. • Avoiding breaks. • Evaluating progress by checking whether the objectives have been accomplished. • Giving formative feedback. • Reinforcing motivation.

2) Improvisation assessment

Azzara(1999) proposes evaluation criteria for improvisation, including scales and sequences, motif development, appropriate use of rests, musical style and sensibility, and the balance of tension and relaxation through resolution and rhythmic variety. Building on Azzara’s foundational elements, McPherson(1993, 2019) divides the evaluation of improvisation into ‘conditioned improvisation’ and ‘free improvisation.’ He presents evaluation criteria based on musical expression, fluency of performance, flexibility in applying styles, and musical quality. First, the evaluation dimensions (Mcpherson, 1993, 2019) for conditioned improvisation are as follows.

<Table 3> Evaluation dimensions for conditioned improvisation

Dimension	Sub-Dimension		
Improvisational ability	Instrumental fluency	Technical ability	
		Musical expression	
		Musical fluency	Spontaneity
			Ease of movement between idea
	Creativity	Flexibility	Manipulation of musical parameter
			Elaboration of musical stimulus
		Originality	Uniqueness
		Musical syntax	Ability to adapt to style
			Ability to complement set criteria
	Musical quality	Overall musical appeal	

The above improvisation evaluation focuses on responding to given four-bar question patterns with appropriate improvisation. For example, it includes improvising a melody based on a given ‘4/4 rhythm pattern,’ imitating, altering, and developing a given eight-bar motif, and improvising a melody to a recorded piano accompaniment of I, ii, V chords (Mcpherson, 1993, 2019). These are examples of evaluations with specific constraints. On the other hand, the following evaluation dimension concerns the assessment of free improvisation (Mcpherson, 1993, 2019) without such constraints.

<Table 4> Evaluation dimension for free improvisation

Dimension	Sub-dimension		
Improvisational ability	Instrumental fluency	Technical ability	
		Musical expression	
		Musical fluency	Spontaneity
			Ease of movement between ideas
	Creativity	Musical Flexibility	Variety of Idea
			Manipulation of musical idea
		Musical Originality	Uniqueness
		Musical syntax	Ability to define style
			Conception of logical response
	Musical quality	Overall musical appeal	

These two types of evaluations differ in several ways. Regarding musical structure, condition improvisation emphasizes the ability to organize musical ideas according to specific styles and criteria. In contrast, free improvisation values the ability to provide logical and musically meaningful responses without adherence to a particular style. Additionally, in terms of creativity, condition improvisation assesses how well musical elements(rhythm, melody, harmony, etc.) are manipulated, while free improvisation focuses more on generating various musical ideas. Lastly, regarding musical quality, condition improvisation is concerned with adhering to established musical standards and constraints. In contrast, free improvisation prioritizes the overall expressiveness and appeal of the music without being bound by specific criteria.

III. Method

1. Analysis subjects

This study analyzed research on improvisation in music education papers published in Korea, aiming to suggest areas for further discussion. To achieve this, we searched for research articles using the keyword ‘improvisation’ in academic research databases such as RISS (Research Information Service System), KISS (Korean Studies Information Service System), ScienceOn, and the National Assembly Library up to August 2024.

However, to focus specifically on educational approaches to improvisation, we excluded studies that apply improvisation for therapeutic purposes. Although both approaches can positively impact psychological and physical well-being, the incidental benefits of improvisation in an educational context must be distinguished from the primary goals of therapeutic approaches. Therefore, this study concentrates on the educational application of improvisation and excludes any research for music therapy purposes. This aligns with the perspective mentioned by Won(2020), who noted that therapeutic approaches typically target a small number of individuals over a short period, highlighting the need for more extensive and systematic musical interventions within music education. Additionally, if a thesis has been revised and published as a journal article, it is considered duplicate research and excluded from the analysis. As a result, 91 articles available online were selected as the analysis subjects for this study.

2. Analysis criteria

To analyze the selected 91 papers, this study established analysis criteria based on prior research that examined ‘research trends’ in the fields of education and music education (Choi et al., 2023; Chu, 2022; Jo, 2022; Shin, 2020). The collected papers was analyzed across six dimensions: type of paper, publication year, research topic, keywords, research subjects, and research methods. The sub-criteria for each analysis dimension are outlined as follows.

<Table 5> Analysis criteria

Criteria	Detail
Type of paper	• Academic journal article • Thesis(Master/Doctoral)
Publication year	• Number of studies published up to Aug, 2024 • Analysis on a yearly and five-year interval
Research topic	• Educational program development, application effect, and impact • Teaching method and strategy • Exploration of theory, concept, and meaning • Perception survey
Keyword	• Frequency of keyword occurrence
Research subject	• Teacher (including pre-service teacher) • Student (pre-school, primary, and secondary) • Expert (professional musicians, professors music major college student) • Disability (student, general adult) • Adult (including non-major) • Mixed (including more than two types)

<Table 5> Continued

Criteria	Detail
Research method	• Quantitative (experiments, surveys, correlations) • Qualitative (interviews, observations, case studies) • Literature (educational materials development, teaching-learning material and model development, philosophy, history) • Mixed method (including more than two types)

IV. Research Trends in Music Education

Related to Improvisation

1. Analysis by type of paper

In this study, the 91 collected papers were categorized by type into journal articles, master’s theses, and doctoral dissertations. Master thesis represented the most significant proportion, with 56 papers, while doctoral dissertations were the fewest, with only three papers, and journal articles totaled 32.

<Table 6> Analysis result by type of paper

Type	Number of paper (N)	%
Journal article	32	35.2
Master thesis	56	61.5
Doctoral dissertation	3	3.3
Total	91	100

2. Analysis by year of publication

Research on improvisation in music education was examined annually and then grouped by five-year intervals for analysis. The results show that research on improvisation has continued from its inception in 1971 up to the present in 2024. Analysis of the 91 studies by year revealed that seven were published in 2022 and 6 were published in 2009, indicating that 2022 had the highest number of studies, followed by 2009. Both years saw significant discussions about curriculum revisions, suggesting that many studies on educational approaches to music creation

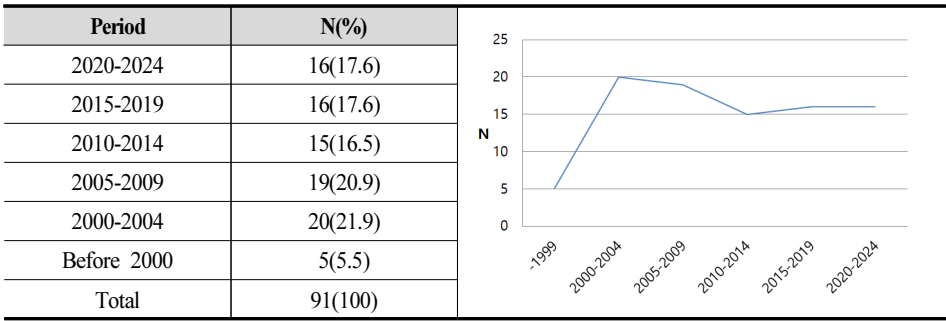
and improvisation were conducted during these times. Conversely, the years with the fewest studies conducted since the 2000s were 2012, 2020, and 2024.

<Table 7> Analysis results by publication year

Year	71	90	98	99	00	01	02	03	04	05	06	07	08	09	10
N	1	1	1	2	2	4	4	5	5	3	2	5	3	6	3
%	1.1	1.1	1.1	2.2	2.2	4.4	4.4	5.5	5.5	3.3	2.2	5.5	3.3	6.6	3.3
Year	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total
N	3	1	5	3	5	3	2	4	2	1	3	7	4	1	91
%	3.3	1.1	5.5	3.3	5.5	3.3	2.2	4.4	2.2	1.1	3.3	7.6	4.4	1.1	100

When analyzed in five-year intervals, the results show that between 2020 and 2024, there were 16 papers; between 2015 and 2019, there were 16 papers; between 2010 and 2014, there were 15 papers; between 2005 and 2009, there were 19 papers; between 2000 and 2004, there were 20 papers; and five papers were published before the year 2000. Since the 2000s, the period with the most research on improvisation was from 2000 to 2004, with 20 papers. Overall, there has been an average of about 17 papers per five-year period since the 2000s, indicating that research on improvisation remains a significant topic in music education.

<Table 8> Analysis result by 5-year interval



3. Analysis by research topic

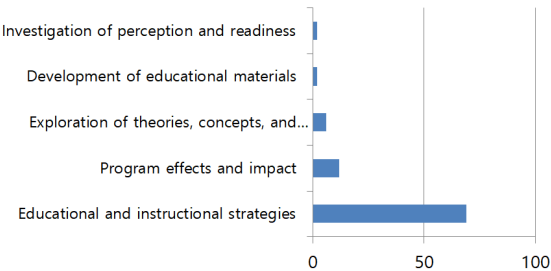
An analysis of the research topics covered in the 91 studies revealed that they focus on various areas, including the exploration of the concepts and meanings of improvisation, the development and application of improvisation education programs, the impact and effects of improvisation,

teaching and instructional methods for improvisation, and surveys on perceptions of improvisation. Among these, the most frequently addressed topic was teaching and learning methods for improvisation, with 69 studies proposing instructional plans, lesson plans, teaching methods, and learning strategies. These results suggest that research in the field of music education related to improvisation has been heavily focused on educational approaches, indicating a need for a broader range of research topics.

Meanwhile, studies on the development of improvisation education programs and educational materials focus on the ‘development’ itself or on exploring the ‘effects or influences’ of the developed materials, and there were significantly more studies examining the ‘effects or influences.’ A total of 22 studies investigated the various positive effects of applying specific improvisation programs, and two focused on developing educational materials or activities for improvisation. Considering that these studies also propose educational strategies, discussions on how to teach and learn improvisation have been predominant. Furthermore, six studies examined improvisation's theoretical aspects, concepts, and meanings in music education. In addition, one study was conducted to investigate teachers' perceptions of improvisation and one study was conducted to investigate students' readiness for improvisation.

<Table 9> Analysis result by research topic

Topic	N	%
Educational and instructional strategy	69	75.8
Program effect and impact	12	13.2
Exploration of theory, concept, and meaning	6	6.6
Development of educational material	2	2.2
Investigation of perception and readiness	2	2.2
Total	91	100



[Figure 1] Number of studies by topic

4. Analysis by keyword

By analyzing the frequency of keywords, we can understand the various aspects in which research on improvisation within music education has been conducted. Additionally, examining the keywords comprehensively allows us to closely assess the significance of topics that might be overlooked in the subject-specific analysis. Of the 91 studies, 25 papers did not provide keywords, mainly master's theses. From the remaining 66 papers, a total of 105 keywords were collected. As this study analyzed research on improvisation, it is not surprising that ‘improvisation’ appeared 63 times as the most frequently appearing keyword. The frequency of keyword occurrences was analyzed as follows.

<Table 10> Analysis result by keyword

frequency	Keyword
63	Improvisation
22	Music education
7	Piano, primary school music
6	Ceation, jazz
5	Dalcroze, Orff
4	Vocal, narrative music, rhythm, piano
3	Creative thinking, lesson plan, social interaction, adolescents
2	Code tones, developmental disabilities, early childhood, education curriculum, improvisation, musical understanding, music composition, music pedagogy, musical expression, piano pedagogy, physical expression, primary school, scat singing, secondary school, self-efficacy, traditional percussion, percussion improvisation
1	achievement, adaptability, adults with intellectual disabilities, aesthetic, arpeggio, arts propel, auditory approach, autumn breeze, baroque period, character, character education, character elements, children with autism, chord progression, class piano, concentration, constructivism, creative, creative korean children's song, creativity, deaf college students, diatonic chord, division of beat, dominant, ear training, ella fitzgerald, game, gather town, Gordon's music learning theory, group dynamics, guenther school, hearing ability, improvisation, intermediate piano, interpersonal relationship, irregular meter, kettman, maladjusted students, mel tormé, mental retardation, mentoring types, metaverse, meter change, miniature, movement, music education methodology, non-chord tone, optimized available scales, ostinato, piano education, piano textbook, pitch, polyrhythm, popular song, readiness, renaissance period, rhythm, rhythm instruments, satisfaction, school music counseling, sense of rhythm, sincerity, singing, smartphone application, social skills, step-by-step improvisation model, tritone, university level, variation, variation techniques, Vygotsky, youth majoring in korean traditional music.

Despite Azzara's stance (Azzara, 1999) that aural approaches and ear training are critical in improvisation, the relatively low frequency of these keywords, each appearing only once, indicates that these aspects have yet to be widely discussed about improvisation learning in Korean research.

[illegible]

[Figure 2] Keyword cloud

5. Analysis by research subject

The research subjects in music education related to improvisation are summarized in <Table 11> The category of ‘teachers’ includes both in-service teachers, ranging from early childhood

education to middle school, and pre-service teachers. The ‘experts’ category encompasses professionals working in higher education institutions, professional musicians, and college student majoring in music. The ‘students’ category refers to individuals from early childhood through high school. The ‘adults’ category includes adults such as non-music major college students. For individuals with disabilities, the analysis distinguishes between students in special education and adults with disabilities. Lastly, research that involves two or more categories of subjects or those not explicitly categorized is considered under the ‘mixed’ category.

<Table 11> Analysis result by research subject

Research subject		N	%
Teacher	In-service teacher	-	-
	Pre-service teacher	-	-
Professional	Professor	1	1.1
	College student majoring in music	5	5.5
Student	Preschool	4	4.4
	Elementary school	39	42.9
	Middle school	10	11
	High school	7	7.6
Adult	Non-music major college Student	-	-
	General adult	-	-
Disability	Student	3	3.3
	adult	-	-
Mixed		22	24.2
Total		91	100

Since improvisation is primarily addressed in early childhood and elementary school music education, these groups represent the highest percentage of studies. There are ten studies focused on middle school students. In comparison, research involving high school students includes one study on traditional Korean music majors and three on high school students majoring in popular music. This reflects the recent establishment of popular music departments at the high school, following their introduction in universities, and the growing interest in K-pop and popular music. However, studies on improvisation activities for students with autism, developmental, and intellectual disabilities are relatively few. This is likely because the subject of analysis in this study was chosen as a study of an educational approach rather than a therapeutic approach.

6. Analysis by research method

This study selected the classification criteria for research methods based on previous studies on research trends (Chu, 2022; Jo, 2022; Shin, 2020). The methods were broadly categorized into qualitative, quantitative, and mixed-methods research. Qualitative research included case studies, self-studies, observations, and interviews, while quantitative research encompassed studies that explored effects or impacts through surveys and experiments. Literature research involved analyzing and reviewing materials related to curriculum development, educational resources, history, and philosophy. Studies that utilized two or more of these methods were classified as mixed-methods research.

Given the high proportion of research focused on developing teaching plans and instructional methods for improvisation, literature research emerged as the most frequently used method, with 74 studies (81.3%). Quantitative research comprised eight studies (8.8%), and qualitative research included three studies (3.3%). These qualitative studies involved self-studies by teachers, analysis of various qualitative materials such as portfolios, observation records, and interview notes, and investigations into teachers' perceptions of improvisation through Focused Group Interviews (FGIs). Additionally, six studies (6.6%) used quantitative and qualitative data.

<Table 12> Analysis result by research method

Method	N	%
Literature review	74	81.3
Qualitative	3	3.3
Quantitative	8	8.8
Mixed	6	6.6
Total	91	100

V. Conclusion & Suggestion

This study analyzed 91 papers to understand the overall trends in music education research on improvisation. These papers were categorized into journal articles, master's theses, and doctoral dissertations, with master's theses accounting for the most significant proportion at 56 papers, while doctoral dissertations were the fewest with only three papers. The earliest study addressing

improvisation from an educational perspective was published in 1971, and research on improvisation has continued steadily in the field of music education until 2024. Notably, seven studies were published in 2022 and 6 studies in 2009, making these years stand out for having a relatively higher number of studies. While discussions about curriculum revision took place in both years, research on music creation and improvisation also appeared to be actively underway.

The analysis of research topics revealed that studies on improvisation teaching and learning methods were the most prevalent, with 69 papers indicating a significant interest in teaching methods and learning strategies for improvisation education. These studies mainly proposed lesson plans, teaching methods, and learning strategies. In particular, 22 studies investigated the effectiveness of specific programs, and two dealt with the development of educational materials or plays. On the other hand, only six studies considered the theoretical aspects, concepts, and meanings of improvisation, and one study was conducted on the teacher's perception and student readiness for improvisation. These results suggest that music education research on improvisation mainly focuses on educational plans, indicating that more diverse subject research is needed.

In the keyword frequency analysis 'improvisation' and 'music education' were the most frequently mentioned terms, with 'piano,' 'elementary music,' and 'jazz' identified as critical terms connecting music education and improvisation. This indicates that research on improvisation is actively conducted in piano education and elementary music education and there is also research on improvisation education for jazz beginners and majors. Dalcroze and Orff were frequently mentioned as teaching methods; both consider improvisation an important educational area, leading to several studies approaching improvisation through these methods. However, keywords such as auditory approaches or aural skills appeared only once each, showing that these approaches have yet to be widely discussed in Korean research.

Regarding research methodology most studies focused on lesson plans, resulting in the highest proportion of studies classified as literature research. On the other hand, qualitative research involving observation and interviews was conducted in only three studies, indicating an excessive reliance on literature research regarding research methodology.

Based on these research findings, the following suggestions are proposed. First, more exploration is needed in terms of diversity in research subjects. There are many studies on educational methods that focus on how to teach improvisation. However, there is a lack of discussion on teachers' improvisation experiences and learning to apply them effectively in actual educational settings. For teachers to effectively implement improvisation education, sufficient education, and support are needed to ensure they understand and can perform improvisation. In particular,

education targeting teachers with difficulty with improvisation should be prioritized. In addition, more research must be conducted targeting middle and high school students. Although there are many studies targeting elementary school students, there is a need for systematic discussions on how improvisation activities can be linked and developed in the subsequent educational stages of schools. Furthermore, improvisation research for students majoring in classical music can help them acquire creative and free music expression skills. Such education will also be essential in developing creativity and improvisational expression when guiding students as teachers. There are some improvisation studies for college students majoring in jazz, but more studies are needed for students majoring in classical music.

Second, regarding research topics, developing an improvisation evaluation tool and research using Edutech is necessary. Not only can the learner's performance be objectively evaluated through a consistent and reliable improvisation evaluation tool, but based on this, it is possible to provide customized feedback by analyzing the strengths and weaknesses of individual learners. This will be an essential factor that helps learners' practical growth. In addition, technology is established as an essential teaching and learning tool in modern music education, and improvisation education using digital platforms or applications can increase accessibility and expand learning experiences. Therefore, exploring and developing more innovative and effective education methods through research on improvisation education incorporating Edutech is necessary.

Third, various approaches are required in the research methodology. Music education research on improvisation needs to balance quantitative and qualitative research. This study mainly relied on developing instructional plans and a literature review. However, experimental research that can objectively measure improvisation education's actual effects needs to be more active. For example, the effect of improvisation education on students' creativity, expressiveness, and music understanding can be evaluated through experimental design and statistical analysis. In addition, by conducting qualitative research that deeply explores the experiences and perspectives of students and teachers using interviews, participatory observation, and case studies, it is possible to capture microscopic parts of the educational field that quantitative research may miss. The integrated results obtained through these various research methods will help to design improvisation education more substantially and help practical application in the educational field.

These suggestions for future research directions will expand and deepen the study of improvisation in music education, ultimately improving the overall quality of music education and enabling students to have more profound musical experiences.

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