

A Study on the Mechanisms of Practical Knowledge Transformation among Higher Education Dance Instructors from an Embodied Cognition Perspective

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Abstract

In recent years, dance education in higher education institutions has emphasised the integration of practical knowledge transformation and cognitive processes. However, there is a limited understanding regarding the value of practical academic knowledge in assisting higher education dance teachers from the standpoint of embodied cognition. As a result, the purpose of this research was to evaluate the processes of practical knowledge transformation in higher education dance teachers while taking the embodied cognitive viewpoint as a mediating factor. The researchers adopted a qualitative, cross-sectional study method to gather information from institutions all at once. Higher education dance teachers have reported an enhancement in confidence because of the increased understanding of the consequences of practical knowledge transformation. A thorough examination of symbolised teaching practices and strategies for knowledge transformation was conducted using primary data obtained through semi-structured interviews. Using the purposive sampling method, 267 dance teachers from higher education institutes in China were surveyed. The researcher used thematic analysis, which followed inductive coding, to find patterns and themes in the data. The research found that embodied cognition improved dance instructors' creativity, instructional effectiveness, and knowledge transmission through physical and emotional expression. It also indicated that sensory-motor systems might be more effective than theoretical approaches for dance students. It demonstrated that physical movement and emotional expression help teachers and students build reflective practice. This research showed that embodied cognition was crucial to practical transformative experience for higher education dance teachers.

Keywords: Dance Instructors, Dance Education, Embodied Cognition, Higher Education, Practical Knowledge Transformation

Introduction

The dynamic process by which dance teachers convert their theoretical knowledge, personal experiences, and embodied practice into successful teaching methods can be defined as practical knowledge transformation. Embodied cognition, in which knowledge is not only conceptualised but also physically taught through physical movement, bodily expression, and sensory awareness, is essential to this change in the context of dance education, particularly for higher education (Ren & Chu, 2024). Dance is an art form that entails collaboration of body and mind via low-level perception-action coupling and high-level

cognitive processes. The modifications in the practical knowledge of Chinese dance teachers are an essential factor in dance education at present. This transformation further improves the combination of theoretical concepts and embodied cognition. The embodied cognition paradigm claims that cognitive processes are grounded in physical experiences. The mental re-enactment of bodily movements is important for higher-level cognition in self-other interactions. The notion of embodied cognition is particularly pertinent to the discipline of dance training and provides a platform for the development of knowledge on how perceptual, multimodal techniques facilitate and augment learning (Bläsing, 2022).

The procedure of knowledge transformation of dance instructors by means of embodied cognition promotes the development, modification and expression of teaching knowledge via the body, rather than just with abstract thinking. From this approach, cognition is entangled with body movement, sensory awareness and relationships with the environment (Lindberg et al., 2023). Knowledge is not static or solely theoretical in the context of dance education. The knowledge and individual experiences of teachers are transferred to their students through physical engagement, such as body movement, rhythm, and space. When dance educators choreograph their students with appropriate posture, or facilitate expressive performance, they use embodied knowledge as a kind of comprehension retained in motor learning and sensory impression. This enables individuals to contemplate through movement, rather than only educate theoretical understanding vocally (Berg, 2023). It is also possible for embodied cognition to enable the transformation of tacit knowledge into forms that can be communicated. It is common for dance teachers to transform difficult, non-verbal experiences into easy and intelligible demonstrations or guided practice in order to make abstract movement aspects more accessible to their students. Basically, dance educators enrich their knowledge with the assistance of embodied cognition, which integrates direct physical experience with critical thinking. As a result, students learn more in-depth, and teachers can provide better guidance for their students via the development of contextualised competence in dance education (Korpinen, 2024).

Review of Related Literature

The dynamic process by which dance teachers integrate theoretical understanding, personal experience, and embodied practice into successful teaching tactics is known as practical knowledge transformation. This transformation is entrenched in embodied cognition, especially in the setting of dance education at the higher level, when knowledge is not only intellectually processed but also physically performed through physical movement, gesture, and sensory awareness (Bailey et al., 2026). On the other hand, dance instructors rely heavily on intuition, bodily awareness, and experiential knowledge, which are gradually developed over years of practice and teaching. They impart implicit knowledge to students through presentation, imitation, and feedback. In order to provide relevant, flexible, and context-sensitive dance instruction, dance educators undergo a constant, mindful, and embodied transformation of their practical knowledge. Several interconnected aspects, including reflective practice, sensorimotor integration, and cognitive-motor integration, altered practical competence among higher education dance instructors from an embodied cognition standpoint. Dance teachers employ emotional expression to enhance both performance and training. Furthermore, they use bodily expressiveness to transmit effective meaning, which aids student learning and participation (Cappello & Cañabate, 2025). In addition to this, physical practice of movements aids skill development by enhancing the integration of cognitive, sensory, and motor processes. Learners are encouraged to actively engage in the process, be inventive, and self-aware from this perspective, allowing them to develop meaning via

physical expression. As a result, learning to dance becomes an integrated process including mental, emotional, and physical elements. Through comparison, dancers use images to connect things in the world to the body. This mapping helps everyone understand both the body and the world better, which means that mental imaging is a form of embodied cognition. Sensorimotor activity that comes from an organism's actual movements affects its thinking (Houston, 2024).

In the opinion of Li and Liang (2024), the idea behind embodied cognition is that the human body, mind, and environment are always interconnecting, and that this dynamic interaction is the source of knowledge, rather than relying just on abstract mental processing. Physical sensations impact mental, emotional, and social comprehension as part of the mind-body-environment triad. This perspective aligns with traditional theories within the field of Chinese dance education, particularly Confucian epistemology, which highlights the need to integrate the body and the intellect. Physical activity improves cognitive flexibility and creativity. While most Western-based assessments focus on visual-motor skills, they pay little attention to emotional intelligence, embodiment, and culturally relevant physical awareness in China. It has been seen that cultural factors significantly impact how individuals understand, express, and make sense of their physiological experiences (Li & Liang, 2024). Moreover, Lindberg et al. (2023) stated that dancers often assert that they engage in cognitive processing through the body, seeing it as a universal instrument for thought. The abilities of dancers rely on several cognitive functions, particularly memory processes that facilitate the acquisition, adaptation, modification, re-enactment, and improvisation of intricate dance movement sequences. Chinese students demonstrate that cognitive tendencies are influenced by collectivist beliefs, artistic studies, and moral training. A culturally appropriate physical cognition scale can measure the impact of Chinese dance students integrating their body, emotions, and surroundings in academic and social life (Lindberg et al., 2023).

According to Johnson and Lakoff (1980), a basic component of the human mind, metaphor is more than merely a language construct. They suggested that physiological and sensory experiences helped individuals process abstract ideas. Spatial or physical metaphors were used to conceptualise time, emotion, and knowledge. The theory found systematic mappings between a source domain (concrete experience, like movement or location) and a target domain (abstract notions). Embodied experience shaped cognition; these mappings were based on bodily interactions. This theory described how dance teachers employed movement-based metaphors to communicate complicated concepts. Such metaphors made learning more intuitive, meaningful, and embodied by connecting physiological experience to mental comprehension (Johnson & Lakoff, 1980). Additionally, dance teachers use metaphors like flow, balance, grounding, and expansion to explain complicated movement attributes. These analogies show how instructors organise and teach information via embodied experience. Thus, practical knowledge change takes place when instructors repeatedly project physiological experiences onto pedagogical ideas, transforming both their understanding and teaching methods. This is consistent with embodied cognition since it demonstrates that knowledge is dynamically built via movement and perception (Horn & Garner, 2022).

Objectives

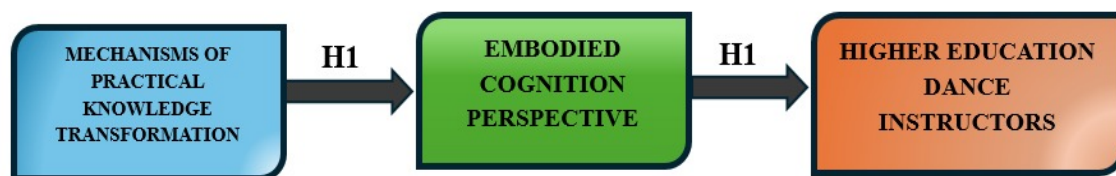
To evaluate the mechanisms of practical knowledge transformation in higher education dance instructors through an embodied cognition perspective.

Methodology

Research Design and Procedure

The primary objective of the study was to examine the processes of transformation of practical knowledge for higher education dance teachers from the viewpoint of embodied cognition. The present study used a qualitative, cross-sectional research approach to investigate. The main data were gathered from Chinese dance teachers of Chinese higher education institutions at a single point in time. Eligible participants were collected from Chinese higher education institutes through interviews. A qualitative method was suitable as it could enable an in-depth analysis of participants lived experiences and perceptions. Credibility, transferability, confirmability, and dependability were used in this study to demonstrate qualitative reliability. The researcher assured that by correctly representing dance teachers' viewpoints on practical knowledge transformation using the embodied cognition approach, the researcher assured credibility. Examining if the results may be used in other contexts, especially in related educational fields, was one way to address transferability. By keeping an audit trail and recording data gathering and theme development, confirmability was guaranteed. Inductive coding and thematic analysis were used to ensure dependability in all professional dance instructors' interview replies. Data were gathered utilising the interview method and thematic analysis, over a specified duration, with the use of an inductive coding method. The study technique would consist of identifying relevant higher education institutions, recruiting people with direct experience of practical knowledge translation from an embodied cognition perspective, conducting interviews and recording replies. It also carefully examined the data to discover recurrent themes connected to practical knowledge translation procedures and to the viewpoint of embodied cognition.

Operational Framework



Subjects or Data Sources

Researchers conducted in-person interviews and employed questionnaires to gather the needed information for the study. The study's data came from professional dance teachers at Chinese higher education institutions. The survey had two sections: (a) questions on the respondents' demographics and (b) questions based on a 5-point Likert scale about the processes of practical knowledge transformation among dance teachers in higher education from an embodied cognition viewpoint. Additionally, interviews were performed using both structured and open-ended questions in order to collect primary data for the research. This made it possible to use qualitative analysis to get better control over the study variables.

Instrumentation and Data Analysis

In order to collect qualitative data, semi-structured interviews were conducted with 267 chosen individuals until saturation of data or until the questions were addressed. Furthermore, the researcher used thematic analysis to examine the data collected. In this technique, the underlying patterns were utilised to categorise the data from the gathered interviews. The researcher also used an inductive coding technique to categorise the data

into topics. Simplified representations of data enabled the extraction of generalisable information about the research setting from the interviewees' experiences and knowledge.

Limitations

As a result of the study's small sample size, its results may not apply to a broader demographic or geographic area. This is one of the limits of qualitative research. Because the interviewer's point of view could impact data collecting and interpretation, subjectivity and bias were potential concerns. In addition, it may be difficult to consistently reproduce the same findings when using semi-structured interviews due to the fluid and unstructured nature of the data-gathering process. Finally, the results may not be very objective as they are dependent on subjective interpretations rather than hard quantitative measurements; this makes it difficult to draw broad conclusions from the research.

Analysis

Research that does not rely on numerical data but instead looks at emotion, experiences, perspectives, and social processes is an example of qualitative analysis. There is a complete disregard for statistical analysis and correlations while doing qualitative research. Instead, this method seeks to explain people's inner workings and the reasons behind their actions. It is often used in studies related to social sciences, education, psychology and health research, where human experiences and circumstances are the most critical component of the analysis. In qualitative research, the data collection is done by interviews, focus group discussions, open-ended survey answers, and document or content analysis. The researchers analyse the data in depth for patterns, themes and interpretations that really represent the views and experiences of the participants. This is often coding of data, putting together thoughts that are related to each other, and theme development, which helps to characterise the issue being researched.

Qualitative research analysis was perfectly suitable for this research topic. Because the focus of the study was solely dependent on individual experience, bodily awareness, and contextual teaching methods. None of these factors could be properly evaluated through numerical data alone. The focus of embodied cognition was on the way the body, emotions, and physical interactions affect learning and understanding. Movement practices, critical reflection, and teachers' experiences were crucial knowledge in dance education. These processes were hard to measure since they are ever-changing and unique for each person. Qualitative research techniques, including interviews, were used to understand how teachers process and make sense of their own teaching experiences. Additionally, the research sought to understand how practical knowledge emerges instead of evaluating results. These processes might be examined in detail using qualitative analysis to find patterns, themes, and meanings in participants' answers. Dance also requires tacit knowledge, such as embodied abilities and understandings. Qualitative methods revealed latent knowledge through an interpretative analysis and comprehensive descriptions. Thus, qualitative research was employed to interview 267 dance teachers about the transformation of practical knowledge within an embodied cognition framework.

Table 1. Interview Questions (Open-ended)

Questions
1) How do dance instructors understand the concept of practical knowledge in the context of the dance teaching practice?
2) Can teachers of Chinese Higher Education Institutions describe how their personal bodily experiences influence the way they teach dance to their students?
3) In what ways do dance teachers transform their own dance experiences into teachable knowledge during classroom instruction?
4) How do dance instructors incorporate students' physical and emotional responses into their dance teaching process?
5) Can dance teachers of Chinese Higher Education Institutions share an example of a dance teaching moment where embodied understanding significantly constructed their instructional approach?
6) What role does reflection (on body movement, performance, or teaching) play in developing practical teaching knowledge?
7) How do cultural traditions and practices in Chinese dance form influence the methods of knowledge transformation?
8) What challenges do dance teachers face when translating their embodied knowledge into demonstrable instruction for dance students?
9) How do interactions with students, colleagues, or institutional expectations shape the teaching process and practical knowledge?
10) In the experience of teachers of dance institutions, how does continuous practice and performance contribute to the evolution of teaching knowledge and skills?

Table 2. Thematic Coding

Keywords	Description	Themes
Spatial orientation, Rhythm	Emphasises how dance instructors use their bodily experiences and sensory impressions in teaching dance	Embodied Cognition in Teaching
Body Movement, Position		
Demonstration, Explanation,	Describes how dance teachers convert personal, experience-based knowledge into study materials.	Practical Knowledge Transformation
Metaphor, Modelling		

Keywords	Description	Themes
Response, Adaptation,	Highlights the function of reflection and interaction with students in shaping teaching practices.	Reflective and Interactive Practice
Collaboration, Self-Assessment		

Theme 1: Embodied Cognition in Teaching

All instructors want their students to learn, regardless of their teaching style. The connection between the mind, body, and environment shapes learning, according to embodied cognition in teaching. It indicates that knowledge is formed by action, body movement, and sensory experience in addition to cognitive processing. To enhance comprehension, educators use live demonstrations and physical encounters. This method is particularly applicable in fields where physical involvement improves learning, such as dance, music, and physical education. Embodied cognition makes information more relevant, experiential, and culturally grounded rather than just theoretical knowledge or passive by combining movement to guide learners in internalising abstract concepts. Dance educators, whether teaching or performing, utilise emotional expressiveness to their students' benefit. Additionally, they update the student learning process and engagement by effectively transmitting meaning through bodily expression. A dance educator uses an embodied cognition method while teaching students to dance, urging them to consider the importance of both the brain and the body in the learning process. The emphasis is on the body as a whole, incorporating rhythm, expression, and technique.

Theme 2: Practical Knowledge Transformation

Individuals take part in practical knowledge transformation when they reflect, apply and re-construct their acquired knowledge by practice and adaptation. In teaching, this transformation occurs when instructors mix their individual experiences with those of their learners, as well as feedback and new material. It is shaped by embodied engagement in practice, problem resolution, and ongoing reflection. This allows for more agile, contextual and responsive information, which enables professionals to overcome difficulties at work, find new methods and improve performance. The knowledge transformation procedure helps dance teachers alter both their theoretical and practical knowledge. It encourages them to use their bodies instead of only thinking abstractly to construct, modify, and convey their teaching knowledge. Following the transformation process, interactions with the environment, sensory awareness, and physical movement all play an important part in cognition, which helps dance instructors transform practical knowledge.

Theme 3: Reflective and Interactive Practice

The concept refers to a process involving interrelated skills in the testing and use of information in the planning and implementation of professional action and claims significant improvements in the competence of professional action and resulting client outcomes. Reflective and interactive practice is a dynamic process where professionals actively engage with others to increase knowledge and performance quality while critically examining their activities. Interaction places an emphasis on conversation, working within a team, and criticism in social and professional settings, while reflection is all about

examining past actions, choices, and results for greater understanding. By bridging individual reasoning with collective knowledge building, they facilitate lifelong learning. In the end, it assists people in becoming more analytical and better able to make decisions in complicated, real-world situations. Dance provides a stage for contemplation on personal, societal, and cultural levels. As a result, the body is a mirror for one's experiences. The dance teaching profession may benefit from more introspection and self-reflection by emphasising and challenging members' own thinking, assumptions, values, choices, and how these shape their professional practice. In the dance education sector, interactive practice is a collaborative and responsive process in which learning takes place through interaction between students, dance instructors and the environment.

Findings and Discussion

The research findings indicated that embodied cognition was at the central part of dance instructors' authentic functional proficiency growth in higher educational settings. Dance instructors were seen to acquire and teach dancing aids through the perceptions of their body experiences, physical understanding, and biological movement-oriented education. Rather than indefinite or immaculately theoretical descriptions, dance teachers integrated live interpretations, activity and spatial understanding in their process of education. This was compatible with the theories of embodied cognition, which indicates that learners learn by communicating with their background through their senses. The study also determined that these procedures made dance students more involved and assisted them in comprehending more since they could associate mentally and physically with what they learned. Further, the research indicated that contemplative and participatory approaches were advantageous in the evolution of educational expertise. Educators often assessed their teaching knowledge, incorporated feedback into their instructional tactics, and transformed their techniques according to student input. This iterative procedure of reflection and transformation assisted in translating implied, experience-oriented understanding into standardised learning methods. This procedure was also demonstrated to be favourably influenced by emotional engagement and cultural setting, notably in the domain of dance, where expression and tradition were essential. Similarly, instructors were competent to better communicate complex embodied details by utilising metaphors and a recommended approach. In conclusion, the results indicated that the modification of functional knowledge was a spirited and continued interplay between educational approach, consideration, and knowledge.

The findings of the qualitative thematic analysis indicated that the process of practical knowledge transformation among dance instructors in higher education is based on embodied experience learning. Participants said that including bodily movement and sensory awareness in the learning process assisted dance instructors in internalising and reinterpreting subjects. Reflective practice emerged as an essential tool as educators continuously evaluated their own effectiveness and individual decisions to broaden their knowledge. Additionally, teachers had to modify their comprehension based on the responses of their students, cultural considerations, and the physical and virtual settings in which they were instructing. This illustrates how dancers' interactions with their social and physical environments shaped their contextual and dynamic cognitive processes.

Additionally, the findings showed that the transformation process was important to emotional involvement and tacit knowledge. With enough repetition, teachers said, one may internalise skills to the point where they become so intuitive one can't describe them, freeing up more brain room for creative expression. Researchers found that enhancing the

relationship to movement boosted the effectiveness of both teaching and learning. Emotional and affective components such as enthusiasm, empathy and self-assurance were key. A pedagogical adaptation was also cited as a significant outcome of the study. This was when instructors employed devices such as guided practice, metaphor and example to make their embodied knowledge more accessible to their pupils. The combination of physical experience, reflection and teaching practice was considered an intrinsic aspect of the ongoing and cyclical process of the development of practical knowledge.

Conclusion

This research explored the real knowledge transformation of dance instructors from the perspective of embodied cognition. The findings indicated that altering information was not merely an academic, abstract process but was intimately related to sensory engagement, bodily movement and physiological awareness. Dance instructors utilise their physical movements and living conditions to comprehend, use and teach knowledge. This demonstrated how dance education is taught, mind and body intricately intertwined. Important things that helped with this shift were reflective practice, creativity, and learning through experience. Teachers responded to what students said and showed feedback, which changed how they taught and made the learning process more interesting. Also, the results showed that cultural and institutional factors affected how embedded knowledge was created and shared, especially when it came to teaching dance in higher education settings. The study's core notion was that embodied cognition provided a comprehensive framework for considering how actual knowledge evolved throughout dance instruction. It highlighted the need to combine physical activity and intellectual thinking in educational techniques. The findings suggested that increasing people's awareness of physical processes might help instructors perform better and make learning more effective. Thus, the study explored the way transformation of practical understanding helped dance teachers to grow professionally and modify their teaching process.

The research may directly help dance instructors from higher education institutions by demonstrating the way body awareness, planned practice method, and practical learning enrich teachers' performance. This may guide them to enhance their teaching process and body-based information into effective teachings. Furthermore, new techniques of teaching dance that stress executed practice more may be helpful for novice dance learners. Because of this, students may fully understand the art, improve their performance skills, and actively take part in dance as a mental and physical cognitive discipline. The research may assist curriculum designers in developing dance programs that are more practice-based and cover a wider variety of themes. By incorporating embodied cognition into lesson preparation, teachers may create classrooms that help students develop in the dance sector. The research also adds to academics in dance education, cognitive science, and pedagogy by contributing to the theoretical understanding of embodied cognition and knowledge transformation. The findings will finally enable arts education authorities and professional training programs to improve teacher training models and educational policies that recognise the importance of applied knowledge instead of theoretical understanding in the learning process. The research will overall contribute to updating teaching practices, learning methods, and the vast development of dance education in higher education sectors.

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