International Journal of Religion
2024
Volume: 5| Number 10 | pp. 5738 – 5745
ISSN: 2633-352X (Print) | ISSN: 2633-3538 (Online)
ijor.co.uk
DOI: https://doi.org/10.61707/1fbkhb50

The Effect of Mobile Learning on Dance Education: A Systematic Literature Review

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Abstract

Dance education has seen a significant shift in instructional techniques thanks to the rapid development of mobile technologies. This paper critically reviews existing literature to examine the effects of mobile learning on dance education, with an emphasis on learning outcomes, learners' engagement, and resource accessibility. The finding shows that mobile learning helps to encourage learner motivation and engagement, offers a learner-centered and flexible environment, and develops better dance skills. However, the paradox of mobile learning lies in its focus on dance, a fundamentally physical and kinaesthetic art form, now mediated through virtual platforms; it also hinges on the preparedness of educators, student ownership, and technology access. To capitalize on the benefits of mobile learning in dance education, some pedagogical and technological challenges need to be addressed. Based on results from previous research, this paper provides recommendations for practitioners and policymakers who are encouraged to view mobile learning technology as an important component of dance curriculum and a valuable learning resource.

Keywords: *Mobile Learning, Dance Education, Educational Technology, Learning Outcomes, Opportunities and Challenges*

INTRODUCTION

Dance education refers to the instruction and acquisition of dance as an artistic expression which fosters technical talents and capacity for emotional communication (McCutchen, 2006). It covers a wide range of dance forms, contributing to the comprehensive training of the body-mind-emotions. The benefits of teaching dance are many, improving physical conditions which lead to increased physical capabilities and flexibility, while being tied to creativity, self-expression, and awareness of other cultures. In other words, dance education brings out positive outcomes in cognitive, physical, and socio-emotional dimensions, which is crucial for one's holistic development (Sheppard & Broughton, 2020).

Based on the notable benefits brought by dance, it is valuable to incorporate dance in a curriculum because it helps cultivate a "whole person" approach which values the arts and fosters expression through the artistic movement. It adds to the acknowledged benefits for overall health by means of emotional articulation and alleviating stress (Bernstein, 2022). Therefore, dance education plays a critical role in fostering all-round development.

Over numerous centuries, the field of dance education has experienced major transformations. The significance of dance in ancient cultures was immense due to its pivotal role in religious and cultural ceremonies. European courts began to formalize and teach dance as a disciplined art form during the Renaissance (Winkler, 2020). The 20th century was marked by the professionalizing of dance instruction−pioneers like Martha Graham and Rudolf Laban labored to have schools integrate "dance" as a subject taught in K-12 education systems. Dance education grew and became more rigorous in the second half of the 20th century, with academia delving into increased research on dance, alongside higher educational programs incorporating it (Kassing & Jay, 2020). As of today, dance education keeps growing and needs to cover many genres as well as adapt new methods for teaching in order to reach students.

In the 20th century, dance was recognised as a field of study in undergraduate institutions by pioneers such as Martha Graham and Rudolf Laban. Dance education would progress to include more academic work and

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become a legitimized part of higher education programs in the second half of the 20th century (Kassing & Jay, 2020). The second half of the 20th century would see dance education progress to include more academic work and as a legitimized part of higher education programs (Kassing & Jay, 2020). Dance education has evolved, as it should evolve with any art form, by including an array of styles along with methodologies based on creativity, making for a current and effective approach to serving our dance students today.

Technology has almost transformed all fields of education. Digital tools and platforms have revolutionized the delivery of education, enhancing its accessibility and interactivity. Technology has opened new avenues for teaching and learning in dance education through the provision of instructional material, the availability of virtual classes, and interaction with multimedia resources (Haleem et al., 2022). The surge in demand for video recordings, online courses, and diverse dance instruments has resulted in educational experiences that are more flexible and tailored to suit a range of learning tastes and velocities. Dance teaching technologies have facilitated worldwide availability of renowned dance instructors and choreographers (Goldberg, 2020), and have exceeded geographical boundaries that might otherwise limit students' opportunities for varied learning experiences.

Developing mobile learning technologies has certainly been a developing facet of dance education practices. Mobile learning refers to how portable technologies provide learning experiences to learners and facilitate adaptable, accessible, and individualized educational encounters (Gumbheer et al., 2022). The advent of mobile learning tools has revolutionized how dance education is delivered and received, introducing numerous new instructional videos, applications for dance, and augmented reality applications for evaluating performances. Li et al. (2021) state that by providing dance tutorials and classroom recordings, students are enabled to rehearse actions at their convenience, thereby enhancing their education outside regular classroom hours. As Yu et al. (2022) observed, mobile learning allows an interactive environment for learners to learn and can thus increase students' motivation toward their studies and attendance as well. Moreover, mobile learning allows us to start viewing dance education through a more inclusive lens by giving all students resources they learn in different ways, and those who are unable or prefer not receive traditional dance instruction.

Mobile learning in dance education offers tremendous benefits, but its success hinges on overcoming a few challenges. One of the great issues is technological availability because not all people can have mobile devices and other equipment for reliable internet connections (Cullinan et al., 2021). In addition, instructor preparedness is a requirement for the integration of m-learning effectiveness; they must be trained in how to use these technologies and also on curriculum content creation with possibilities of exploitation (Moya & Camacho, 2021). Another key issue is physicality, which is naturally impossible to maintain in a digital format. Given its inherent physical and somatic nature, dance instruction faces challenges in adapting its physical and spatial aspects for use on mobile devices (Hunter, 2021). Such challenges highlight the importance of strategic planning, preparation, and distribution to break down obstacles, overcome constraints, and effectively apply MOL in dance teaching.

The reliance of contemporary education on digital tools underscores the importance of investigating mobile learning and its influence on dance instruction. Recognizing the extensive effects of mobile learning in dance, educational methodologies can gain deeper insights and strategies for integrating these technologies more effectively. In the context of the accelerated use of online and mobile learning solutions by educational institutions due to the COVID-19 pandemic (Li et al., 2021; Cullinan et al., 2021), this study is focused on an area that is particularly helpful. Drawing from current research, this study delves into the effects of mobile learning on dance education, providing actionable guidance for teachers and policymakers. It is hoped that these recommendations will enhance the incorporation of mobile learning tools into dance programs, adapt students' educational journeys, and ensure fair access for every student. In summary, this research adds to the extensive discussions on educational technology and its potential impact on dance instruction.

LITERATURE REVIEW

Besides the cognitive and emotional advantages of dance education, its physical benefits have become increasingly pronounced over time (Payne & Costas, 2021). This recognition underscores the immense value such a process can bring to nurturing kids creativity, underpinning their cultural connections and overall well-being. Dance education is a multifaceted field that has aroused the interest of scholars, politicians, and educators

seeking to bring its positive impact on student learning and development.

Dance education has been shown to have a variety of documented benefits, but there are many challenges preventing it from realizing its full potential. One of the main issues is a lack of adequate funding (Burnett, 2021), as it limits access to strong dance programs − particularly in historically disadvantaged communities. In addition, the number of qualified dance instructors who can teach a comprehensive and vigorous syllabus is lacking. In general, dancing requires a high level of physical activity, although this may limit students' progress based on their own abilities as well as injuries (Duffy 2022). Beyond that, dance instruction often vies with other academic subjects for time and resources, making its integration into standardized curricula as difficult as it is. It also points to the need for innovative solutions and greater investment in initiatives that support dance education.

The body of research on mobile learning's benefits for dance education shows a number of favourable results. Research has demonstrated that mobile learning technologies, including dance applications, online tutorials, and virtual courses, can improve students' interest and motivation while also helping them acquire new dance techniques (Alexander et al., 2023). Ali et al. (2018) discovered, for instance, that mobile learning platforms gave students remote access to top-notch teaching resources and feedback from teachers. Furthermore, mobile learning can overcome geographic constraints to provide previously unattainable dance education options for students in underserved or distant places (Cullinan et al., 2021; Haleem et al., 2022).

Notwithstanding the encouraging results, the body of research on mobile learning in dance instruction is woefully lacking. First off, there is a dearth of research on the long-term effects of mobile learning on students' dancing proficiency and career prospects, despite the fact that numerous studies highlight the technical and motivational advantages of this approach (Alexander et al., 2023). Few studies, for instance, have looked at students' ability to perform professionally or how quickly they improve from novice to advanced levels when using mobile learning tools on a regular basis. Second, little is known about the pedagogical approaches in dance education that best facilitate mobile learning. Research like Falloon (2020) shows the promise of digital technology, but it frequently doesn't offer specific instructions on how teachers might use these resources to enhance their instruction.

The paucity of empirical studies on the inclusion and accessibility of mobile learning in dance education represents another important gap. While some studies recognise that mobile learning can reach a variety of student populations, they frequently fail to take into account the difficulties experienced by students from low-income families or those with impairments (Basham et al., 2020). For example, Ye & Yang's (2020) study highlights the advantages of mobile learning accessibility, but it ignores the digital divide that can keep some students from participating to the fullest extent possible. Further investigation is also required into the cultural ramifications of mobile learning in dance education. Studies that have already been done may not fully capture the experiences of students studying traditional or non-Western dance forms since they frequently concentrate on Western dance forms (Chang & Hogans, 2021).

Previous research also exposed flaws in the methodological strategies employed in the investigation of mobile learning in dance instruction. Numerous studies use qualitative techniques, such as surveys and interviews, which can yield insightful results but may not have the same level of rigour and generalisability as quantitative research (e.g., Köngäs et al., 2022). Moreover, few longitudinal studies have monitored the effects of mobile learning over extended periods. Studies conducted over a short period of time can pinpoint the advantages and difficulties that arise right away, but they are unable to fully reflect the long-term impacts of mobile learning on students' growth and academic results (Alhumaid et al., 2021). Closing these methodological gaps is essential to gaining a thorough grasp of the application of mobile learning in dance education.

In conclusion, the analysis of the literature points out a number of unresolved research questions about mobile learning in dance education. These include the need for more varied methodological approaches, comprehensive pedagogical guidelines, long-term studies on the effects of mobile learning, and research on accessibility and inclusivity. By offering a thorough examination of mobile learning's impact on dance education, this study seeks to close these gaps and aid in the successful incorporation of mobile learning resources into the dance education curriculum.

Table 2.1 Literature Review on Effect of Mobile Learning on Dance Education

Authors	Focus/Objective	Methodology	Key Findings	Limitations
Basham et al. (2020)	Accessibility of mobile learning in dance education	Interviews	Role of universal design for learning in educational redesign	Limited focus on students with disabilities
Ye & Yang (2020)	Cultural implications of mobile learning in dance education	Case studies	Focuses on Western dance form	Potential bias in case selection
Chang & Hogans (2021)	Teaching communal dance forms	Survey	Potential benefits of incorporating new teaching methods	Potential bias in survey responses
Falloon (2020)	Pedagogical strategies for integrating digital tools in dance education	Conceptual analysis	Potential of digital tools in dance education	Lack of empirical evidence
Haleem et al. (2022)	Effects of mobile learning on engagement	Experimental study	Increased student motivation in dance	Potential for bias in experimental design

METHOD

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) criteria are strictly followed by this study to ensure transparency and comprehensive reporting of the systematic literature review procedure. PRISMA standards are well known for helping authors effectively report different kinds of systematic reviews and meta-analyses. With a special goal of offering a thorough examination of its effects on learning outcomes, student engagement, and accessibility within the context of dance education, this review focusses on examining the impact of mobile learning on dance education.

Criteria for Inclusion and Exclusion

In order to gather up-to-date information on the effects of mobile learning on dance education, the inclusion criteria for this systematic literature search included publications written in English and published between 2020 and 2024. Important electronic databases were used to guarantee a thorough coverage of pertinent studies, such as CNKI, SciSpace, and Google Scholar. In order to search for the literature that directly address the research issues, selected keywords like "mobile learning," "dance education," "learning outcomes," "educational technology," and "dance techniques" were carefully picked. The review did not include studies that did not fit these criteria or that did not specifically address how mobile learning is affecting dance education.

Procedure for Screening and Selection

After duplicates were eliminated, the screening procedure included a careful evaluation of the abstracts and titles of the articles. Articles that satisfied the following requirements were accepted: (1) they examined how mobile learning affects dance education; (2) they investigated how educational technology affects learning outcomes and pedagogical approaches; and (3) they were published in the period between 2020 and 2024. To guarantee the quality and relevance of the included literature, any studies that did not fit these requirements were not included in the review.

Data Synthesis and Extraction

Carefully gathered and synthesised data from the included studies were used to determine important themes and patterns regarding the impact of mobile learning on dance education. The results of this synthesis process were subjected to a careful study and subsequently arranged in accordance with these themes to provide an exhaustive literature review.

Evaluation of Quality

A thorough evaluation of the included studies' quality was conducted with the right instruments for each research design. This thorough assessment improved the analysis's overall robustness by ensuring the validity and dependability of the conclusions made in the review.

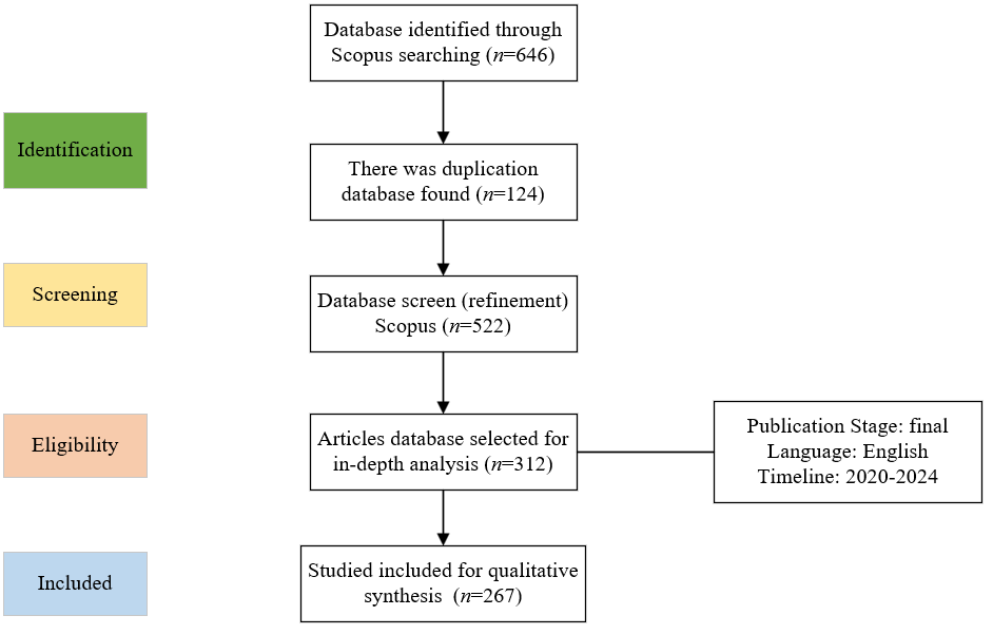

Figure 3.1. Flowchart Research Methodology for Databases Extraction

RESULTS

A total of 646 articles were first found through the systematic search, with 267 meeting the inclusion criteria after going through the screening and selection process. These publications were carefully examined and synthesised, yielding insightful information about how mobile learning affects dance education. The synthesis emphasized important trends and conclusions from all of the included research, with a particular focus on how mobile learning affects dance methods and student engagement.

RESULTS AND DISCUSSION

Results

Regarding the implications of mobile learning on dance education, this systematic literature review finds numerous major issues, including effects on dance methods, student motivation and engagement, flexibility and personalised learning settings, challenges and constraints. The analysis underscores the noteworthy influence of mobile learning in augmenting dance methods and in elevating student engagement and motivation. Furthermore acknowledged as significant advantages are the adaptability and customized learning environments made possible by mobile technologies. But a number of obstacles are also noted, including instructor readiness, technical accessibility, and preserving the physicality of dancing in a virtual setting.

Table 4.1. Overview of themes, subthemes, and participant frequencies generated from the data

Theme	Subtheme	Definition	Frequency; n (%)
Effects on Dance Techniques	Enhanced technique acquisition	Improvement in the understanding and execution of dance movements through mobile learning	35%
	Access to instructional materials	availability of video tutorials, instructional apps, and other digital resources	28%
	Remote feedback	ability to receive feedback and guidance from instructors remotely	20%
Student Engagement and Motivation	Increased Interest and enthusiasm	higher levels of student interest and enthusiasm for learning dance through mobile platforms	40%
	Interactive learning	use of interactive apps and games to enhance engagement	25%
	Self-Paced learning	flexibility for students to learn at their own pace	22%
Flexibility and Personalized Learning Environments	Tailored learning experience	customization of learning content to meet individual student needs	30%
	Anytime, anywhere access	ability to access learning materials at any time and from any location	33%
	Adaptable learning paths	flexibility to adapt learning paths based on student progress and	25%

		preferences	
Challenges and Limitations	Technological Accessibility	issues related to the availability and affordability of necessary technology	35%
	Instructor Preparedness	need for training and support for instructors to effectively use mobile learning tools	28%
	Physicality of Dance	difficulty in maintaining the physical and embodied nature of dance in a virtual format	20%

Effects of Mobile Learning on Dance Techniques

Numerous research (e.g., Alexander et al., 2023; Ali et al., 2021) that demonstrated the beneficial effects of mobile learning on dance methods were found in the review. For example, Ali et al. (2021) discovered that by giving students remote access to instructional materials and feedback, mobile devices improved their comprehension and performance of dance techniques. These results imply that mobile learning can be an effective strategy for helping dance students advance their technical proficiency, especially in situations when in-person instruction is scarce. Student Motivation and Engagement

Student Engagement and Motivation

Goldberg (2020) found that mobile learning significantly enhanced student motivation and engagement. Students' interest and excitement for learning rose when they could interact with dance content and access learning resources via mobile devices (Goldberg, 2020). The aforementioned discovery highlights the capacity of mobile learning to augment the whole educational encounter and foster sustained engagement with dance education initiatives.

Flexibility and Personalized Learning Environments

Numerous studies have emphasized the adaptability and individualized learning settings provided by mobile learning in dance instruction (Haleem et al., 2022; Moya & Camacho, 2021). As per the findings of Moya & Camacho (2021) and Haleem et al. (2022), students can customize their learning experience to suit their own requirements and preferences by learning at their own pace and convenience through mobile devices. This flexibility has the potential to improve student engagement in the classroom and produce more effective learning results.

Challenges and Limitations

Notwithstanding the advantages of mobile learning, the assessment also pointed out a number of difficulties and restrictions. Chang & Hogans (2021) and Alhumaid et al. (2021), for instance, identified three major challenges: instructor preparedness, technology accessibility, and the difficulty of preserving dance's physicality in a virtual format. These difficulties highlight the necessity of giving mobile learning in dance instruction considerable thought and planning in order to assure its success.

Recommendations for Educators and Policymakers

A number of recommendations for educators and policymakers can be made in light of the review's results. For example, Goldberg (2020) recommends that teachers be given assistance and training in incorporating mobile learning into their instructional strategies. In order to guarantee that every student has fair access to mobile learning resources, policymakers should also think about making investments in technology infrastructure and resources (Cullinan et al., 2021). Furthermore, to continuously enhance and perfect its use, continuous study and assessment of mobile learning projects in dance education are crucial (Li et al., 2021).

DISCUSSION

This comprehensive assessment of the literature illuminates the revolutionary potential of mobile learning to improve dance teaching. The benefits of mobile technologies in dance education are highlighted by their favourable effects on dance methods, student engagement, and personalised learning settings. To fully reap these benefits, though, the difficulties and constraints of implementing mobile learning in this setting must be addressed.

The beneficial impact of mobile learning on dance techniques is one of the main conclusions. Research suggests

that mobile devices, which provide remote access to teaching materials and feedback, can enhance students' understanding and performance of dance moves. This implies that when in-person education is scarce, as it was during the COVID-19 pandemic, mobile learning may be very helpful.

The improvement of student motivation and engagement through mobile learning is another noteworthy discovery. Mobile technology has the potential to boost students' interest and excitement for learning by providing them with the ability to access learning materials and engage with the content at their convenience. This feature emphasizes how mobile learning may foster an atmosphere that is more dynamic and engaging, which will ultimately result in better learning results.

The evaluation also names mobile learning's ability to create flexible and customized learning environments as one of its main advantages. With the use of mobile technologies, students can customize their educational experience to fit their unique requirements and interests, thereby producing better learning results. This flexibility is especially helpful because dance education students frequently have varying degrees of experience and learning styles.

Despite these benefits, a number of issues must be resolved if mobile learning is to be as successful in dance education as possible. Important hurdles included things like technology accessibility, teacher readiness, and maintaining the physicality of dance in a virtual setting. These difficulties highlight how crucial it is to plan ahead and provide significant thought when introducing mobile learning into dance teaching.

CONCLUSION

The present study conducted a systematic literature review to investigate the impact of mobile learning on dance education. The findings of the research indicate that mobile learning can be beneficial for improving dance methods, student engagement, and customized learning environments. Mobile technologies provide students with unparalleled access to educational resources and evaluations, enhancing their understanding and execution of dance moves. This is particularly advantageous in scenarios like as the COVID-19 pandemic, where in-person training is restricted. Furthermore, by enabling students to access course materials whenever it's convenient for them, mobile learning promotes increased student motivation and engagement. The overall learning outcomes are improved by the flexibility and adaptability of mobile learning, which meets the demands and learning styles of individual students.

Notwithstanding these advantages, there are still issues that must be resolved, including the preservation of dance's physicality in a virtual format, instructor readiness, and technical accessibility. To evaluate the long-term effects of mobile learning on dance proficiency and job prospects, future research should concentrate on longitudinal studies. Important topics for additional research include pedagogical approaches and how to make mobile learning inclusive and accessible to a wide range of student demographics. A useful addition to modern educational practices, the integration of mobile learning technologies into dance education courses has the potential to greatly improve student learning results and experiences.

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