

Dancing in the digital domain: Facilitating collaborative learning in the digital age

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Abstract. Technological advancements have brought about significant changes in many aspects of life, including dance education. Technology not only makes information and communication more accessible, but it also enables more participative and collaborative learning methods. Digital technology has had a transformative impact on dance education by providing tools and platforms for remote learning, virtual workshops, and online dance competitions. Students may utilise smartphone applications to record and share practice sessions, get feedback from the educator, and access online learning courses. Teachers may also utilise this technology to share materials, examine data, and get criticism from peers. Individual recordings, online practice sessions, and pre-recorded performance assessments enable dancers to collaborate on performance projects. The use of technology in dancing classes boosts diversity, accessibility, engagement, and responsiveness. Real-time communication and feedback enabled by information technology improves learning efficiency and motivation. However, access to digital content continues to be an issue, especially in Southeast Asia. As a consequence, dance educators must become innovative instructional material suppliers in order to maximise the benefits of technology in dance education.

1 Introduction

This concept paper consists of five discussions: 1) The Impact of Technology on Dance Education; 2) Collaborative Performance Projects for Dance Education; 3) Public Pedagogy in Dance Education; 4) Enhancing Student Engagement Using Technology; 5) Teachers as Educational Content Creators. Each part will look at a different aspect of how technology improvements are transforming dance instruction, including both the potential advantages and the obstacles. The paper's goal is to give a thorough overview of the existing environment and future positions of dance education in the digital era.

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2 The impact of technology on dance education

The societal and economic behaviours have undergone substantial transformations due to technological improvements. For instance, several occupations that are now in demand, such as online transportation services or game designers, were non-existent twenty years ago [1]. Additionally, societal behaviors have also changed, creating psychological pressures related to technology [2]. One crucial aspect of society's socio-economics is education. The rapid development of technology has greatly benefited various fields of education. Technology has enabled students and teachers to easily access information via the internet, meet teachers and students from around the world, learn through computer games and simulations, and attend remote seminars [3].

The advancement of technology has fostered the preference for pictures and videos over conventional text, which greatly benefits learning that largely depends on visual experiences and physical movements [4]. Dance is one of the fields of education that has benefited from technological advancement. Students may take dance masterclasses as part of their preparation for the Muara Dance Festival in Singapore, for example. The Muara Dance Festival is a famous yearly event that honours the rich and varied cultural legacy of traditional and contemporary dance forms from all over the globe. It offers a unique opportunity for dancers to demonstrate their skill, participate in cross-cultural interactions, and earn significant exposure. Participants may attend seminars, collaborate with famous choreographers, and perform in front of an excited audience, all of which help them grow and develop as performers.

For dance education, technology has a transformative impact. Mobile applications, such as Movitae, enable students to record and share practice sessions, choreographies, or specific movements privately, receive feedback from teachers, and access and create online learning programs. For teachers, these applications allow better sharing of learning resources, data analysis, student instruction, feedback from other professionals, and obtaining information on group choreography projects [5]. Meanwhile, virtual technology enables virtual dance competitions, virtual workshops, and virtual masterclasses [6]. Collaborative performance projects can be conducted using online technology, including preparations such as individual recordings, collaborative online practice meetings, and pre-recorded or live video performance assessments [7]. Digital technology applied to dance education can promote inclusivity and accessibility, as well as enhance interactivity and responsiveness [8]. Real-time communication and feedback provided by information technology encourage learning efficiency and motivation [8].

3 Collaborative performance projects in dance education

Technology has considerable advantages for collaborative performance projects in dance education. These approaches involve students collaborating on creative projects while being physically distant [9]. Technology facilitates these tasks by fostering worldwide cooperation and fast communication. Technology may bring new insights by enabling students to interact and share their different cultural backgrounds and creative ideas. This enhances the creative process and broadens students' perspectives. Dancers may employ

digital technology to collaborate with musicians, virtual artists, and filmmakers, therefore broadening their performance options.

Collaborative performance projects have the potential to facilitate transdisciplinary research by including viewpoints from several fields such as arts, sciences, technology, engineering, and mathematics [10-14]. Nevertheless, research also suggests that online collaborative performances encounter obstacles. Each pupil may possess varying technical proficiencies, psychological influences, and safety circumstances [15]. In addition, peer facilitators are required to oversee and encourage the involvement of students and instructors in cooperative performances [16].

4 Public pedagogy in dance education

Public pedagogy in dance education refers to the instructional and informational features of dance performances that are accessible to a larger public audience [17]. This involves employing dance to increase participation, educate people, and raise social and cultural awareness. Public pedagogy may be used in collaborative performance initiatives to promote community engagement, social discourse, cultural exchange, and creative expression [18,19].

When collaborative performance initiatives in dance education are made public via digital platforms, they constitute an effective instrument for public pedagogy [10]. These projects not only allow students to study and create dance together, but they also serve as a platform for educating, informing, and engaging the larger community. In this approach, technology allows for the merger of collaborative creation with public teaching, making dance and the arts in general more accessible and influential.

5 Enhancing student engagement using technology

While public pedagogy may generate community participation via online collaborative performances, other technology-enabled tactics can also increase student engagement. In dance education, virtual reality (VR) enables students to experience immersive dance experiences without being limited by physical space [20]. Students may use VR to engage in realistic virtual practices and performances, which will help them grasp choreography and technique better. Learning films give visual tools that students may use at any time, allowing them to master moves and choreography autonomously [21]. The flipped classroom technique alters the learning dynamics by presenting theoretical information via videos before to class, freeing up class time for intense and participatory dance practice [22]. This strategy allows students to spend more time practicing and getting direct feedback from teachers, which improves engagement and understanding.

Online quizzes, instructional apps, and multimedia exams provide interactive features to conventional dance education. Online quizzes are a fast and effective approach to assess dance theory knowledge [23], while instructional apps provide interactive activities and extra resources to help individuals learn. According to Ren [24], these technologies are useful for dance teaching when combined with desktop computers and interactive boards. Multimedia exams enable students to upload performance films for evaluation, resulting in constructive and thorough comments. Gamification turns learning into a fun

and competitive experience by using game features like points, badges, and challenges [25]. This strategy not only boosts student enthusiasm and engagement, but it also promotes ongoing practice and learning in order to attain specified objectives. The combination of these technologies results in a dynamic and engaging learning environment that promotes the development of dancing skills.

6 Teachers as educational content creators

An issue of great importance in Southeast Asia is the limited availability of digital resources [26]. Solving this problem relies on instructors, who act as contemporary assets capable not only of delivering exceptional teaching but also of developing educational resources for pupils. Ullah et al. [27] state that a contemporary educator must possess two distinct sets of abilities: traditional skills and new competencies. Traditional skills include qualities such as dedication, readiness, efficiency, patience, narrative proficiency, and willingness to entertain inquiries. Emerging skills include qualities such as creativity, strong interpersonal skills, a passion for technology, and proficiency in using technology.

According to Wilson [28], contemporary teachers do not necessarily need to be technological specialists, but rather experts in cultivating cognitive skills and attitudes. Wilson [28] says that a contemporary educator has many essential traits that set them apart in the process of imparting knowledge. They willingly embrace vulnerability and see themselves as co-learners rather than just teachers. They embrace failure, often, and don't hesitate to explore new ideas without requiring expertise beforehand. They demonstrate a willingness to immerse themselves in their students' experiences, even if they are new, and actively address their deficiencies instead of ignoring them. Contemporary educators are at ease with ambiguity and actively welcome errors into their daily experiences. They possess ambitious dreams and possess a mindset that questions limitations, enabling their pupils to engage in peer-to-peer teaching. They willingly go beyond their comfort zones, readily adapt to change, and confidently seek assistance from their colleagues. They exemplify persistence and tenacity, scrutinise everything, and possess the conviction that they can acquire any knowledge or skill with the appropriate mindset and exertion.

A crucial attribute of contemporary educators in addressing constraints on resources is their ability to generate educational materials. Teachers, as content producers, have the ability to customise learning experiences and captivate students by developing diverse online resources that provide current information. Collaboration with students enables the creation of these materials, facilitating the learning process for both instructors and students. The ultimate objective is to promote data-driven education and digital literacy [29]. Abundant online lessons exist for educators seeking to transition into content creation. Nevertheless, educators sometimes possess little understanding and expertise regarding legal statutes and guidelines, as well as the process of developing digital resources [30]. Teachers have a strong desire to learn, but they frequently have limited time available. Therefore, they need to effectively manage their time in order to become providers of educational material [31].

7 Conclusion

The progress of technology has had an extensive impact on dance education, providing several benefits and new ideas to the teaching and learning experience. Technology facilitates convenient access to knowledge, encourages worldwide cooperation, and promotes interaction and reactivity in the process of learning. Mobile apps and virtual technologies enable the process of practicing, receiving feedback, and promoting more efficient and inclusive collaboration across many disciplines. Collaborative performance initiatives that are enabled by technology enhance cultural views and encourage research that spans several disciplines. Moreover, the use of digital platforms in public pedagogy expands the educative influence of dance on society. Nevertheless, it is necessary to confront obstacles such as disparities in technology and the talents of individuals. Forward-thinking and technologically proficient educators are essential in developing current, tailored, and data-oriented teaching materials, facilitating student involvement and enhancing learning outcomes.

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