The Role of Technology in Art Education in Ghana

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Abstract
Technology plays a vital role in modern art education and offers many opportunities and advancements in Ghana. The purpose of this article is to explore the impact of technology on art education in Ghana and the benefits it brings to both students and teachers. There is the problem of technology to equip teachers with innovative tools and resources, enabling them to create dynamic and personalized lessons. Online platforms offer teachers access to a wide range of teaching materials, including lesson plans, instructional videos, and assessment tools. This study adopts case study under qualitative research using interviews, questionnaires and observation in data collection. The integration of technology into art education has transformed traditional teaching methods by providing students with engaging and interactive platforms to explore creativity. Technology allows students to experiment with different mediums, expand their artistic horizons and develop a deeper understanding of art techniques. The study recommends using digital tools and software, students can explore different art forms such as digital painting, animation, graphic design and video editing. This exposure to different art forms allows students to develop a well-rounded skill set that prepares them for the rapidly evolving digital landscape. Although technology in art education in Ghana offers several advantages, there are still challenges. The digital divide, limited access to the Internet and the lack of technical infrastructure prevent the widespread integration of technology in all schools. In addition, ensuring data protection, the digital literacy of both students and teachers, and the ethical use of technology continue to be areas of concern.

Keywords: Technology, Art Education, Art Forms, Interactive Platforms

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Introduction

Technology plays an important role in modern art education. This makes art education more accessible to wider audience, fostering collaboration and sharing of ideas between students and teacher's innovative tools and resources asserted by Tillander (2011). According to Raulin et al. (2003), technology has opened up a whole new world of possibilities in art education with tools like digital art programs and virtual reality. Basu et al. (2006) support the view that technology in art education allow students to experiment with can be grouped as both traditional and digital. In this context, teachers and lecturers can experiment with painting and drawing digitally using softwares like Adobe Photoshop and Procreate. They can employ 3D sculptures using programs like Blender or Thinker card and deeper understanding of art techniques asserted by (Jones, 1986). Other platforms for teaching and learning materials were Khan Academy and ArtsEdge, which offers a wide range of art lessons and resources for free. ArtsEdge is a software which is operated by Kennedy Center and provides lesson plans, videos and interactive activities.

Slack & Wise (2005) expresses that evolving digital landscape for teachers and students have opened up so many new opportunities, where students have access to a wealth of online resources of multimedia content and provide real time feedback. It's incredible to witness how technology is transforming education and enhancing learning experience for everyone involved opined by Murphie & Potts (2017). Technology provides students and teachers with interactive platforms that make learning more exciting and accessible. With online for example student can participate in virtual discussions, collaborate on projects and access multimedia resources. On interactive platforms, teachers can create interactive lessons using gamification techniques more like an art or game play. This shows how technology has transformed education making it more interactive and personalized for both students and teachers.

Recent studies showed that Jones (1986) delved into understanding the significance of technology in art education. Also Patton and Buffington's (2016) study was about keeping up with our students highlighting on the evolution and standards in art education. The problem statement emphasized that in Ghana, there is the problem of providing students and teachers with engaging and interactive platforms to explore creativity and promote art education. There is also the problem of technology to equip more teachers with innovative tools and resources in Ghana where there is lack of training and support. How can technology be effectively integrated in art education to enhance creativity, accessibility and engagement? Therefore this study sought to delve into the role of technology in art education in Ghana with emphasis on the strengths and weaknesses.

Theoretical Framework

The study adopted Scott and Palinscar (2013) socio-cultural theory by Lev Vgotsky that laid emphasis on the role of social interaction and cultural context in learning and development. This highlights the significance of language, social relationship and cultural practices in shaping educational experience. Socio-cultural theory can provide valuable insight in art education. According to this theory, learning is a social and cultural process that occurs through interaction with others and the surrounding environment. In the context of art education, technology can facilitate collaboration as depicted in (Figure 1). This shows how individuals share social and cultural sources with other people known to be the teachers and students with the exploration of diverse artistic perspectives. By integrating technology into

the art classrooms students can engage in meaningful interactions, share their artwork with a wider audience and gain exposure to different cultural art forms.

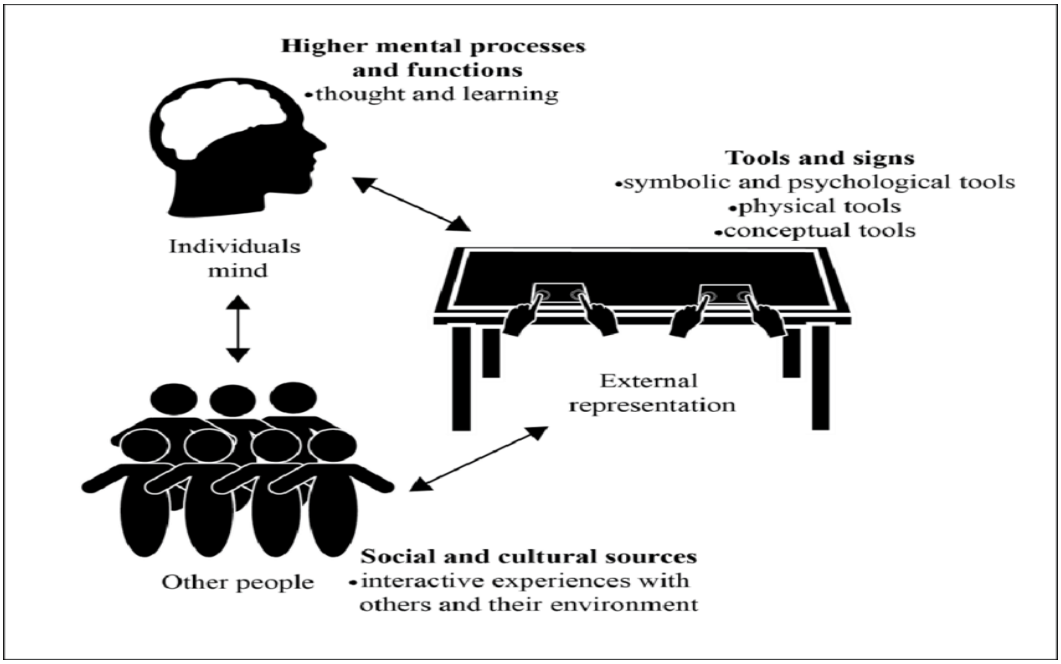

Figure 1: Socio-Cultural Theory
Source: Palinscar (2013)

Research Methodology

The study employed qualitative research design asserted by Leedy and Omrod (2005) for the description, interpretation, verification and evaluation of situations, settings, processes or people. This characterization made it a best option for the research. Since the study was focused on different art education institutions or sectors from the junior level to the tertiary level in Ghana, qualitative multiple-case study was befittingly employed. The deployment of qualitative multiple-case study design allowed the study to compare and contrast the role of technology in the art educational sector showing what was to the disadvantage with the uniqueness and diversities in art education in Ghana from various sectors or institutions in Ghana. The researchers adopted triangulated instruments of data collection being interviews, observations and photographs in data collection. These data collection served as blueprint to gather information on the role of technology in the selected educational sectors and how technology has being utilized in these sectors and what they are lacking via personal interviews, photographs and participatory observations. The personal (one-on-one) interviews were conducted using unstructured interview guides which was validated through pre-testing on other teachers not part of the original sample. Photographs of activities requiring the use of technology by teachers and students in art education were taken so the researchers could give the descriptive and interpretative documentation. The researchers engaged in participatory observation activities of the various art forms by students and teachers, where an informed consent form was filled and signed by rectors and head of departments of schools. An observation checklist was designed and validated through expert review by two seasoned qualitative researchers. The observation checklist was used for gathering data on the activities in the art forms engaged by students and teachers in art education using technology. The researchers used these triangulated data collection instruments to enhance the originality and trustworthiness of the findings of the study.

The population for the study was 18 schools or institutions. Cresswell (2009) estimated that 50% of the total population available for a study could be used to represent the relevant educational sectors for the study. Purposive Sampling was employed to select the various schools or institutions for the study and was later divided into a stratum with similar attributes and characteristics from the junior high school level to tertiary level illustrated in table 1.

Level of Education	**Population for the study**	**Sample of Population**
Pre-Tertiary Education		
Junior High School	6	3
Secondary High School	4	2
Tertiary Education		
Technical and Vocational Education	4	2
University Education	4	2
Total Population	18	9

Table 1: Distribution of Accessible Population (Stratified Sampling)

Thematic analysis procedures of organizing, transcribing, reading, familiarizing and using short quotations were used for the study. During the study, participants were pseudonymised to protect their confidentiality and anonymity in tandem with qualitative research method.

Result and Discussion

The result and discussion section elaborated on the strengths and weaknesses of the role of technology in art education in Ghana.

Strengths

Technology provided students with enhanced creativity where wide range of technology provided students and teachers with tools and softwares from different educational sectors that inspired and enhanced their artistic creativity in Ghana. Teachers and students access to a vast array of online resources, tutorials and virtual galleries expanding their exposure to different art forms and styles in Ghana. Interactive learning for teachers and students where digital platforms and applications offer interactive learning experiences, allowing students in Ghana engage with art in a dynamic and immersive way. Lastly, adoption of collaborative opportunities where technology enables students to collaborate through online platforms with peers, artist and experts from around the world, fostering cultural exchanges in diverse perspectives. In Ghana, students from junior high school engage in interactive learning using digital tools and softwares for drawing in art education (Figures 2 and).

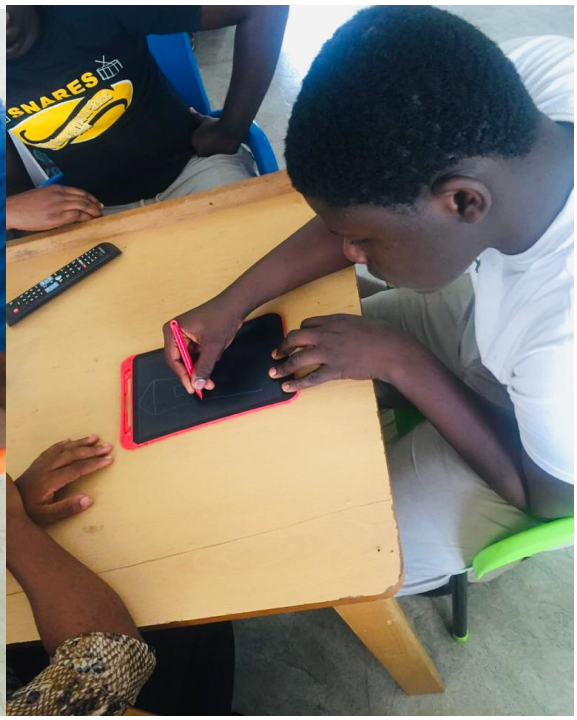

Figure 2: Drawing by JHS Student 1 **Figure 3**: Drawing by JHS Student 2

Weaknesses

The weaknesses of the role of the role technology in art education highlight on limited access of digital tools and resources. In Ghana, not all students have equal access to technology and internet resources, creating a digital divide that hinders the ability of fully engaging in technology-based art education. Skill development is also an intriguing factor, whiles technology can enhance creativity, and it is essential to balance it with traditional art techniques to ensure that teachers and students develop foundational skills from all educational sectors in Ghana. Lastly, authenticity brings a scenario on how individuals argue that technology can diminish the tactile and physical experience of creating art in Ghana.

Overall, leveraging the strength of technology and addressing its limitations, art educators can create a balanced and enriching learning environment. This combines both traditional and digital art practices.

Conclusion

In summary, integrating technology in art education can enhance the educational sectors in Ghana. Also incorporating digital tools and softwares, students and teachers can explore new artistic media in Ghana. Lastly online platforms will help students and teachers from different sectors interact and showcase ideas and innovative artworks accessing wealth of online resources using technology in art education in Ghana.

The study therefore recommends government helping by allocating resources to create policies that prioritize art education in schools or institutions with the help of technology. Government should train teachers and students to prepare them for readily evolving digital landscape world for the utilization of digital tools and softwares in art education in Ghana. Lastly, various educational sectors, stakeholders should help in digital establishments of

infrastructures in Ghana with the introduction of technology in art education into the curriculum to provide skills and knowledge to teachers and students with little or no limited access to technology in art education in Ghana.

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