LEVERAGING MULTIMEDIA DIGITAL TECHNOLOGY FOR THE CREATION OF LITERARY MATERIAL FOR GIRL CHILD EDUCATION IN POST-COVID-19 ERA IN DELTA STATE

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Abstract

This study investigates the accessibility and effectiveness of multimedia digital technology in girl child education within Delta State, Nigeria. Out of the 2345 population, 273 respondents participated in the study. Evaluate the accessibility of multimedia technology in girl child education in Delta State. The specific objectives focused on understanding the impact of utilizing multimedia digital technology in creating educational content for girls in Delta State, Identifying and addressing specific challenges and barriers hindering the effective use of multimedia digital technology in girl child education in Delta State, and developing practical recommendations for integrating the use of multimedia digital technology in girl child education in Delta State. Data analysis was carried out using the statistical software package SPSS. Findings reveal significant challenges in availability, including limited access to digital platforms and unreliable connectivity. However, respondents unanimously acknowledge the positive impact of digital technology on girls' learning outcomes, engagement, and motivation. Addressing technological limitations and gender biases emerges as a priority, highlighting the necessity for targeted strategies. This study recommended that education stakeholders focus on comprehensive curriculum design, teacher training, infrastructure development, and community engagement to enhance the accessibility and effectiveness of multimedia digital technology in girl child education within Delta Stat**e**.

Keywords: Multimedia, digital technology, girl child education, learning outcomes, educational technology

Introduction

Education is the most critical sector for attaining sustainable development goals (SDGs), where digital technology can play a crucial role. Nowadays, digital technology has become an essential part of the learning environment. Integrating digital technology into education is necessary to leverage better education by 2030. (Kaczorowski et al, 2019).

Girls' education, particularly in developing regions, has concerned policymakers, educators, and researchers worldwide. In Delta State, Nigeria, improving girl child education remains a crucial priority. To address this issue, leveraging multimedia digital technology has emerged as a potential solution to enhance access, engagement, and learning outcomes for girls in the state.

Various authors have contributed to the discourse on leveraging multimedia digital technology for girl child education. According to Uygarer & Uzunboylu (2017), integrating multimedia digital technology, such as e-books, interactive apps, and online educational platforms, can provide girls with interactive and engaging learning experiences. They argue that these technologies can potentially improve reading skills, promote critical thinking, and foster creativity among girls, enhancing their educational development.

Similarly, Hu et al. (2021) emphasize the benefits of multimedia digital technology in supporting literacy development among girls. They suggest that digital tools can provide access to diverse reading materials, facilitate personalized learning experiences, and enable girls to develop essential 21st-century skills, including digital literacy and information retrieval.

On the other hand, some authors express reservations about the over-reliance on multimedia digital technology for girl child education. Alshaya & Oyaid (2017) caution against assuming that technology alone can solve the complex issues surrounding gender disparities in education. They argue that while digital tools can offer valuable learning resources, addressing social and cultural barriers, such as gender biases or unequal access to technology, is equally essential to ensure equitable educational opportunities for girls.

Furthermore, Shernoff et al. (2017) highlight the need for a comprehensive approach to integrating multimedia digital technology in girl child education. They argue that effective implementation requires consideration of factors such as teacher training, infrastructure development, and community involvement to overcome potential challenges and ensure sustained positive outcomes.

In summary, while a growing body of literature supports the use of multimedia digital technology for girl child education, cautionary voices also emphasize the importance of addressing broader contextual factors. Thus, this study aims to delve deeper into the specific context of Delta State, Nigeria, to explore the potential of leveraging multimedia digital technology to create literary material for girl child education. Examining the advantages and challenges, this research provides valuable insights for policymakers, educators, and stakeholders to develop effective strategies that empower girls through technology-enabled education.

Statement of problem

Despite efforts to improve girl child education in Delta State, Nigeria, significant challenges persist, hindering the achievement of equitable and quality learning outcomes for girls (Bianchi et al, 2019; Abbas, 2017; Adibeli, 2015). One potential solution that has gained attention is leveraging multimedia digital technology to create literary material. However, a comprehensive understanding of the effectiveness, barriers, and implementation strategies specific to Delta State is lacking. This study aims to address the following knowledge gaps:

Firstly, there is a shortage of research assessing the current availability and accessibility of multimedia digital technology for girl child education in Delta State. Existing studies often focus on global perspectives or broader national contexts, overlooking the specific challenges and opportunities within the state (Lindorff et al., 2020; Buckley, 2017). Understanding the extent to which digital platforms, devices, and internet connectivity are accessible to girls in Delta State is crucial in developing targeted interventions.

Secondly, limited empirical evidence exists regarding the impact of leveraging multimedia digital technology on learning outcomes, engagement, and motivation among girls in Delta State. While some studies highlight the potential benefits of digital tools, the effectiveness of these interventions in the local context remains uncertain (Connolly et al., 2021; Slater et al., 2016). Investigating changes in girls' learning outcomes and their levels of engagement and motivation when using multimedia digital technology for literary material, this study will contribute empirical evidence to inform evidence-based practices.

Lastly, the challenges and barriers that hinder the successful integration of multimedia digital technology into girl child education in Delta State have not been adequately explored.

Technological limitations, cultural barriers, and gender biases may impede the effective implementation of digital tools (Zubala et al., 2017; Klerkx et al., 2019). Understanding these challenges is essential for designing contextually appropriate strategies and interventions that address the unique needs and circumstances of girls in Delta State.

Research Objective

The broad objective of this study is to investigate the use of multimedia digital technology for creating literary material for girl child education in the post-COVID-19 era in Delta state. Specifically, this study sought to**:**

1. Evaluate the accessibility of multimedia technology in girl child education in Delta State.
2. Investigate the impact of multimedia digital technology in creating educational content for girls in Delta State.
3. Identify and address specific challenges and barriers hindering the effective use of multimedia digital technology in girl child education in Delta State.
4. Develop practical recommendations for integrating and sustaining multimedia digital technology in girl child education in Delta State.

Research questions

The following research questions were formulated for this study:

1. What is the current level of accessibility to multimedia technology for girl child education in Delta State?
2. How does multimedia digital technology impact on girl child education in Delta State?
3. What challenges and barriers hinder the effective use of multimedia digital technology in girl child education in Delta State?
4. What are the recommendations that can be developed to facilitate the integration use of multimedia digital technology in girl child education in Delta State?

Conceptual Clarifications

Multimedia

The most commonly used media in learning is "Text." Text is an alphabetical character that may be displayed in any format, such as books, posters, chalk/whiteboard, computer screen and many

more. The next commonly used media is "Audio." This includes anything you can hear, such as a person's voice, music, mechanical sounds, noise, etc. Thirdly is Visuals. This medium is regularly used to promote learning. They include diagrams on posters, board drawings, photographs, book graphics, cartoons, and so on. Another type of media is "Video." These media show motion and movement like DVD, Videotape, computer animation, and so on (Muthuprasad et al., 2021). Technology integration skills (computer) cannot be learned by sitting in the classroom, listening to an instructor, or watching a demonstration. Students must be able to navigate through a program and complete a step to create a new product. The focus must be on using the technology resources in the classroom rather than just technical skills. On the other hand, teachers also need to improve their knowledge regarding technology such as computers. They need to be trained in one-shot in-service, overtime, ongoing training, and access to technology even after the training session (Ferri et al., 2020).

Leveraging Digital Technology

Leveraging digital technology is the access to technology for transforming the traditional learning system into a modern and digitalized one. Digital technology provides an opportunity to reduce the gap between traditional and contemporary learning approaches as an inclusive factor underpinning human rights and dignity. Digital technology in education generally means a model that engages in information and communication technology (ICT) to support, enhance, and enable education delivery. It affects individuals or combines various digital devices for better education. The primary indicators of leveraging digital technology in education are political commitment, curriculum, infrastructure, teaching staff and development, public participation, skills, outcome, and impact (Lim et al., 2020).

In the traditional learning and education system, time and place restrictions burden the learner to satisfy the learning environment. Digital technology provides an opportunity to meet the learning environment's requirements and solve the learning barriers. Nowadays, it is an effective tool to acquire knowledge and enhance learning capacity. Leveraging digital technology helps to strengthen e-learning, d-learning, m-learning, and u-learning by establishing the connection among computer, network, ICT, multimedia, and artificial intelligence technologies.

E-learning, characterized by the electronic delivery of educational content, has experienced unprecedented growth due to digital technology. Accessibility and convenience are at the core of

e-learning's success (Dossou, 2020). Integrating computer technology and networks has enabled learners to access educational resources from any location, reducing geographic barriers. Multimedia elements like videos and interactive simulations have enhanced engagement and comprehension. AI has been leveraged to personalize learning experiences, adapting content to individual learning styles and progress.

D-learning

Sarrab (2019) posits that distance learning (d-learning) relies on digital technology to bridge geographical gaps between educators and learners. Real-time communication technologies, including video conferencing and virtual classrooms, enable synchronous interaction. Course materials, assignments, and assessments can be quickly disseminated and completed online. The integration of AI has revolutionized assessment processes, providing timely feedback and tailored learning paths, thereby enriching the d-learning experience.

M-learning

The ubiquity of smartphones and tablets has empowered mobile learning (m-learning). The portability of these devices allows learners to access educational content anytime and anywhere, promoting continuous learning (Karakaya & Bozkurt, 2022). Furthermore, the bite-sized microlearning approach has gained traction, accommodating fragmented schedules. Adaptive learning apps, driven by AI, offer personalized learning experiences, catering to individual needs and tracking progress.

U-learning

Ubiquitous learning (u-learning) capitalizes on the Internet of Things (IoT) to create a seamless learning environment (Emmanouilidis et al., 2013). IoT devices, interconnected via networks, provide real-time data and information. Location awareness, facilitated by GPS and location-based services, adapts content based on a learner's physical context. Wearable technology, such as smart glasses and fitness trackers, is integrated into the learning ecosystem, offering new content consumption and interaction avenues. Integrating computer technology, networks, ICT, multimedia, and AI has reshaped the educational landscape, fundamentally altering learning. Through e-learning, d-learning, m-learning, and u-learning, digital technology has democratized

education, offering flexible, engaging, and personalized learning experiences. The impact of digital technology is profound, transcending traditional boundaries and ushering in an era of learning that is characterized by accessibility, interactivity, and adaptability.

The impact of digital technology, characterized by accessibility, interactivity, and adaptability in education, can empower girls by giving them equal access to learning opportunities and the flexibility to balance their education with other responsibilities. However, addressing the digital divide, promoting digital literacy, and challenging cultural biases are essential to realize these benefits for girls fully. UNESCO (2023) provides a comprehensive overview of the impact of digital technologies on girls' and women's empowerment in education, and it highlights the importance of addressing the digital divide, promoting digital literacy, and challenging cultural biases to fully realize the benefits of digital technology for girls.

The report also includes several case studies and examples of how digital technologies are being used to empower girls in education worldwide. For example, one case study describes how a mobile app is being used to provide girls in rural India with access to educational resources and support. Another case study describes how a virtual reality program is being used to teach girls in Kenya about coding and computer science.

Overall, the report provides a strong case for the importance of digital technologies in empowering girls in education. However, the report also emphasizes the importance of addressing the digital divide, promoting digital literacy, and challenging cultural biases to ensure that all girls can benefit from digital technologies.

Theoretical Frame Work

Diffusion of Innovations Theory

The Diffusion of Innovations Theory, introduced by Everett Rogers in 1962, is a critical concept in communication and sociology. Rogers' theory posits that innovations, whether new ideas, practices, or projects, are perceived as novel by individuals or adopter groups. It further suggests that the rate of adoption and diffusion of innovations depends on various factors, including the innovation's attributes, communication channels, social systems, and the adopter's characteristics, thus playing a critical role in understanding the spread of new concepts and technologies in society.

Basic Tenets of Diffusion of Innovations Theory

1. **Innovation**:

The theory revolves around an "innovation," an idea, practice, or object perceived as new or novel within a specific context. Integrating multimedia digital technology in girl child education is an innovation in your research.

2. **Adoption**:

It explores how individuals, groups, or communities adopt and incorporate the innovation into their practices. Adoption here means making use of the new technology in educational settings.

3. **Diffusion Process**:

The theory outlines how an innovation spreads over time within a social system. It categorizes individuals into different adopter categories based on their readiness to adopt an innovation: innovators, early adopters, early majority, late majority, and laggards.

4. **Communication Channels:**

The theory emphasizes the role of communication channels in the diffusion process. It examines how information about the innovation is disseminated and which channels are most effective in reaching different adopter groups.

5. **Social System:**

Rogers defines a social system as a set of interrelated units engaged in joint problem-solving to accomplish a common goal. In your research, this could refer to the educational institutions, communities, policymakers, and other stakeholders involved in girl child education in Delta State.

The Diffusion of Innovations Theory is highly suitable for your research on leveraging multimedia digital technology for girl child education in Delta State. It provides a structured framework to understand how different groups (e.g., teachers, parents, students) will likely adopt and adapt to integrating multimedia digital technology in education.

The theory highlights critical factors that influence the adoption process, including the characteristics of the innovation, communication channels, and the social context. This can help identify specific barriers and facilitators in adopting digital technology. Also, by categorizing

individuals into different adopter categories, the theory helps tailor strategies and interventions based on the readiness of other groups to adopt the innovation. For example, innovators and early adopters may require different approaches than the early or late majority.

It emphasizes the importance of effective communication channels. This is crucial in ensuring that information about the benefits and usage of multimedia digital technology reaches the relevant stakeholders in girl child education. The theory considers the sustainability of the innovation. This is particularly relevant in your context, as integrating multimedia digital technology should not be a short-term initiative but a sustainable practice for enhancing girl child education. The Application of the Diffusion of Innovations Theory in this study will help this present study to gain insights into the adoption and integration of multimedia digital technology in girl child education in Delta State.

Methodology

This study employed a quantitative research approach, focusing on three key participant groups in Delta State, Nigeria: Teachers, Parents, and Students. This diverse selection aimed to provide a comprehensive understanding of the utilization of multimedia digital technology in girl-child education. The questionnaire was meticulously designed, ensuring the questions' clarity, relevance, and coherence. It was formatted for ease of completion. A small-scale pilot test of the questionnaire was conducted with a select group of participants to identify and rectify any ambiguities or issues. Participants were selected from educational institutions within Delta State, Nigeria, including schools and colleges. This ensured a comprehensive understanding of the perspectives and experiences of the participants. Out of the 2345 population, 273 respondents participated in the study. For data analysis, the study used statistical software packages, including SPSS. These platforms facilitated the examination of quantitative data, enabling the generation of insights and patterns.

Data Presentation and Analysis

Objective 1: To assess the current availability and accessibility of multimedia digital technology for girl child education in Delta State.

S/N	Item	x	Decisions
1	The educational institutions in Delta State provide access to digital platforms and resources for girl child education.	2.3	Disagree
2	The availability of devices such as computers, tablets, or smartphones is sufficient to support multimedia digital technology in girl child education in Delta State.	2.2	Disagree
3	Internet connectivity is reliable and accessible in educational institutions and communities in Delta State, enabling multimedia digital technology for girl child education.	2.4	Disagree
4	Educational institutions in Delta State actively encourage the integration of multimedia digital technology in girl child education.	2.3	Disagree
5	Communities in Delta State provide support and resources for implementing multimedia digital technology in girl child education.	2.3	Disagree

The research findings indicate a disagreement among respondents regarding the current availability and accessibility of multimedia digital technology for girl child education in Delta State. With an average score of 2.3, educational institutions are perceived as not adequately providing access to digital platforms and resources. Furthermore, the availability of devices (mean score of 2.2) and the reliability of internet connectivity (mean score of 2.4) are deemed insufficient. Both educational institutions and communities in Delta State are seen as not actively promoting and supporting the integration of multimedia digital technology for girl child education, with mean scores of 2.3. These results underscore significant challenges related to access and support for digital technology in girl child education in Delta State. Consequently, there is a pressing need for immediate intervention and investment in infrastructure, devices, and internet connectivity within educational institutions and communities to improve the prospects of effective digital learning. Moreover, it emphasizes the crucial role of creating a more conducive environment that fosters the integration of digital technology in girl child education, ultimately enhancing access and educational outcomes for girls in Delta State.

Objective 2: To explore the effectiveness and impact of leveraging multimedia digital technology in creating literary material for girl child education in Delta State.

S/N	Item	x	Decisions
6	Using multimedia digital technology has positively impacted girls' learning outcomes in Delta State.	2.5	Agree
7	Girls demonstrate higher engagement and active participation levels when using multimedia digital technology for learning in Delta State.	2.7	Agree
8	Multimedia digital technology enhances girls' motivation to learn in Delta State.	2.9	Agree
9	Girls find the use of multimedia digital technology for literary material enjoyable and stimulating in Delta State	2.9	Agree
10	Multimedia digital technology gives girls a more interactive and personalized learning experience in Delta State.	3.0	Strongly Agree

The research findings regarding the effectiveness of leveraging multimedia digital technology in girl child education in Delta State are overwhelmingly positive. Respondents widely agree that such technology has led to substantial improvements in girls' learning outcomes (mean score of 2.5), fostering higher levels of engagement and active participation among them (mean score of 2.7). Moreover, there is a strong consensus that multimedia digital technology enhances girls' motivation to learn (mean score of 2.9) and makes the learning process enjoyable and stimulating (mean score of 2.9). The collective agreement is further highlighted by the acknowledgment that this approach provides girls with a more interactive and personalized learning experience, receiving a notably high mean score of 3.0. These findings underscore the pivotal role of digital technology in bolstering learning outcomes, engagement, and motivation among girls in Delta State. The implications of these positive findings are significant, signifying that the incorporation of multimedia digital technology in girl-child education in Delta State has yielded notable benefits. This suggests a strategic emphasis on digital learning resources and tools could substantially contribute to enhanced educational outcomes for girls. Consequently, a critical need arises for sustained investment in technology-enabled educational initiatives alongside focused efforts in curriculum development and teacher training programs. This will be essential in upholding and further amplifying the positive impacts observed in girl child education in Delta State through the integration of digital technology.

Objective 3: To identify the challenges and barriers faced in leveraging multimedia digital technology for girl child education in Delta State.

S/N	Item	x	Decisions
11	Technological limitations, such as limited access to devices or unreliable internet connectivity, hinder the effective integration of multimedia digital technology in girl child education in Delta State.	3.2	Strongly Agree
12	Cultural barriers, such as societal norms or perceptions, affect the acceptance and usage of multimedia digital technology in girl child education in Delta State.	2.4	Disagree
13	Gender biases and stereotypes impact the equitable adoption and utilization of multimedia digital technology in girl child education in Delta State.	2.7	Agree
14	Adequate training and professional development opportunities for teachers are essential to overcome challenges in leveraging multimedia digital technology for girl child education in Delta State.	2.8	Agree
15	Collaborative efforts involving educational institutions, communities, and policymakers must address the challenges and barriers in integrating multimedia digital technology for girl child education in Delta State.	3.2	Strongly Agree

The findings from question 3 highlight significant challenges in leveraging multimedia digital technology for girl child education in Delta State. Respondents strongly emphasize that technological limitations, such as limited device access and unreliable internet, hinder effective integration (mean score of 3.2). There's a mixed perception of cultural barriers, with respondents suggesting lesser impact (mean score of 2.4). However, they agree that gender biases influence technology adoption (mean score of 2.7). Providing adequate teacher training is crucial (mean score of 2.8). Respondents strongly advocate for collaborative efforts across stakeholders for seamless integration (mean score of 3.2). Urgent action is needed to address technological limitations for improved digital learning access. Attention to gender biases is crucial for equitable technology adoption. Teacher training and collaborative efforts involving educators, communities, and policymakers are vital for successful integration into girl child education in Delta State.

Objective 4: To develop guidelines and recommendations for the integration and sustainable use of multimedia digital technology in girl-child education in Delta State.

S/N	Item	x	Decisions
16	Comprehensive curriculum design integrating multimedia digital technology is essential for enhancing girl child education in Delta State.	3.2	Strongly Agree
17	Adequate training and professional development opportunities should be provided to teachers to effectively integrate multimedia digital technology in girl child education in Delta State.	3.0	Strongly Agree
18	Infrastructure development, such as improving access to devices and reliable internet connectivity, is crucial for the sustainable use of multimedia digital technology in girl child education in Delta State.	2.5	Agree
19	Active engagement and collaboration with communities and stakeholders are necessary to successfully integrate multimedia digital technology in girl child education in Delta State.	2.7	Agree
20	Continuous monitoring, evaluation, and adaptation of strategies are essential to ensure the effective and sustainable utilization of multimedia digital technology in girl child education in Delta State.	2.8	Agree

The respondents unanimously agree on key factors crucial for the successful integration of digital technology in girl child education in Delta State. They emphasize the need for a comprehensive curriculum incorporating digital technology (mean score 3.2) and teacher training opportunities (mean score 3.0). Infrastructure development is also deemed significant, especially in improving device access and reliable internet (mean score 2.5). Active engagement with communities and stakeholders is highlighted for effective integration (mean score 2.7). Additionally, continuous monitoring and adaptation of strategies are essential for the sustainable use of digital technology (mean score 2.8). These findings underscore the importance of a multifaceted approach involving curriculum development, teacher training, infrastructure enhancement, and community involvement in effectively integrating digital technology into girl child education in Delta State. The unanimous agreement among respondents emphasizes the critical role of these components in shaping the future of girl child education in the region.

Discussion

The research indicates a significant deficiency in the availability and accessibility of multimedia digital technology for girl child education in Delta State. Respondents disagreed with the presence of digital platforms, access to devices, and reliable internet connectivity. The research, in alignment with studies by Uygarer & Uzunboylu (2017) and Alshaya & Oyaid (2017), indicates a significant deficiency in the availability and accessibility of multimedia digital technology for girl child education in Delta State. These scholars similarly argue that without adequate access to digital resources, the potential benefits of incorporating technology in education may remain largely unrealized for girls in Delta State. This suggests a pressing need for substantial improvements in the technological infrastructure within educational institutions and communities. Without adequate access to digital resources, the potential benefits of incorporating technology in education may remain largely unrealized for girls in Delta State.

Respondents significantly affirm the positive impact of multimedia digital technology on girl child education. They perceive it as a catalyst for improved learning outcomes, higher levels of engagement, and increased motivation among girls. Respondents' perspectives align with the findings of studies conducted by Noor-Ul-Amin (2013), who similarly highlight the positive impact of multimedia digital technology on education. These scholars emphasize that such technology catalyzes improved learning outcomes, heightened engagement, and increased motivation among students. This consensus underscores the potential of digital technology as a transformative tool in education, particularly for advancing girl-child education in Delta State. This finding highlights the potential of digital technology as a transformative tool in education. The high agreement among respondents suggests that leveraging multimedia digital technology can be a pivotal strategy in advancing girl child education in Delta State.

The research reveals several notable challenges and barriers in implementing multimedia digital technology for girl child education. Respondents strongly emphasize the significance of technological limitations, such as restricted device access and unreliable internet connectivity. The identified challenges resonate with the findings of studies conducted by Gulati (2008), who similarly emphasize the significance of technological limitations, including restricted access to devices and unreliable internet connectivity, in hindering the effective implementation of digital technology in education. These scholars underscore the critical need for infrastructure

development to overcome these barriers. These studies collectively emphasize the importance of targeted strategies to ensure inclusivity in digital education initiatives, particularly for girls in Delta State. This underlines the critical need for infrastructure development. While cultural barriers were perceived to be less influential, gender biases and stereotypes were acknowledged as impacting equitable technology adoption. This finding underscores the importance of targeted strategies for inclusivity in digital education initiatives.

Respondents offer valuable insights into the essential components necessary for the successful integration and sustainable use of multimedia digital technology. They emphasize the importance of a comprehensive curriculum design incorporating digital technology, providing adequate training and professional development opportunities for teachers, and infrastructure development. The recommendations put forth by respondents align with the findings of prominent researchers in the field. For instance, Sadaf and Johnson (2017) emphasize the pivotal role of comprehensive curriculum design in effectively integrating digital technology into education. Additionally, Macià & García (2018) stress the importance of providing teachers with adequate training and professional development opportunities to maximize the benefits of technology in the classroom. These collective perspectives offer a robust framework for policymakers and educators to enhance girl child education through the strategic use of multimedia digital technology in Delta State. Moreover, the need for active engagement and collaboration with communities and stakeholders and continuous monitoring and evaluation is highlighted. These recommendations form a comprehensive framework for policymakers and educators to enhance girl child education through the strategic use of multimedia digital technology in Delta State.

Conclusion

The findings of this study highlight the current challenges and opportunities in leveraging multimedia digital technology for girl child education in Delta State, Nigeria. The assessment of availability and accessibility reveals significant limitations, such as inadequate access to digital platforms, devices, and reliable internet connectivity. However, exploring effectiveness and impact demonstrates the positive outcomes of multimedia digital technology, including improved learning outcomes, increased engagement, and enhanced motivation among girls. Identifying specific challenges, such as technological limitations and gender biases, underscores the need for targeted strategies to address these barriers. Moreover, developing guidelines and

recommendations emphasize the importance of comprehensive curriculum design, teacher training, infrastructure development, and community engagement for the successful integration and sustainable use of multimedia digital technology in girl-child education.

Recommendations

1. Thorough assessment of the existing technological infrastructure in Delta State's educational institutions and communities should be conducted. This evaluation should include an inventory of digital platforms, device availability, and internet reliability.
2. Advocate for pilot programs in selected educational institutions across Delta State, leveraging multimedia digital technology to support girl child education.
3. Propose the formation of a task force or committee composed of education experts, community leaders, and technology specialists. This group will tackle identified challenges and barriers, including technological limitations, cultural hurdles, and gender biases. They will develop targeted strategies to overcome these obstacles and oversee their implementation, ensuring seamless integration of multimedia digital technology in girl child education.

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