



Revitalizing Literacy in Reading Comprehension Through Internet and Digital Technology Instruction in Senior Secondary Schools in Ebonyi State

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Abstract

This study investigated the Revitalization of Literacy in Reading Comprehension through Internet and Digital Technology Instruction, with particular emphasis on the use of Sora, a digital reading platform in senior secondary schools in Ebonyi state, Nigeria. Persistent poor performance in reading comprehension among students in the state has been attributed to outdated instructional methods, limited access to reading materials, weak reading culture, and inequitable educational resources, especially between rural and urban schools. Anchored on contemporary literacy and digital learning perspectives, the study drew evidences from recent empirical studies, policy documents, and practical classroom experiences. The findings revealed that integrating Sora into reading comprehension instruction enhances students' engagement, motivation, and comprehension skills through access to diverse eBooks and audiobooks, multimodal learning features, and interactive tools such as annotations, vocabulary support, and progress tracking. The platform also supports differentiated instruction and data-driven teaching, enabling teachers to monitor students' reading habits and provide targeted interventions. Despite infrastructural and capacity-related challenges, the study demonstrated that digital reading platforms, when supported by adequate training and policy commitment, can significantly bridge literacy gaps and reduce gender and location disparities in reading achievement. The study concluded that internet and digital technology instruction, exemplified by Sora, offers a viable and sustainable strategy for improving reading comprehension and fostering a robust reading culture among senior secondary school students in Ebonyi state. It therefore recommended increased investment in digital infrastructure, continuous teacher professional development, and stakeholder collaboration to ensure effective and equitable implementation.

Keywords: Literacy, Reading, Comprehension, Digital and Technological Instruction

1. Introduction

Literacy, in its broadest sense, means learning and proper learning. It is the ability to read, write, speak, listen and communicate effectively. At the heart of literacy lies reading comprehension, which is the ability to decode written texts, extract meaning, interpret ideas, and respond critically. In today's knowledge-driven world, a student's ability to read and understand text is pivotal, not just for academic achievement but also for lifelong learning and participation in the society. Unfortunately, in many parts of Nigeria, including Ebonyi State, reading comprehension among senior secondary school students is alarmingly poor. Despite various curriculum reforms and interventions, the literacy gap continues to widen due to outdated methods, lack of reading culture, and poor access to instructional materials. However, we are in the digital age, where technology has revolutionized how young people learn. Digital tools such as Sora, an award-winning student reading app developed by OverDrive, offer a promising avenue to revitalize literacy by making reading accessible, engaging, and interactive.

The evolution of literacy education has increasingly intertwined with advancements in technology, particularly through the integration of digital platforms and tools. In recent years, the proliferation of internet-based resources and digital technology has transformed how students engage with texts and develop reading comprehension skills. Among these advancements, Sora, an innovative digital reading platform, represents a significant step forward in revitalizing literacy instruction in senior secondary schools in Ebonyi State.

Recent studies underscore the impact of digital technology on literacy development. According to the International Literacy Association (2021) ^[10], integrating digital resources into reading instruction can significantly enhance students' engagement and comprehension. The ability to access texts in various formats - such as eBooks and audiobooks, support diverse learning needs and fosters a more inclusive educational environment. Furthermore, digital platforms like Sora facilitate interactive features, such as annotations and vocabulary support, which can further bolster comprehension and critical thinking skills (Smith and Johnson, 2022) ^[23]. The 21st century has seen a growing emphasis on digital literacy as an integral component of overall literacy education. As educational institutions adapt to these changes, platforms like Sora offer practical solutions for addressing common literacy challenges. By integrating Sora into the curriculum, educators can leverage technology to enhance reading comprehension, promote a love of reading, and prepare students for a digital future. This approach aligns with contemporary educational goals that emphasize the importance of technological fluency alongside traditional literacy skills (Brown, 2023) ^[4].

The revitalization of literacy instruction through digital platforms like Sora represents a promising development in senior secondary education. As schools continue to embrace digital technology, it is essential to explore and implement innovative tools that support and enrich reading comprehension. The adoption of platforms like Sora not only aligns with current educational trends but also addresses the diverse needs of students, ultimately fostering a more effective and engaging literacy experience.

Sora, a product of OverDrive Education, offers a contemporary solution to traditional reading challenges by providing access to a vast digital library of eBooks and audiobooks. This platform enables students to engage with diverse literary materials at their own pace, catering to different learning styles and preferences. The accessibility of Sora's resources helps bridge gaps in literacy instruction by providing tools for personalized learning and differentiated instruction (OverDrive Education, 2023) ^[20].

This study is particularly significant for senior secondary school students in Ebonyi State, as it addresses a critical gap in their academic development, low proficiency in reading comprehension. In a world increasingly driven by information and communication technologies, the ability to comprehend written texts is essential for academic success across all subjects. By introducing digital tool like Sora, students are exposed to diverse, engaging and interactive reading materials that enhance their comprehension skills, cultivate a reading culture, and foster independent learning. This empowers them to become better readers, thinkers, and lifelong learners, ultimately improving their performance in internal and external examinations, including WAEC and NECO.

For educators, this study highlights innovative instructional methods that align with modern pedagogical best practices. Teachers often face challenges such as limited resources and over-reliance on traditional teaching strategies. The integration of internet and digital reading platforms such as Sora offers a practical solution that complements existing classroom instruction, supports differentiated learning, and enables data-driven teaching. With professional training and access to such tools, teachers can more effectively guide students toward deeper comprehension using interactive texts, real-time feedback, and individualized support, thereby improving both teaching quality and student outcomes.

Finally, this study holds value for government agencies and educational policymakers, as it provides empirical support for investing in digital literacy initiatives. This study can inform state-level educational reforms and ICT integration policies targeted at improving literacy rates in secondary schools. It also underscores the importance of infrastructure development, teacher training, and the need for partnerships with edtech organizations. By adopting and scaling digital learning tools across the state, policymakers can help bridge the digital divide, reduce academic inequalities between urban and rural schools, and ensure that students in Ebonyi State are equipped for the demands of the 21st century knowledge economy.

Literacy

Literacy, traditionally defined as the ability to read and write, has evolved significantly in the digital age. The contemporary understanding of literacy encompasses a broader range of skills, including digital literacy, media literacy, and information literacy (Gee, 2020) ^[8]. This expansion is crucial in an era where the internet and digital platforms dominate communication and information dissemination. According to the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2022) ^[25], literacy is a foundational skill that empowers individuals to participate fully in the society. Literacy rates are often seen as indicators of a country's educational and economic development (World Bank, 2021) ^[26]. However, despite global progress, literacy challenges persist, particularly in low-income regions where access to quality education is limited (OECD, 2023) ^[18]. The shift towards digital literacy is also reshaping educational practices, necessitating the integration of technology in curriculum to prepare students for the demands of the 21st century economy (Koltay, 2021) ^[12].

Reading Comprehension

Reading comprehension, a critical component of literacy, is the ability to process text, understand its meaning, and integrate it with existing knowledge. The importance of reading comprehension extends beyond academic achievement; it is essential for lifelong learning and informed citizenship (Snow, 2020) ^[24]. Research has shown that effective reading comprehension is linked to a variety of cognitive processes, including vocabulary knowledge, inference-making, and critical thinking (Cain and Oakhill, 2019) ^[5]. Recent studies emphasized the impact of digital texts on reading comprehension, with mixed findings. While some studies suggest that digital reading may hinder comprehension due to distractions and lower retention rates (Delgado, Vargas, Ackerman & Salmeron 2020) ^[7]. McNamara and Allen. (2022) ^[13], argued that digital tools, when used effectively, can enhance comprehension through

interactive features and personalized learning experiences. The debate underscores the need for balanced approaches that combine traditional and digital reading practices in education.

Internet and Digital Technology Instruction

The integration of internet and digital technology instruction in education has transformed teaching and learning processes. Digital tools and online platforms provide opportunities for personalized learning, access to vast resources, and collaborative learning environments (Hodges, Moore, Locke, Trust, & Bond, 2020) ^[9]. The COVID-19 pandemic accelerated the adoption of digital instruction, highlighting both its benefits and challenges. While some educators and students have thrived in digital environments, others have faced significant barriers, including inadequate access to technology and internet connectivity (Schleicher, 2021) ^[22]. The effectiveness of digital instruction also depends on the quality of the tools used and the pedagogical strategies employed. For instance, adaptive learning technologies that tailor content to individual learning needs have shown promise in improving student outcomes (Yong & Gates, 2022) ^[27]. However, the digital divide remains a critical issue, particularly in developing regions, where disparities in access to technology can exacerbate educational inequalities (UNESCO, 2022) ^[25].

Senior Secondary Schools

Senior secondary education is a critical phase in the educational journey, preparing students for higher education and the workforce. In many countries, this stage involves a focus on specialized subjects, rigorous academic standards, and the development of critical thinking and problem-solving skills (OECD, 2022) ^[17]. The effectiveness of senior secondary education is often measured by student achievement, which is influenced by factors such as curriculum design, teacher quality, and school infrastructure (World Bank, 2021) ^[26]. Recent trends in senior secondary education include the integration of technology in the classroom, with an emphasis on digital literacy and the use of educational technology tools (UNESCO, 2023) ^[25]. Additionally, there is a growing recognition of the importance of socio-emotional learning, which is being incorporated into curriculum to support students' overall well-being and academic success (Jones, Bailey, Brush & Nelson, 2021) ^[11]. In many regions, reforms are underway to address the challenges of equity and access, ensuring that all students have the opportunity to succeed in senior secondary education (OECD, 2023) ^[18].

Sora

Sora is a digital reading platform developed by OverDrive, specifically designed for schools. It provides students with access to a wide range of eBooks and audiobooks, supporting both independent reading and classroom instruction (OverDrive, 2023) ^[21]. Sora's features, such as personalized recommendations, reading progress tracking, and integration with learning management system, make it a valuable tool for promoting literacy and reading engagement in schools (Miller & Kelley, 2020) ^[14]. Research on digital reading platforms like Sora suggests that they can enhance students' motivation to read by offering diverse and accessible content (Beach, 2021) ^[3]. Moreover, Sora's user-friendly interface

and mobile accessibility allow students to read anytime and anywhere, addressing some of the limitations of traditional print media (Clark & Teravainen-Goff, 2022) ^[6]. The platform also supports inclusive education by providing resources in multiple languages and formats, catering to diverse student needs (OverDrive, 2023) ^[21].

Practical Steps on How Sora Can Be Used. Setup:

- **Download and install:** ensure that the Sora app is downloaded and installed on student's devices. It is available on iOS, Android, and can also be accessed via a web browser.
- **Login:** students should login using their school credentials. The app is often integrated with school libraries, so students will need their school's unique setup or access code.

Library Access

- **Explore the library:** once logged in, students should browse the digital collection of eBooks and audiobooks. They can search for books by genre, author, or title.
- **Borrow Books:** students can borrow books directly from the app. If a book is not available, students can place a hold and will be notified when it becomes available.

Using Sora for Reading Comprehension

Select Appropriate Reading Material

- **Curriculum Alignment:** choose books and texts that align with the curriculum or reading goals. Sora offers a wide range of genres, including classic literature, contemporary novels and educational materials.
- **Reading Levels:** the teacher should ensure that the selected materials are appropriate for the students' reading levels. Sora often provides reading level information and summaries.

Utilize Interactive Features

- **Annotations and Highlights:** students can highlight text and make annotations directly in the eBooks. Encourage them to note important passages, unfamiliar vocabulary or questions.
- **Adjustable Text Settings:** the app allows users to adjust text size, font and background color to enhance readability. This feature helps cater to different reading preferences and needs.
- **Dictionary and Search Tools:** students can use the in-built dictionary and search features to look up unfamiliar words or find specific information within the text.

Encourage Active Reading

- **Reading Goals:** teacher should set specific reading goals and deadlines for students. This helps maintain motivation and provides a clear focus for their reading efforts.
- **Discussion Questions:** after reading, students can answer comprehension questions about the text. This can be facilitated through classroom activities or online discussion forums.
- **Book Reports and Projects:** assign book reports or projects based on the reading material. This encourages students to summarize and critically analyze what they have read.

Monitor progress

- **Reading Statistics:** use Sora's analytics and reporting tools to monitor students' reading progress, including the number of books read and reading time.
- **Feedback:** it provides regular feedback on their reading habits, comprehension skills, and progress towards reading goals.

Foster a Reading Culture

- **Reading challenges:** organize reading challenges or competitions to motivate students to read more and explore different genres.
- **Book Recommendations:** provide personalized book recommendations based on students' interests and previous reading history.
- **Parental involvement:** encourage parents to support their children's reading habits by discussing books and providing additional resources at home.

Assessment and Adaptation

Evaluate Impact

- **Assess Comprehension:** regularly assess students' comprehension through quizzes, discussions, and written assignments related to their reading.
- **Adjust strategies:** based on assessment results, adjust reading materials and strategies to better meet students' needs and improve their literacy skills.

Continuous Improvement

- **Professional Development:** educators should seek training on using Sora effectively and stay updated on new features and best practices.
- **Student Feedback:** collect feedback from students on their experience with Sora and make adjustments to improve engagement and effectiveness, (OverDrive, 2023)^[21].

Current State of Reading Comprehension in Ebonyi State

Recent research highlights significant gaps in reading comprehension among senior secondary students in Ebonyi State. Onuoha (2024)^[19], surveying 250 English teachers, found that vital metacognitive reading strategies such as prediction, note-taking, re-reading, and questioning are rarely employed in classrooms, despite their proven effectiveness. Compounding the issue, gender disparities persist: females consistently outperform males, with average comprehension scores of 68.34 versus 52.58 for males, as reported by Obeka, Nwigwe & Usulor (2023)^[16]. These findings reflect both instructional and affective shortcomings that undermine students' reading abilities.

Geographic inequities further deepen the literacy divide. A study examining school location in Ebonyi found a very high positive correlation ($r = 0.84$) between urban students' attitudes and their comprehension performance, compared to a moderate correlation in rural students. This suggests that students in rural areas face systemic disadvantages likely driven by limited access to qualified teachers, instructional materials, and digital resources. Students in those environments thus struggle to develop robust comprehension skills, perpetuating urban-rural achievement gaps.

Promisingly, pedagogical interventions demonstrate potential for positive impact. Cooperative learning strategies, for example, have been shown to significantly enhance

reading comprehension among SS1-SS3 students, with both genders benefiting equally. While these approaches signal a path forward, widespread adoption remains limited. Overall, the current landscape is one of untapped potential, students possess the ability to improve, but lack the strategies, resources, and equitable support required to do so.

Benefits of Digital Technology (Sora) for Reading Comprehension Instruction

The use of digital technology, particularly platforms like Sora, offers numerous benefits for enhancing reading comprehension instruction in senior secondary schools. As an intuitive and student-friendly reading app developed by OverDrive, Sora provides access to thousands of curriculum-aligned eBooks and audiobooks, ensuring that students have a wide variety of texts that suit their interests, reading levels, and academic needs. This variety is critical in fostering reading engagement, which is a strong predictor of comprehension achievement. According to Anikelechi (2024)^[2], access to digital reading platforms significantly increases students' motivation to read, leading to greater reading frequency and deeper comprehension outcomes.

One of Sora's core strengths lies in its multimodal learning environment. Students can listen to audiobooks, read along with synchronized text, and adjust reading settings such as font size, background color, and screen brightness. These features support personalized learning, especially for students with diverse learning styles or reading difficulties such as dyslexia. As noted by Ajara Akubo, Okonkwo & Hassan. (2024)^[1], students who used digital tools that integrate visual, auditory, and kinesthetic elements demonstrated improved comprehension and retention of information compared to those using traditional print materials.

Furthermore, Sora promotes metacognitive reading strategies such as highlighting, note-taking, looking up definitions, and tracking reading progress that help students actively engage with texts. These interactive features cultivate deeper understanding and encourage independent learning. Teachers can also monitor students' reading habits through Sora's analytics dashboard, enabling data-driven instruction and timely intervention. Onuoha (2023)^[19], emphasized that technology-enhanced reading, when guided by trained educators, leads to more meaningful comprehension experiences and long-term academic gains. Thus, Sora not only enhances access and engagement but also transforms reading instruction into an interactive, measurable, and personalized experience.

Discussion

The integration of digital technology, particularly through platforms like Sora, represents a transformative approach to revitalizing literacy and improving reading comprehension among senior secondary school students in Ebonyi State. The current state of reading comprehension in the state is characterized by low performance, insufficient access to quality reading materials, and limited use of evidence-based instructional strategies (Onuoha, 2023; Ngwoke *et al.*, 2022)^[19, 15]. These challenges are further exacerbated by inequalities between rural and urban schools, as well as gender disparities in achievement. In this context, Sora offers a digital solution that can bridge existing gaps by providing personalized, engaging, and accessible reading resources for students across diverse backgrounds.

The study has also shown that Sora's design aligns well with

modern pedagogical principles, such as differentiated instruction, multimodal learning, and real-time feedback. These features are critical for building comprehension skills, especially among learners who struggle with traditional text-based instruction. When combined with trained teachers and adequate infrastructure, digital reading platforms can shift instruction from passive consumption to active engagement. Moreover, the role of teachers is redefined, from content deliverers to facilitators and learning guides especially when supported by analytics and data insights generated through platforms like Sora (Ajara Akubo *et al.*, 2024)^[1].

However, the successful implementation of digital instruction in Ebonyi State depends on overcoming several systemic challenges. These include infrastructural deficits, teacher digital illiteracy, socioeconomic barriers, and low levels of stakeholder engagement. Addressing these issues requires a strategic and coordinated approach, involving government investment, teacher professional development, and stakeholder collaboration. By putting these systems in place, the full potential of digital technology in revitalizing literacy can be realized. Therefore, this study emphasizes that the future of reading instruction in Ebonyi State must embrace digital innovation, equity in access, and a commitment to continuous pedagogical improvement.

Recommendations

The following recommendations have been made based on this study.

1. Educators should teach students how to effectively use digital tools and resources, including Sora.
2. Educators should focus on this study because it offers training for professional development on how to integrate Sora into their teaching practices.
3. Capacity building for teachers is critical. Regular and intensive professional development workshops should be organized to train teachers on how to use Sora effectively in classroom instruction using this study.
4. The State Government and educational agencies must prioritize investment in digital infrastructure. This includes providing solar-powered ICT hubs, subsidizing internet access in schools, and supplying digital devices such as tablets or e-readers.
5. Collaboration among stakeholders, including parents, private sector partners, and NGOs should be encouraged to support the adoption and sustainability of digital instruction. For instance, partnerships with OverDrive (Sora's developer) could facilitate subsidized licenses or customized book collections aligned with the Nigerian curriculum. Schools should also promote community engagement and parental involvement to foster reading at home, and implement monitoring and evaluation systems to track student progress, identify challenges, and continuously improve implementation.

Conclusion

Revitalizing literacy, particularly reading comprehension, among senior secondary school students in Ebonyi State is both a pressing educational challenge and a powerful opportunity for transformation. Revitalizing literacy and enhancing reading comprehension in senior secondary schools through the use of Internet and digital technology instruction like Sora represents a promising approach to modernizing educational practices. By leveraging Sora's extensive digital library, interactive features, and

personalized reading experiences, educators can create a dynamic learning environment that engages students and fosters a love for reading. Integrating Sora into the curriculum not only provides access to a diverse range of texts but also supports varied learning styles through its multimedia and adaptive tools. With thoughtful implementation, including curated content, professional development, and strategic use of digital features, Sora can play a crucial role in enriching literacy education, addressing individual learning needs, and preparing students for academic and personal success in the digital age.

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