



**Nurturing reading cultures and  
literacies in post-pandemic  
ecosystems**

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## **Digital transformation to improve children's literacy in Africa: A scoping review**

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# Background and Introduction



Priscilla Sitienei, a 98-year-old primary school student in grade six, greets her schoolmate at the Leaders Vision Preparatory School in Ndalat village of Nandi County, Kenya, January 25, 2022. Picture taken January 25, 2022.  
REUTERS/Monica Mwangi

## **The UN recognizes literacy as a human right**



The First Grader Movie based on a true story. The film is inspired by the true story of 84 year old Oliver Litondo cast as Kimani Maruge, a Kenyan farmer who enrolled in elementary school at the age of 84

# Background and Introduction cont...



How do we bring literacy to the unreached and making reading materials accessible to children in rural areas where over 50 per cent of the children in these areas of Africa have never owned a book and some of them walk for more than 30km to reach the so called schools?

# Background and Introduction cont...

- Poor education systems and schools
  
- The advancements in technology have allowed digital transformation to reach the education sector and its members (Children).
  
- This transformation is linked to emerging technologies
  - the digitalization of processes and resources,
  - demand for users to upgrade to the latest technological updates.

# Problem

- While the global literacy rate stands at 90%, the average in Africa is about 70%. Literacy rates vary widely by country.
- 19% in Niger, 38% in Benin, Guinea 30%, South Sudan 32%, Mali 33%, Central African Republic 37% and for Somalia, 38%.
- Nine in ten children in Africa cannot read with comprehension by the age of 10.

# Purpose and objectives

- Role of digital transformation in improving children's literacy in Africa.
- The objectives of the study were to:
  - ✓ Determine the challenges faced in the adoption of digital technologies
  - ✓ Ascertain opportunities available in the adoption of digital technologies
  - ✓ Develop an integrated framework that would be adopted to improve literacy of African children

# Methodology

- The study employed a scoping review (SR) which is a subset of systematic literature review
- 80 articles were identified as key articles to draw discussions for the study
- Arksey and O'Malley (2005) proposed the usage of a five (5) stage framework
  - ✓ Stage 1: Identification of research objectives
  - ✓ Stage 2: Identification of relevant studies in literature
  - ✓ Stage 3: Selection of relevant publications
  - ✓ Stage 4: Data extraction and quality assessment
  - ✓ Stage 5: Summarising, revision, and reporting results

# Results

## ■ Challenges

- ✓ Lack of digital skills and hesitation to use technology
- ✓ Limited and unequal access to reliable internet and equipment
- ✓ Infrastructure
- ✓ Policies (insufficient governmental and institutional support)

## ■ Opportunities

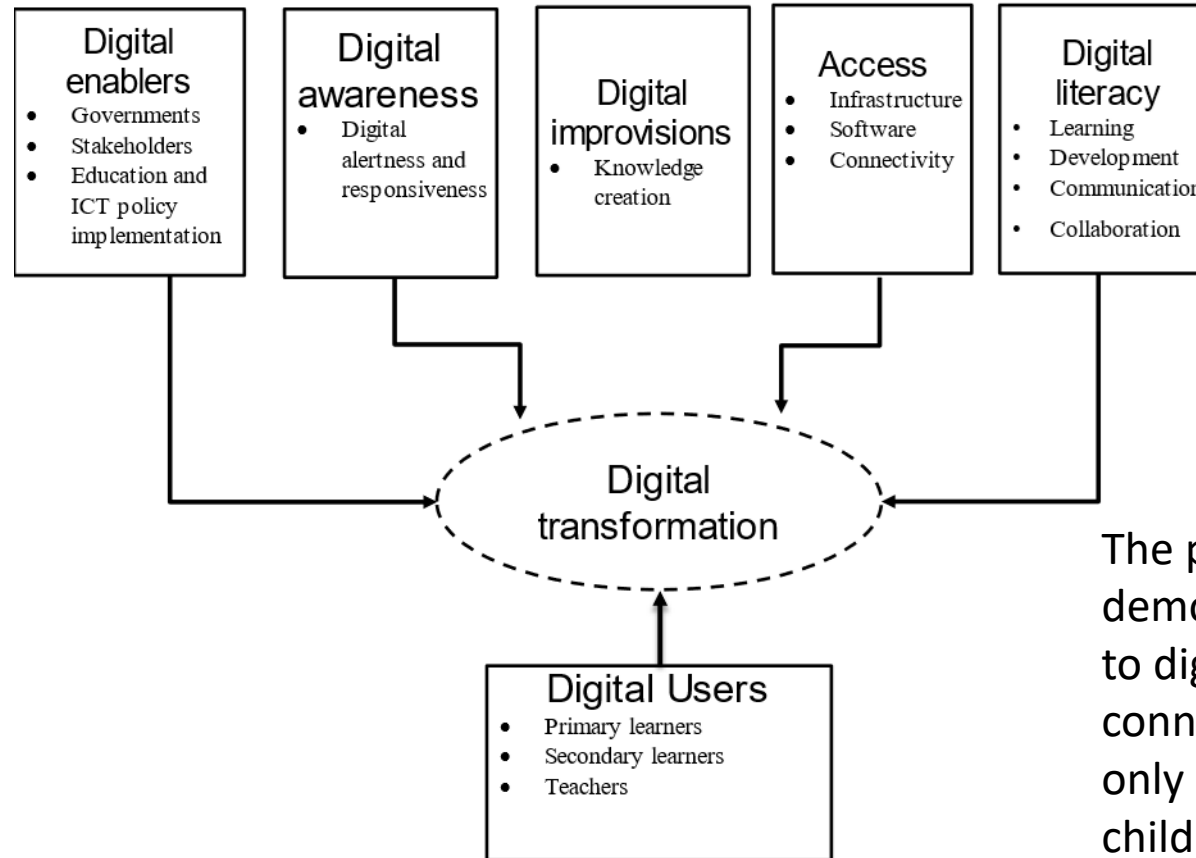
- ✓ Collaboration and engagement
- ✓ Improved enrolments



# Results cont...

Author and publication year	Focus country or region	Purpose of the study	Study design/method used	Key findings
Afeworki, Kenor, Makaye, Gitau & Wali, 2022	Kenya, 2022	Aim of the project was to empower the young learners with numeracy and literacy skills.	Case study- Dadaab refugee camp	<p>Limited access</p> <p>Lack of qualified teachers</p> <p>Collaboration of learners was improved through group work, increased concentration in class through the videos, and the innovation improved attendance rates of children this led to improved literacy outcomes.</p>
UNESCO, 2017	Sub-Saharan Africa	Investigates how technology helps develop literacy and numeracy in Sub-Saharan Africa	Survey	Teacher trainings, enrolment skyrockets

# Proposed framework



The proposed framework demonstrates how having access to digital technologies and connectivity in Africa can help not only in improving literacy of children and in building the resilience of education systems

# Conclusion and Recommendation

In this study scoping review was done to understand the role of digital transformation in improving literacy of African children. Various studies were analysed and the findings of the study suggest that the literacy sector in Africa faces a number of challenges in order to adapt to digital transformation.

These challenges include insufficient funding, infrastructure, and skills to prepare learners to participate in the digital transformation.

# Conclusion and Recommendations cont ....

- The study also revealed some opportunities that include the improved enrolment and accessibility through interactive and customizable resources.
- A proposed integrated framework for digital transformation and improving literacy was crafted. The framework is likely feasible and beneficial to most African countries
- African governments should invest in the development of infrastructure and human, technical, and financial capacity to develop the literacy system needed to participate in the digital transformation