International Journal of Education and Development using Information and Communication Technology (IJEDICT), 2025, Vol. 21, Issue 2 (**Part 3**), pp. 55-64

Enhancing Pupils' Reading Skills Through the Use of Artificial Intelligence (AI) Tools: A Survey of Primary Schools in Ondo East Local Government Area, Ondo State, Nigeria

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ABSTRACT

The study examined the use of AI tools in teaching reading skills in selected primary schools in Ondo East Local Government Area of Ondo State, Nigeria by employing a balloting system to select twenty-five primary schools out of the fifty primary schools in the area of study, and used all the teachers available in those schools as the sample which amounted to one hundred and forty-one persons. A mixed method approach was adopted to get qualitative and quantitative data with two instruments designed by the researcher; the first being a fifteen item "yes" or "no" structured questionnaire, and the second one was a four-item open-ended instrument. The study used simple percentages to analyse quantitative data and thematic analyses for qualitative data. The findings revealed that primary school teachers have a misconception about AI tools used in teaching reading skills, teachers have no training in the use of AI, AI tools and facilities are not available in schools. The study recommended that in-service training programmes be organised for teachers, AI tools should be provided in primary schools and that public awareness be created for parents on the importance of using AI tools in teaching reading skills.

Keywords: *reading skills; training; AI tools; schools, teaching*

INTRODUCTION

Attempts by man to get work done with relative ease necessitated the invention of several machines to shift from manual to mechanised activities. For example, levers, pulleys and inclined planes were machines invented to carry loads (Mang, et al, 2014). With these simple machines, man is able to carry and move heavy loads with less difficulties. The Industrial Revolution of the 19th Century was a major watershed in the attempts to relieve man of the burden associated with manual labour; this turning point, 1800 to 1830, transformed production from manual labour to mechanised productions (Boahen, 1966). Contributing to this development, Ross & Maynard (2021), analysed the industrial revolution in four phases:

- *The first phase of the industrial revolution,* which is the use of water and steam to power machines;
- *The second phase of the industrial revolution,* that is, the use of electricity to replace water and steam machines;
- *The third phase of the industrial revolution*, the use of computers to do manual work; and
- *The fourth phase of the industrial revolution* which is the application of technologies to get work done with less human effort, which, according to Chen (2024), is a welcome development and has permeated all areas of human endeavour because of its potentiality to produce tools for literacy, and its increasing rapid growth in the number of digital literary tools (Biancarosa, & Grifith, 2012).

STATEMENT OF THE PROBLEM

Teaching reading is crucial at the elementary level and this has always been a problem to teachers over the years that the adoption of various teaching techniques has not been able to ameliorate.

Instead, it persists and has left its attendant consequences, such as partial comprehension, comprehension breakdown, and failure in public examination. The advent of technology and the introduction of AI has saturated all areas of human endeavour, education/reading inclusive. AI tools promote interactive engagement and personalised instruction which eventually facilitates learning, but are challenged by technical-know-how, dearth of resources and power failure. All these prompted the researcher to carry out this study with a view to investigating the benefits and problems associated with the use of AI tools in teaching English reading skills.

The following questions were raised to guide this study:

- What are the AI tools used in teaching reading skills?
- How are AI tools used in teaching reading skills?
- What are the challenges confronting the use of AI tools when teaching reading skills?

These questions were formulated in line with the research objectives which were:

- To identify AI tools used in teaching reading skills.
- Examine how AI tools are used in teaching reading skill.
- To identify the challenges confronting the use of AI tools when teaching reading skills.

LITERATURE REVIEW

The fourth industrial revolution is called the era of Artificial Intelligence, AI, which was formulated by Mc Carthy in 1955 and ever since, it has become a household name (Brynjolfsson & McAfee, 2019). AI is the science of making machines perform functions that require man's intelligence which has witnessed tremendous growth and has been applied in all human endeavours, such as medicine, engineering and language translation, with outstanding performance, since its emergence (Toosi, et al. 2021). Using AI requires data literacy because AI uses existing imputed data to answer set questions and that is the reason it is referred to as a smart technology that saves time, energy and creates jobs that only mathematically inclined people can work with (Martinho-Truswell, 2019; Zlang & Lu, 2021). It is pertinent at this juncture to demarcate between AI tools and instructional materials. Though, the two are used to enhance learning, AI tools are sensible machines that use algorithms to attend to the learning needs of learners (Zhai, et al, 2021), while instructional materials are print and non-print resources that enable learners to learn the content of a subject (Cruickshank, et al. 2009). This implies that AI tools are dynamic, behave like human and use data while instructional materials are static and can only be manipulated to suit desired teaching and learning purposes.

Advancement in the field of technology has made the use of digital tools an indispensable part of education occasioned by its numerous advantages, such as, flexibility, accessibility, individualised instruction and prompt feedback (Chen, 2024). This includes reading, upon which all formal educational activities are built, considering its place in the educational upbringing of a child. Reading is getting meanings from the written texts and mastering all the skills is germane to success in reading, and it is the responsibility of all stakeholders (Adepoju, 2018; Nadian & Afifi, 2023). To make reading effective, abundant reading materials are used for different types of reading depending on the type, be it, intensive or extensive, the readers want to embark on. These materials include fiction such as plays, poems and novels and non-fiction which include biographies, newspapers, magazines and autobiographies (Adepoju, 2018). The advent of technology has digitalised reading (Audrin, & Audrin, 2022). Therefore, the use of digitalised tools is required to make reading enjoyable and since the purpose of reading is comprehension, it is imperative for teachers to develop reading skills in pupils with the use of technology in order to make it effective. These skills include scanning which is the ability to locate specific information in the text for the purpose of comprehension, as against skimming, that is, a technique employed to have a general overview of a text for familiarisation (Adediran & Akinwande, 2014).

Ezeokoli, (1998), Olugbeko, (2004), Adepoju, (2018); Adepoju, et. al. (2024), succinctly discussed crucial reading skills that are essential to success in reading. These are:

- Word recognition. This is the ability to identify and relate the sounded words with their meaning.
- Getting the main ideas to enable the readers to have key information from the content of the text.
- Phonic Approach: matching the associated sound with each alphabet.
- Botton Up Approach: analytical strategies which entails re-reading and recall.
- Questioning, which requires the use of inquisitive sentences as pre-reading activities.
- Vocabulary building which involves learning, retaining and understanding new words.

Adding to the above, phonemic awareness, the recognition sounds in a word and phonological awareness, which is the sound structure of a language such as phonemes, syllable and words, are the essentials of reading skills (USAID, 2018) which should be learnt under the auspices of qualified teachers (NERDC, 2013; Adepoju, 2018).

Benefits of AI

One important aspect of AI is *Machine Learning* which improves on performance without human imput and has achieved tremendous progress in all human endeavours, particularly, in fraud detection and diagnoses of ailments, but detested for its ability to drive employees out of a job (Davenport, 2019; Brynjolfsson & McAfee, 2019). The inability of the Machine Translation to translate Russian to English during the Cold War angered the US government into writing an unfavourable report about AI which eventually led to withdrawal of funds which gave AI a setback, r (Jiang, et. al, 2022). However, according to the scholars, AI later gained prominence because of its ability to perform complex tasks, its success, abundant data at its disposal and its ability to outperform humans in job delivery.

Real/biological intelligence (creativity, genuine thinking, emotions, feelings, etc) resides in man because man is capable of solving a wide range of problems in different situations using reasoning and valid conclusions and no matter how intelligent AI, is it remains an unconscious and less intelligent machine that supports human activities (Korteling, et. al 2021). On the composition of AI, Zlang & Lu (2021), held that AI is an assembly of different disciplines, such as logic, psychology and computer science that probes into how computers do intellectual activities that were previously done by man. In learning, when AI is used in individualised instruction, learners are able to imbibe the desired education, irrespective of their differences (Dewa, 2024).

AI and Reading Skills

In language teaching, AI is used in the in the area of Computer Assisted Language Learning (CALL) and many useful applications have been developed by Microsoft to assist in language learning. For example, *Siri* was developed to communicate in English, most especially in second language learning, *Google Now* is an application that carries out instructions while *Cortana* is designed for calls, sending messages and taking notes (Ali, 2020). The use of AI in language teaching takes the following forms as reported by Edmett, et al. (2024):

- *Nueral machines* improved vocabulary acquisition, translation, speech recognition and converting speech to writing;
- *Grammarly* when used reduces grammatical errors and yields better results;
- *Machine translation* helped learners to write excellent compositions;
- *Gamming allowed* learners to learn more vocabulary than conventional textbooks/classroom;

- The visual representation of pitch as a *spectrogram* improved intonation pattern of learners;
- *Alexa* as a speaking partner or coach, it improves speaking and makes learning more enjoyable; and
- *AI pronunciation model* assisted learners in Turkey to have good retention of vocabulary and improvement in learning consonant and vowel phonemes.

Chen (2024), noted that Microsoft Copilot and Chat GPT are very effective in vocabulary building, pre-reading activities, identifying main ideas, summary writing and generating questions and are also efficient in personalised instruction, critical thinking, active learning and also support teaching and learning. I addition, as noted by Emis, et al. (2024), two AI tools, Gemini and Microsoft Copilot produced more intelligible answers than other tools when used to elicit responses.

Shortcomings of AI

As good as AI is in teaching reading, it is not without its attendant challenges. These include technology breakdown, abnormality, poor network, technical know-how and homogenising language and ideology (Edmett, et.al, 2024). In a similar vein, Goto & Toit (2025); Yakobi et al. (2025), remarked the use of technology (Hybrid and e-learning) in teaching is marred in developing countries, such as Nigeria and South Africa, by poor connectivity, technical fault, incompetence and irregular power supply. In addition, Dewa (2024), stated that AI is capable of empowering South African students but is bedevilled by a dearth of resources.

THEORETICAL FRAMEWORK

Multimodal Learning is the theoretical framework that guided thiswith focus on the presentation of learning content through different modes, such as, audio, visual, gesture, haptic and text and processing the information constructively through the learner's chosen mode (Bouchey, et al., 2021). Since AI is a conglomeration of the aforesaid modes, hence, its suitability for this study.

The study was carried out in Ondo East Local Government of Ondo State, Nigeria, one of the eighteen local government areas of Ondo State, which includes the Oboto, Ureje, Igbo-Oja, and Lagbowo villages (Lawal & Okeowo, 2014). The area under study has a total number of fifty public primary schools, aside from private primary schools.

METHODOLOGY

The study of Ondo East Local Government Area utilised a survey approach, largely because the findings from the survey can be generalised. The population of the study was made up of primary school teachers in the location. The study adopted the balloting system to choose twenty-five primary schools and used all the teachers in the selected schools, at the time of visit, as the sample. A total of one hundred and forty-one teachers comprised the sample out of the two hundred and thirty-two primary teachers in the study area. A mixed method approach was adopted with two research instruments developed; the first being a fifteen item yes/no questionnaire and the second one a four item open ended questionnaire to give room for diverse opinions or responses. The instruments were administered personally on the respondents in five schools, while research assistants, who are teachers in the selected schools, administered the instruments in the remaining twenty schools. The structured questionnaire was given to two test experts to ensure its face validity and construct validity while the credibility of the qualitative data was established with the use of thick and *rich description (thorough reporting)*, *confirmability (objective reporting)* and *anonymity (the use of pseudo-names),* hence, codes HM1-10 were used to label the ten head teachers that responded to the open-ended questions. For the open-ended questions, only ten of the most senior head teachers were purposively selected because of the volume of the data. Simple percentages were used to analyse quantitative data while qualitative data were analysed using thematic analysis with verbatim quotations to support points.

RESULTS

Table 1: *Demographic Information About the Respondents*

S/N	Item	Number	%
1	NCE	13	9%
2	Degrees	128	91%
3	Teaching Experience	1-10yrs= 09 Above 10yrs=132	6% 94%

Table 1 profiles the respondents' academic qualifications and teaching experiences and as indicated, all of them possess at least the minimum teaching qualification, the Nigeria Certificate in Education (NCE), while 91% of them attained degrees. In addition, 94% of the sample have over ten years of teaching experience while 6% have less than ten years teaching experience.

Table 2: *Benefits and Awareness About the Use of AI tools in Teaching Reading Skills*

S/N	Item	Yes	%	No	%
1	Do you know about the use of AI tools in teaching reading skills?	134	95	07	05
2	Are parents aware of the use of AI tools?	45	32	96	68
3	Can AI tools enhance pupils reading skills, such as vocabulary building?	121	86	20	14
4	Can AI tools identify reading difficulties?	106	75	35	25
5	Can AI make pupils have equal learning opportunities?	101	72	25	18

The participant responses show that teachers are aware of the use of AI tools in teaching reading skills, as indicated in the 95% positive responses to item 1, while parents are not aware, with 68% negative responses to item 2. The percentages of positive responses to items 3, 4 and 5, that is 86%, 75% and 72% respectively, indicate that AI tools can improve pupils reading skills, identify reading glitches and give equal opportunities to pupils when learning reading.

As outlined in Table 3 below, pupils neither have AI tools, (70% negative responses), nor the schools have AI tools (76% negative responses). In addition, schools do not have infrastructural facilities to support AI tools (negative responses 60% on item 3). Also, AI tools are neither restricted to few privileged nor affordable by all (positive response 55% to item 4 and 55% negative response to item 5 respectively) illustrates.

Table 3: *Availability of AI tools for Teaching Reading Skills*

S/N	Item	Yes	%	No	%
1	Do pupils have facilities with AI tools?	43	30	98	70
2	Are AI tools available in your school?	34	24	107	76
3	Does your school have structures to support the use of AI tools?	56	40	85	60
4	Are AI tools not restricted to few privileged pupils?	78	55	63	45
5	Are AI tools pocket friendly?	64	45	77	55

Table 4: *Challenges of AI tools in Teaching Reading Skills*

S/N	Item	Yes	%	No	%
1	Can AI tools discriminate among pupils of different background?	59	42	82	58
2	Have you undergone any training in the use of AI tools?	72	51	69	49
3	Can the use of AI tools make teachers lose their jobs?	54	38	87	62
4	Can AI tools provide emotional supports?	60	43	81	57
5	Can your school afford regular maintenance of AI tools/facilities?	52	37	89	63

As indicated in Table 4 above, there are many militating factors against the use of AI tools in teaching reading. 58% negative responses to item 1 reveals its inability to treat pupils of different upbringing in different ways and 51% positive responses to item 2 indicates that teachers are trained in the use of AI tools. AI tools cannot drive teachers out of employment (62% negative response to item 3), AI tools do not provide emotional support for learners (57% negative responses to item 4) and the school cannot maintain AI tools and facilities as revealed by 63% negative responses to item 5.

Responses to the four open-ended questions are hereby themed as follows:

Misconstructions of Artificial Intelligence Tools

The respondents know about artificial intelligence at the superficial level in the sense that they are able to define and describe it in their responses. HM2, responded that,

> *'Ai means Artificial intelligence. It can be applied to identify and solve complex problems. It can also be used to draw conclusion and make inferences based on available information.'*

However, this respondent failed to mention appropriate AI tools as AI tools were misunderstood as instructional materials such as '*flash cards, charts, textbooks, catalogs and recorded tapes.'*

Similarly, HM7 mentioned *'recorded tapes, recorded video, quiz, laptop…'* as AI tools used in the classroom. These are misconceptions and are similar to the hybrid and e-learning facilities mentioned by Goto & Toit (2025) and Yakobi. et al. (2025).

Dearth of AI Tools

The head teachers' responses revealed that schools lack AI tools and the supporting infrastructural facilities to enhance reading skills among primary school pupils. The response of the participants to the question '*Mention some AI tools used in the classroom when teaching reading',* are testaments to this claim. Responses included '*Nil*' and '*keypad of phones.'* These are clear indications that the teachers neither use AI tools nor have them. This is similar to the views of Martinho-Truswell, (2019) and Zlang & Lu, (2021), that only those who are adept mathematically work with AI tools.

Limitations of AI Tools

Applications of AI tools in teaching reading skills are constrained by some hinderances which include erratic power supply, data limitation, manipulations and poor connectivity which are in line with Edmett, et al. (2024). HM2 when responding to the question which read, *'what are the challenges associated with the use of AI tools in teaching reading skills?*' responded that

> '*AI systems can be manipulated …exploited by criminals for malicious purposes like cloning*.' while HM1 listed, '*language barrier, power supply and data issue'*

The respondent indicated the above as militating factors. Where these constraints thrive, using AI tools to teach reading skills will be greatly challenged and learning retarded among learners.

DISCUSSION

Application of AI tools are very useful in teaching reading skills according to the findings of this paper considering the percentage of positive responses to items 3, 4 and 5 shown in Table 2. Though, the table shows that teachers have the knowledge of AI, it also shows that they misunderstood AI tools for instructional materials, such as flash cards and charts. This is contradictory and a poor knowledge of the use of AI in teaching reading skills. On the part of the parents, the findings show a total unfamiliarity with AI tools and teaching reading skills is the responsibility of all (Adepoju, 2018). Though, teachers are aware of the use of AI, parents are not. This implies that there will be a disconnect between the school and the home, which is not ideal in the reading upbringing of the child.

As a rider to the above, the findings confirmed that neither the school nor the learners/pupils have facilities with AI tools and infrastructural facilities to support the use of AI tools. In addition, AI tools are only available to few and it is not affordable. Unfortunately, teachers who are supposed to use AI tools to facilitate teaching of reading skills have not received any training. These will definitely hinder learning of reading skills and understanding of reading materials. The responses to open ended question 3 above are testament to the precarious situation associated with the use of AI tools in teaching reading skills. The findings of Dewa (2024) and Edmett, et.al, (2024), that the use of AI tools is bedevilled by the with lack of resources and poor knowledge are confirmations of these findings.

The findings further revealed that AI tools can neither discriminate among pupils, nor provide emotional support in the classroom, being unconscious tools that give support to man as established by Korteling, et al. (2021). This is a challenge because these two factors are very crucial in the learning process. If a child with some difficulties is left unattended to, the problem will be further aggravated and this underscores the importance of teachers in the classroom as revealed

by the finding that AI cannot displace teachers, contrary to the view of Davenport (2019) and Brynjolfsson & McAfee (2019).

Like other developing countries, AI according to this study is confronted by numerous militating factors, namely, erratic power supply, fraud, connectivity and cost of purchase of AI tools which is in tandem with the position of Edmett, et al. (2024). All the aforementioned will militate against the use of AI tools in the reading classroom when reading skills are being taught. The fact that AI tools can be used for manipulations, which might result in fraud, calls for a great caution and might make users, teachers and learners inclusive, sceptical about their usability and authenticity.

The profiles of the respondents as shown in Table 1 are good indications of sound academic qualifications and teaching experience suitable for teaching at the primary school level (NEDRC, 2013; Adepoju, 2018). The sample are well equipped with the required teaching qualifications and vast teaching experience, with 91% of them possessing degrees and 94% of them having over ten years post qualification teaching experience. With these qualities, they are invaluable assets to the teaching profession. However, lack of training in the use of AI tools for teachers, lack of parental awareness, lack of AI tools and facilities by pupils and schools respectively, a dearth of resources and so forth are constraints against the use of AI in teaching reading skills in primary schools.

CONCLUSION

From the study it is established that AI tools improve reading skills but the dearth of resources, lack of public awareness, technical hitches and teachers' incompetence in the use of AI tools, despite their vast teaching experiences, are drawbacks affecting the use of AI tools in the reading skills in the classroom.

RECOMMENDATIONS

The study therefore recommends as follows based on above findings:

- Teachers should undergo in-service training programmes to be skillful in the use of AI tools;
- Schools should be equipped with AI tools and facilities for accessibility by teachers and learners;
- Annual budgetary allocations should be made to procure AI tools;
- Public awareness should be made to enable parents knowledge about the importance of the use of AI tools; and
- The use of teachers and AI tools should be complimentary so that teachers can provide emotional support where necessary.

REFERENCES

Adediran, J. K. & Akinwande, B. I. (2014). General English I. In Y. M. Ogunsiji, F. O. Balogun & J. K. Adediran, *General Studies in Education*. College Book Project.

Adepoju, A. A. Linake, M. A. & Nisak, W. K. (2024). Fostering children's learning through effective communicative strategies in English reading comprehension: Insight from primary schools in Mubi North, Adamawa State, Nigeria. *Martabat: Jurnal Perempuan dan Anak, vol.* 8, no. 2, pp. 123-138. https://doi.org/10.21274/martabat.2024.8.2.123-138

Adepoju, A.A. (2018). Active learning strategies used by teachers during English reading comprehension lessons in six selected primary schools in Nigeria. *Unpublished Ph.D Thesis,* University of Fort Hare.

Ali, Z. (2020). Artificial intelligence (AI): A review of its uses in teaching and learning. IOP Conference Series: *Materials Science Engineering*. 769 012043

Audrin, C. & Audrin, B. (2022). Key factors in digital literacy in learning and education: A systematic literature review using text mining. *Education and Information Technologies* vol. 27, pp. 7395–7419. https://doi.org/10.1007/s10639-021-10832-5

Biancarosa, G. & Grifith, G. G. (2012). Technology tools to support reading in the digital age. *The Future of Children,* vol. 2 no. 2, pp. 139-160. www.futureofchildren.org

Boahen, A. A. (1966). *Topics in West African History*. Longman Group.

Bouchey, B., Castek, J. & Thyyeson, J. (2021). Multimodal learning. In J. Ryoo & K. Winkelmann, Innovative learning environments in STEM Higher Education. Opportunities and challenges, and looking forward. https://www.springer.com/series/8921

Brynjolfsson, E & McAfee, A. (2019). The business of artificial intelligence. In T. H. Davenport, *Artificial intelligence*. Massachusetts: Harvard Business Review Press.

Chen, W. Y. (2024). Intelligent Tutor: Leveraging ChatGPT and Microsoft Copilot Studio to Deliver a Generative AI Student Support and Feedback System within Teams. arXiv:2405. 13024v1

Cruickshank, D. R., Jenkins, D. B. & Metcalf, K. F. (2009). *The act of teaching: fifth edition*. MacGraw-Hill Companies.

Davenport, T. H. (2019). The state of AI in business. In T. H. Davenport, *Artificial intelligence*. Massachusetts: Harvard Business Review Press.

Dewa, A. (2024). Artificial intelligence for educational sustainability in South African school system: A bibliometric analysis and literature review. *International Journal of Education and Development Using Information Communication Technology (IJEDICT).* vol .20 no.3, pp. 60-78. https://hdl.net/10539/43661

Edmett, A., Chaporia, N., Cromton, H. & Crichton, R. (2024). Standardising languages and ideologies. Artificial intelligence and English language teaching: Preparing for the future. *Journal of China Computer-Assisted Language Learning*, vol. 5, no. 1, , pp. 156-161.DOI: 10.1515/jccall-2023-0032

Emis, S., Ozal, E., Karapapak, M., Kumantas, E. & Ozal, S. A. (2024). Assessing the responses of large models (Chart GPT-4, Claude 3, Gemini and Microsoft Copilot) to frequently asked questions in retinopathy of prematurity: A study of readability and appropriateness. *Journal of Pediatric Ophthalmology & Strabismus*, vol. 62, no. 2, pp. 84–95 *https://doi.org/10.3928/01913913-20240911-05*

Ezeokoli, F. O. (1998). *A practical guide to effective study*. Ibadan: Stirling-Holden Publishers (Nig.) Limited.

Goto, J & Toit, E. D. (2025). University students' acceptance of hybrid learning in a south African university. *International Journal of Education and Development Using Information Communication Technology (IJEDICT),* vol. 21, no. 1, pp. 16-39 https://www.researchgate.net/publication/391391985

Jiang, Y., Li, X., Luo, H., Yin, S. & Kaynak, O. (2022). Quo Vadis artificial intelligence? Discover Artificial Intelligence. https://doi.org/10.1007/s44163-022-00022-8

Korteling, J. E., Blankendaal, R. A. M., van de Boer-Visschedijk, G. C. Boonekamp, R. C. & Eikelboom, A. R. (2021). Human- versus artificial intelligence. *Frontiers in artificial intelligence,* vol 4, pp. 622-364. doi: 10.3389/frai.2021.622364.

Lawal, A. S. & Okeowo, T. A. (2014). Effects of rural urban migration on labour supply in cocoa production in Ondo East Local Government Area of Ondo State. *International Letters of Natural Sciences*, vol. 18, pp.1-11. doi:10.18052/www.scipress.com/ilns.18.1

Mang, L., Anjorin, T., Okolo, O., Mutiu, B., Koki, F., Gbagi, L & Yara, P. (2014). *Active Basic and Technology for Primary Schools, UBE Edition*. University Press.

Martinho-Truswell, E. (2019). Three questions about AI that nontechnical employees should be able to answer. In T. H. Davenport, *Artificial intelligence*. Massachusetts: Harvard Business Review Press.

Nadian, R. & Afifi, N. (2023). Teachers' strategies in teaching reading skills during offline learning in post Covid-19 pandemic period. *Indonesian Review of English Education, Linguistics and Literature, vol.1 no.1, pp.1-11.* https://doi.org/10.30762/ireell.v1i1.1095

NERDC, Federal Republic of Nigeria (2013). *National Policy on Education (NPE).* Lagos:

Olugbeko, S. O. (2004). *Language and communicative skills II*. Ruvic Communications Limited.

Ross, P. and Maynard, K. (2021). Towards a 4th Industrial Revolution. *Intelligent Building International*, vol. 13, no. 3, pp. 159-161.Taylor and Francis.

Toosi, A., Bottino, A. G., Saboury, B., Seigel, E. & Rahmin, A. (2021). A brief history of A.I.: How to prevent another winter (A critical review). *PET Clinics, vol. 16, no. 4*, pp. 449-469. DOI:https://doi.org/10.1016/j.cpet.2021.07.001

USAID (2018). Introduction to teaching reading in primary 1-3: student teacher resource book 2018 edition.

Yakobi, K., Yakobi, S., Kaisara, G. & Atiku, S. O. (2025). Challenges and Opportunities of e-learning in emerging university in south Africa. *International Journal of Education and Development Using Information Communication Technology,* vol. 21, no. 1, pp. 1-15.

Zlang, C. & Lu, Y. (2021). Study on artificial intelligence: The state of the art and future prospects. *Journal Industrial Information Integration*, vol. 3. Elsevier. https://doi.org/10.1016/j.jii.2021.100224

Zhai, X., Chu, X., Chai, C. S., Yung, M. S. Istemic, H., Spector, M., Liu, J., Yuan, J. & Li, Y. (2021). A review of artificial intelligence (AI) in education from 2010 to 2020. *Complexity*, vol. 1, pp. 1-8. https:// doi.org/10.1155/2021/8812542