FOSTERING IMAGINATION IN EARLY YEARS LEARNERS: INTEGRATING AI WITH WORDLESS PICTURE BOOKS AND STORYTELLING

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Abstract
Developing the imagination of early years learners is paramount to an all-round development that fosters a life-long learning process. Imagination is the framework on which a child's thoughts, mind and perspectives are shaped for effective learning and achievement of set goals. Due to the advent of technology and most importantly, Artificial Intelligence (AI), it has become expedient to incorporate Artificial Intelligence in early years' learning process in order to help them develop their imaginative thought processes using AI wordless picture books and storytelling. In terms of methodology, the data were collected using existing literatures on the subject matter and personal experiences of the researchers. The paper highlights how Artificial Intelligence (AI) wordless picture books and storytelling can be used to foster the imagination of early years learners. The paper reveals that since children often learn by what they see, using AI tools will give varying resources on wordless picture books and storytelling to shape the imagination of early years learners. The paper recommended above all that teachers of early years learners should be properly trained on how to apply AI wordless picture books and storytelling in the learning process; curriculum planners should incorporate AI-enabled tools while planning early years learners' curriculum, and early years learners should be taught on how to use AI tools and monitored by teachers and parents when accessing these AI tools to avoid distractions or revealing private details and access to unwanted materials.

Keywords: Fostering Imagination, Early Years Learners, Artificial Intelligence, Wordless Picture Books, Storytelling, AI Integration

Introduction

Humans are created to be creative, and this creativity is housed in their imaginative thought processes even as tender as they might seem to be. Imagination is a key factor that improves the ability of children to think outside what the teacher has taught because when it has been developed using different means like plays, wordless pictures and storytelling, learners learn critical thinking skills, build expressive and receptive language, increase social skills and learn how to control their emotions. Harris (2021) asserted that encouraging children to dream, imagine, and explore is essential for their development, preparing them to face the world with a rich blend of creativity and understanding. The author added that imagination is recognised as a critical cognitive process, integral to the development of social cognition in both infancy and childhood. It is the mental space where one can explore ideas and consider various possibilities which help in developing creative solutions and innovative thoughts. This brings to the fact that the early stages of development of a child includes several hours of creative imaginations as they are eagerly learning about their environment and the appropriate tools should be utilised in order to ensure that their imaginative

thought processes are built to foster problem-solving, decision making, critical thinking, emotional and social skills.

Recent development in technological advancement all over the world has made it expedient for technological tools such as AI-enabled tools to be used in fostering the imagination of children towards developing life-long skills.As we navigate through the digital era, the intersection of Artificial Intelligence and creativity presents a unique opportunity to enrich the educational experience of children. AI tools play vital roles in supporting and enhancing imagination in early years learners in various ways. This ranges from fostering creative interactive stories that allow children to engage with narratives in new ways, generation of wordless pictures that help children to identify concepts and construct meaningful sentences or stories through what they see and observe. It has become essential to ensure AI is integrated in early years learners' content in order to balance outdoor interactions. AI Create (2024) opined that the integration of AI into art (creative imaginations) activities can profoundly influence a child's approach to creativity as AI-generated art acts as a boundless source of inspiration that encourages children to envision and create works beyond their imagination. Agbai (2024) stated that as we embrace Artificial Intelligence in early childhood education (early years learning), we are not just preparing them for school, we are preparing them for life, teaching them how to adapt, become problem-solvers and critical thinkers. Furthermore, the author added that applying AI in fostering early years learners' learning involves harnessing technology in order to help these learners navigate the complex challenges of the future. Therefore, the need to emphasize on the use of AI wordless picture and storytelling becomes paramount in fostering imagination in early years learners owing to recent developments in the technological space.

Theoretical Framework

The study is anchored on Creative Imagination Theory whose proponent is Lev Vygotsky (1896– 1934) (Sibakova, 2023). Vygotsky believed that creativity is something that exists in all people, including very young children and that imagination is considered to be an integral part of creativity through its ability to support the production of new combinations of pre-constructed things. He also believed that creativity arises from any human activity that produces something new and as such, creative processes are deeply interconnected to both lived and imagined experiences; the richer the experience, the more likely the vent is to fuel creative acts. Vygotsky went further to stress that imagination does not develop all at once, but very slowly and gradually; it evolves from elementary and simpler forms into more complex ones.

Imagination is an integral part of a child's development process, hence, it should not be undermined as the future of children are shaped by their ability to develop their creative imagination processes which will make them life-long learners and critical thinkers. It is upon this theoretical framework that this paper discusses the importance of integrating AI-enabled wordless pictures and storytelling tools in developing early years learners' imagination.

Imagination in Early Years Learners

Imagination in early years learners is a vital aspect of their cognitive, social, and emotional development. It enables

children to explore, create, and make sense of their world. Imagination is the act or power of forming a mental image of something not present and especially of something one has not known or experienced (Merriam-Webster, 2024). Early years learners are children from the ages of 3 to 5 years of age. In this stage, children learn through plays, pictures, storytelling, dramatization among others.Cambridgeshire (2024) identified that in early years learners' foundation stage, seven areas of learning and development are considered which are: communication and language, physical development, personal, social and emotional development, literacy, mathematics, understanding the world, and expressive arts and designs. In addition, the writers said that early years learners learn by playing, exploring, being active and creative, and through critical thinking, which takes place both indoors and outside.Some key features of imagination in early years include:

1. Symbolic thinking: This involves using objects or actions to represent other things.
2. Role-playing: It involves acting out roles and scenarios
3. Creative play: Generating new ideas and scenarios during play.
4. Storytelling: Creating and sharing stories
5. Problem-solving: Using imagination to find solutions.

Encouraging imagination in early years learners can be supported through play-based learning, open-ended questions, provocations, art and creative activities, storytelling, drama and pictorial creations and displays. By fostering imagination, we can help young learners develop essential skills for life-long learning and creativity. Amie-Jo (2022) is of the opinion that nourishing imagination in early years empowers kids to become confident learners. With classroom control loosened, kids' imaginations start to crack open. The early stages of development of a child includes several hours of creative imaginations as they are eagerly learning about the environment. These days, children are beginning to explore their creative side and many children are doing well with their talents.

Some of the benefits of encouraging early years leaners to explore their imagination include the ability to develop critical thinking skills which will help them to be in control of their environment and they begin to see things differently and question things they do not understand. This goes a long way to helping them understand their phobias, capacities, interests and hobbies. Also, it builds the ability to become problem-solvers as children make efforts to choose the friends they play with, fix spoilt toys and think of ways of solving problems together as teammates. Furthermore, fostering imagination in early years learners encourages decision making skills and social skills which build their interaction with others thereby promoting the spirit of cooperation amongst them. Imagination offers endless possibilities for early years learners' development, expanding their knowledge and understanding of the world, enhancing self-confidence, intellectual growth, and language skills. To cap it all, imagination begins at a young age and evolves with children, shaping their thought processes, thereby sparking off curiosity, creative thinking, ideas generation and development their own unique perspectives.

Artificial Intelligence for Early Years Learners

Artificial Intelligence (AI) is rapidly changing the way we work, play and communicate. While AI has potentials to help solve complex problems, serious concerns have been raised about it, especially, the way it might change the lives of children and teens (Munzer,

2024).Despite the raised concerns, one cannot undermine the fact that AI has potential positive impacts towards the learning experiences of children and accompanying to make learning interesting, fun and attractive. Artificial Intelligence involves using computers or machines to do things that traditionally require human intelligence. Pattam (2021) defined AI as the science of making machines that can think like humans. The author added that the goal of AI is to enable children to do things such as recognising patterns, make decisions, and judge like humans.

YoungWonks (2024) asserted that Artificial Intelligence and Machine Learning have revolutionized numerous industries, and now, they are making their way into the world of early education. The authors added that with the emergence of AI-powered apps, Chatbots, and learning programmes, children, especially beginners and those in middle school and high school, are being introduced to the fundamentals of computer science and AI at a young age. These hands-on, interactive tools allow kids to explore the world of AI through real-world examples, problem-solving challenges, and creative projects. AI for kids is unlocking their creativity and critical thinking skills. When it comes to introducing AI to early years, it is important to provide age-appropriate learning tolls that are both engaging and educational.

For children, there are interactive AI toys and games that can foster their curiosity and ability to imagine and create things. There are AI-powered robots that can teach children how to code or engage in interactive storytelling. These tools not only make learning fun, but also help early years learners develop problem-solving skills from an early age. Examples of age-appropriate AI-enabled tools for early years include: ABCmouse and Duolingo Kids which use AI to provide personalized learning experiences. These applications adapt to the child's skill level and offer interactive activities that promote literacy, numeracy, and language development. Others include; Tynker or Swift Playgrounds, MagicSchool.ai Shop, Quizlet, Thinkster Math, Squirrel AI, eSpark, CodeKidz, Gizmo, Learnt.ai, Selfarama Books, IMAGINaiTION, Fabula for Kids, CandideAI, KidGeni, TinyTap AI, Tell Me A Story, LessonTime.AI, Dodoboo, CreateBookAI, and StoryPanda.ai to mention but a few. These tools, when properly utilised, can go a long way to making learners more creative in their learning journey as the importance of Artificial Intelligence in fostering imagination in early years have been emphasised.

Wordless Picture Books and Storytelling

Learning becomes solidified or effective when appropriate learning materials are used by the teacher to foster comprehension in a given lesson. This proves that teaching aids are integral when dealing with early years as they are attracted or become active with what they see, hear and touch. To also regain or sustain the attention of learners, learning aids like pictures, toys, or certain learning methods like storytelling, and plays become paramount. Koch (2023) opined that it takes effort to keep learners engaged in the learning process and that the attention span of a five-year old is limited. The author added that one thing that can keep the attention of such learners is a good story or picture display.

One tool to help early years learners to tell stories is the wordless picture book. These books set the stage for storytelling because the reader must carefully examine the illustrations to create a story, then, finds the words to describe the pictures without wordings. This encourages learners to be creative or use their imaginative thought process to think about what the picture entails and describe the

ideas by telling them in story forms. Sometimes, the learners can be asked to scribble the story they have created from the picture and their writing skill is being developed alongside their interactive and social skills.

Fostering Imagination through AI Wordless Picture Books

To encourage the use of the imaginative thought processes in solving daily problems by early learners, the application of AI wordless picture books will go a long way to helping the learners in acquiring the necessary skills that will make them critical thinkers and problem-solvers at a very young age. Wordless AI picture books tend to provoke their imagination and making them think to link scenarios in the picture books using their own initiative. There are AI picture generators like Scarlett Panda which gives a teacher the opportunity to create picture books without words for learners. It is an innovative tool designed to revolutionize the way we create and enjoy picture books. By harnessing the power of artificial intelligence, this cutting-edge technology allows users to generate vivid engaging illustrations alongside captivating narratives with just a few clicks. Scarlett Panda offers an accessible and creative solution, and it combines the art of storytelling with the precision of AI to produce unique, enchanting picture books that can capture the imagination of readers, both young and old (ScarlettPanda, 2024). Using these created pictures in the classroom makes learners to become focused and interested in the learning as children often learn by what they see. These AI-generated pictures demand learners to take a vivid look at them and craft out beautiful stories using them. In this process, early years learners become creative as each learner tries to figure out what the picture(s) might be saying or the idea the scenarios in the pictures tend to pass across. It builds their ability to think, write, use appropriate vocabularies and sentences and also builds their communication skills.

Applications for creating images or wordless picture books are tools that generate original images based on prompts from their users. According to Thiago (2024), some of the AI tools for creating wordless picture books or images include; Leaonardo, which is one of the leading platforms for generating AI art in the market today, Stable Diffusion, which is a very famous Generative Artificial Intelligence engine, Catbird.ai, which is a fairly simple-to-use Artificial Intelligence tool for creating images, Dall-E2, known as one of the most popular tools for creating images with Artificial Intelligence, Midjourney, Ideogram, GetIMG, Jasper Art, Night Café, Craiyon, Openart, Starry among others. These tools foster imaginative thinking in early years learners as the appropriate application of them in the classroom can go a long way to ensuring that learners are active participants in the learning process. Megan (2024) asserts that there are four ways that AI wordless picture books improve teaching practice and they include:

(a) *Improvement on learners' inference skills:* Inference is a reading skill that helps students comprehend texts and explore them more deeply. Wordless picture books generated through AI do not explicitly explain what is happening, so learners need to pay close attention to the illustrations. During discussions, they can explain their inferences using evidence from what they have seen. Example of such wordless picture book is "Boat of Dreams" by Rogerio Coelho.

(b) *Reinforcement of vocabulary usage:* Children can retell the plot of wordless picture books, challenging themselves to include the vocabulary they are studying. They can also be encouraged to use past vocabulary list that

reinforce meaning from the picture book.

(c) *Inspiring descriptive writing:* AI-generated wordless picture books can develop descriptive writing skills among early years. If there are learners who struggle to create ideas for their writing, the basic frame is already done. With the plot, setting, and characters already created, they can fill in the blanks with beautiful language and dialogue.

(d) *Helping learners build language skills:* There are many wordless picture books that English language learners can use to strengthen their growing skills. Learners can involve in a discussion using the books and this strengthens their speaking skills as they creatively think about the pictures and what they mean.

Early years learners can have greater learning output when some of these AI tools are utilised to produce wordless picture books that can make them think, create and solve problems. It does not only improve the learners, it also helps the teacher to reduce the load of carrying chats or paying huge amount of money to get artists to draw. Using the AI tools makes learning easier and more productive.

Roles of AI Storytelling in Early Years Learners' Imagination Building

Mak (2024) opined that AI can create interactive and immersive learning experiences that captivate young minds based on their individual personalities since AI can be used to create interactive storytelling applications, educational games, and teach and dispense content that is fit for each individual child. The author added that the world of education is experiencing a seismic shift, driven by technological advancements and the integration of Artificial Intelligence. In Early Childhood Education (ECE) for children aged 3 to 6, AI has emerged as a transformative force, reshaping traditional learning methodologies and opening doors to innovative, personalized learning experiences.

Storytelling is important in early years learning because it engages children, cultivates language development, and taps into children's imaginations. It is an educational approach that weaves narratives into the learning process. Through narratives, children can explore their emotions, build their listening skills, expose themselves to new words and ideas, and develop a passion for learning. Some of the benefits of storytelling to early years learners include; supporting cognitive development, improvement in literacy skills, encouraging creativity and imagination, boosting cultural understanding, improving social skills and encouraging active learning (Ali, 2024). The importance of storytelling cannot be over-emphasized as learners who are exposed to it develop important life-long skills. Artificial Intelligence has simplified the learning process as teachers can use certain AI-enabled tools to create stories after imputing the required prompters. Learners who engage in these stories are expected to think and provide answers to questions that follow. In some cases, the learners can be asked to create their own stories using personalized AI tools for their age level. Digital technology in early childhood education such as digital cameras and multimedia composing tools has the potential to transform children's storytelling and writing. The author added that it provides support for emergent literacy with features such as images, sound and text that all engage the children as learners (Hilkemeijer 2023).

` The application of AI storytelling promotes competency in technology in early childhood education, collaboration and communication, amplifies storytelling through images, supports students' learning by encouraging them to organise and express their ideas and knowledge in a

distinctive and meaningful way, allows the teacher to gain an insight into children's learning, inspires one to engage with children in one's care, fosters an active involvement of learners in the learning process, transforming storytelling activities into a dramatic and entertaining magic show and inspiring children to make their own digital stories (Hilkemeijer, 2023).

Artificial Intelligence storytelling is used in brainstorming and idea generation, plot structure and outlines, character creation and development, language and phrasing and revisions and proofreading (Ellis, 2024). Some of the AI tools that foster imagination among early years learners include; Storywizard.ai, which reimagines the way children learn by harnessing the power of AI to create personalized and engaging educational learning experiences, StoryBee, which is an AI story generator for kids and a perfect tool to spark endless creativity, Storybird, which offers a diverse collection of stories and artwork, allowing children to create their own digital stories using professional illustrations. It encourages creativity and imaginative storytelling while providing age-appropriate content for early years education. Others include; IMAGINaition, TAlesAI, OvalOwl, Oscar bedtime story generator, Sudowrite, Jasper AI, Novel AI, Squibler's AI story generator to mention but a few. These tools play huge roles in building the imaginations of early years. They engage in the storytelling process, think outside the box and solve problems or challenges posed to them in the tools that produced the stories. Learners do not need to sit under a mango tree to listen to an old woman narrate stories, they can become storytellers or creators themselves using the AI-enabled tools.

Challenges of Integrating AI in Fostering Early Years Learners' Imagination

Jiahong (2023) asserted that Artificial Intelligence literacy has become an emerging topic in digital literacy education research but is still under-explored in early childhood (years) education (ECE) since the AI curriculum for children has just been designed in recent years. The author identified some challenges associated with integrating AI in early years education as ranging from lack of teachers' knowledge of AIskills and confidence, lack of curriculum design, and lack of teaching guidelines. Integrating AI in early years learning comes with its pros and cons. This points to the fact that certain challenges other than the aforementioned are likely to emerge. Some of which may include inadequate supply of gadgets to foster the use of AI tools by teachers, lack of power supply, inadequate coaching on how to use AI tools by teachers and learners, distraction as adverts may pop up, discouraging learners from using AI toolsto mention but a few.These challenges can defeat the effort of the teachers in using these AI-enabled tools to foster the imaginations of their learners as the needed support both material and non-material are unavailable.

Conclusion

The foregoing discourse has exposed the importance of fostering early years learners' imagination by integrating AI wordless picture books and storytelling. The role of Artificial Intelligence cannot be undermined and that is why it has become expedient that teachers, curriculum planners and parents should make judicious use of the available AI tools to foster the creative and imaginative thought faculty of the early years learners as this would go a long way to ensuring that they acquired life-long skills. However, the integration of AI in fostering early years learners' imagination is frosted by certain challenges which when properly addressed, would help in ensuring that

learners and educators alike are not affected negatively.

Recommendations

In the light of the discourse, the following recommendations are hereby proffered to ensure a smooth integration of AI wordless picture books and storytelling in early years learning experience:

- Teachers of early years learners should be properly trained on how to apply AI wordless picture books and storytelling in the learning process.
- Curriculum planners should incorporate AI-enabled tools while planning early years learners' curriculum.
- Early years learners should be taught how to use AI tools, and be monitored by teachers and parents when accessing these tools to avoid distractions or divulging classified information to online scammers.
- Gadgets should be made available by to teachers and learners in order for them to have unfettered access to AI-enabled tools for learning.
- There should be adequate power supply for the gadgets to function in the different early years education centres.

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