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UTILIZATION OF DIGITAL GAMES IN THE 21ST CENTURY: LEARNING OPPORTUNITIES, CHALLENGES AND ENHANCEMENT STRATEGIES FOR PRIMARY SCHOOL PUPILS

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Abstracts
The rapid advancement of technology in the 21st century has led to the increased use of digital games among children generally. These games ranges from video games, mobile games and even apps have grown to become a part of children leisure, daily activities as well as a learning tools. This study aims at providing an opinion on the use of digital games by primary school pupils with emphasis on learning benefits such as cognitive development, exposure to educational contents, development of problem solving skills, coordination and ability to focus among others. Also, the study aims at discussing some of the challenges associated with the use of digital games among pupils especially, addictions and its off-shoots such as isolation, poor academic performances, exposure to violent contents among others and to suggest better ways of use of these games resources such as parental guidance, management, content verification for full optimization of the learning opportunities while at the same time having fun and minimizing associated risks.

Key words: digital games, primary school pupils, challenges and healthier use.

INTRODUCTION

The 21st century has been characterized with accelerated advancement in technologies in their various types and formats. One of these development has presented digital games at the center of both learning and leisure for people of all ages. However, the impacts of this growth and expansion has been very visible among children of almost all ages who appears to be smarter than other ages technology wise and with vested interest in digital games. According to Thompson et al(2020). Digital games are no longer viewed solely as recreational tools but are increasingly recognized as valuable educational resources that promote leaner engagement, motivation, and knowledge acquisition. Similarly, Bylieva and Sastre(2018) argued that well-designed educational games provide interactive learning experience capable of enhancing cognitive, social and emotional development among young learners. Digital games could be accessed through mobile phones, tablets, computers, consoles which most primary school pupils now have access to either as personal belongings or owned by their parents. Seimiz(2024) observed that the integration of digital technology into children's every day activities has significantly increased their exposure to digital gaming environment. Digital games such as hurricane heroes, candy crush, mine craft, zen word, temple run, car racing, free fire, call of duty, building games, football league 2026, words and spelling building, the explorers among others presents both opportunities for learning on one hand and at the same times, has begun to raise concerns as a result of the excessive use of these tools as avenue to make parents have time for themselves, make the children keep quiet and possibly do some school assignments. This avenue for use of

these games have made it become a daily part of their routines in home fronts especially and the lack of control on the time frame has led to the issues of addictions, poor academic performances, isolation, aggression, sleeplessness, starvation among the primary school pupils. This situation has made it imperative to highlight the opportunities in the use of digital games for learning (and fun while also looking for responsible ways to balance the use to avoid the associated risks.

PRIMARY SCHOOL PUPILS

Proper education is a crucial component of successful child rearing and the development of society as a whole. This involves systematic instruction and the delivery of knowledge, skills, abilities, and potentials in a way that will support the child's growth and development. So, in recognition of this fact, the Nigerian government places a high value on education for Nigerian pupils beginning from the primary schools. National Policy on Education (2014) defined Early childhood education as a unique sort of education that calls for a learning facility, such as a crèche, daycare, playgroup, nursery, or kindergarten, for young kids before they start primary school. The aim of this education is to develop the cognitive and affective potentials of the children at an early age as affirmed by Meziobi (2016), that early childhood education helps youngsters build the physical capabilities, superior communication skills, necessary physical talents, and social cohesion they will need in both their primary and secondary lives.Anero (2014) described primary education as “the education frequently seen being given to children in their late childhood”. This view is also justified by the Federal Republic of Nigeria (2014b) in her National Policy on Education by

defining primary education as the basic education, which is essential to the success or failure of the entire system.

This level education can also be seen as that state of education that is saddled with the responsibilities of helping the pupils get the growth and expansion they need. Primary school pupils are within the age range of 5 to 11 years which is characterized with growth, development, inquisitiveness and learning by everything around them. The major goals of the primary education to include helping the children afford the holistic development akin to cognitive, social, expressive and interesting skills or in general.

Conceptual Discussion

Digital games

Games generally according to Phan, (2021) are a structured form of play, usually undertaken or enjoyed for pleasure, entertainment and as educational tools. They are a forms of play governed by rules; full of fun and that should be enjoyed. Chapple, (2019) defined games as any exercise or actions with regulations, objectives and components of fun. Games are distinct from work and so, they include every activity that brings pleasure, entertainment, fun and include features, regulations and have certain elements that characterize them. For example, guidelines, goals, changing course; chances and opportunities; contests; similar experience and mastery; equality, independence, exercises etc., are all components of games as pointed out by Khurram (2018), categorized games as a kind of play and other rival activities used either in the homes, classroom setting or in the school media centers as the case may be to achieve

certain goals. However, for an application to be referred to as games, the rules and certain targets must be strictly followed Tjhin (2021) have similar views on this and that games are an assimilation of stimuli from an outside world.

Digital, games otherwise known as computer, or video games are described according to Semiz (2024) as well as Alvin and Ifan (2021) as those games that requires the use of computer accessories like televisions, smart phones, desktops, laptops, etc as hardware through which they can be manipulated. They are usually software that come at times in form of apps and needed some technologically manipulated equipment to use them. Digital, computer or video games as pointed out by Bawa and Sunny (2021) are a contest of intellectual capacity and strength that follow definite set of laws in order to achieve an aim. Evelien and etal (2021) pointed out that rapid development in technologies have brought a change to all human endeavor including education and entertainments and has produced a lot of changes in the arrangements, structures, responsibilities of individuals in education and implementation of educational policies. As a result of this changing situation, many educational establishments have found alternative means to see that the needs of the pupils arising from these changes are met and one of the platforms for meeting this change is the application of computers technologies and digital games applications.

Furthermore, Bylieva and Sastre (2018), stated that digital games are designed to help the users learn by engaging game mechanics while Alexandra and etal (2018), added that this in turn develops the users both socially, educationally and yet entertaining and fun-filled as they can be an independent

or a group of exercises that have analytical, friendly, behavioral and or hysterical measures which are connected to educational and entertainment goals. According to Thompson (2020), The younger generation are growing up with technology, and this is becoming a natural and integral part of the lives school pupils. Computer or video games first became popular in the early 1980s as a result of technology development and many computer applications. They have features like motivation, rewards, (feedbacks), scores, interactivity, challenge and supports as pointed put by Sun and Gao (2016). Thompson etal (2020), as well as Alvin and Ifran (2021) on the types games mentioned that they could just be ordinary games for fun or educational in nature. Reynaldo (2021), stated that games can be adventure, competition based, stimulation and cooperative games, programming games, puzzle etc but they have distinct features like intercreativity, visual and sound effects provided by the games to make them exciting. Examples includes; candy crush, mine craft, zen word, temple run, car racing, free fire, call of duty, building games, football league 2026, words and spelling building, the explorers, spelling quiz, word trivial, temple run, dream league soccer 2026, dream football league2026, e Football, e-sports FC mobile, bike racing games, alphalt8 car racing, need for speed no limits, fashion show makeup, merge beauty love and makeover, mini block craft, block world craft city, block craft, puzzles, scrabbles, headbanz, read my list games, tall tales, pop for sight word games, pop for word family card games, think fun what's gnu, learning resource snap it up, binto flash cards, trend enterprise sight word games, zingo word builder board games, spot it games, Er – udi- tion games, sequence letter games, funny mix super hero phonics games, boggles, word

finders to mention but a few. All these digital or video games captures the attention of the primary school pupils always.

Utilization of digital games by primary school pupils

Utilization means to use, that is, making use of something to meet a need. It is the derivation and use benefits embedded in something. An action of making practical use of something. utilization is the capacity of anything to satisfy the needs of living things and spur development in the material and spiritual phase, Ejechi (2019) also affirmed this. Furthermore, Uhegbu (2017) defined utilization to mean putting into use acquired information. This was further expressed that utilization of information packaged in any format differs from one information user to another based on their information needs and other socioeconomic requirements. That is to say that information in form of games resources can also be acquired either at home fronts, in schools or elsewhere to satisfy a need.

Still on the meaning of utilization, proper utilization also extends to the frequency of use of the information material and services and the concomitant utility derived from such resources as observed by Adebayo (2017). In his view, Atinmo (2016) is of the opinion that utilization is an ability to make effective and independent use of the resources and services that are available. This implies that such information resources are in proper format and language that will meet the requirements of the users and according to Obinyan (2018), users can derive maximum benefits from utilizing information resources such as games. Obasuyi (2020) further defined utilization as one of the ways through which the content of information resources can be consulted by users. Utilization of information in any fromat is an everyday activity according to

Savolainen (2019) and majorly, Cole (2018) buttressed this view by saying that utilization of information is for human survival, education and general development. While Kari (2015) added that utilizing information especially in games format can help in decision making, solving problems and forming a personal view points of the users.

In the context of this study, utilization of digital games by primary school pupils is based on the benefits and challenges that could arise from consistent and daily use of the games because as stated by Odu and Edam (2018) , time used in the playing games is found in the relevance of such games in meeting a particular need.

Benefits of use of digital games by primary school pupils

Critical thinking development: Digital games usually have the capacity to make the players engage in critical thinking. This is the ability to think clearly, rationally, and independently about taking a decision. It has the components of questioning, analyzing, evaluating, reasoning and deciding. As pointed out by Reynaldo and etal (2021), there is a nexus between engaging in digital games and improvement of primary school pupils as far as high level productivity in academics is concerned because it helps in developing their critical thinking skills.

Reading skills development: Games like pop for sight words games help pupils learn fundamental reading abilities while playing game by identifying and reciting sight words aloud. Fluency and vocabulary can both be improved by playing game at a quick speed. High frequency words called sight words are essential for fluent reading as they pop-up for children to read. Think fun what's

GNU(Ages 5years plus) and What's Gnu games helps pupils increase their confidence while practicing their word recognition and spelling skills. The players in this game push the "letter getter" forward to expose two-letter files, which they then use to fill in the blanks on the word-starter cards to form three-letter words. Learn resources snap it up is a game for developing phonological skills. spelling and pronunciation. Modern trends business sight words game is excellent for pupils with disabilities for word construction and vocabularies as promoted by Reynaldo and etal (2021) and Vogel (2013), and Dike, (2017) who believed in the use of non -books resources for reading skills development among primary school pupils.

Development of organizational skill: Pupils gets to know and gets used to always been organized because that is part of the rules of games. However, beyond learning and improving skills, learning to get organized applies to all aspects of life as a good virtue because it usually makes such pupil well focused and most times void of confusion in carrying their daily routine. A perfect example of this game is the scrabble and chess that help a child to brainstorm and with patience arrange each item to its correct place by figuring out where what should be until all items are perfectly and correctly fixed. Hedges and Koriban (2021) mentioned enhancement of memory through motivation and organization as Mcheown (2016) and Hedges and Gable (2016) also supported.

Development of team spirit, healthy competitive and cooperative atmosphere: This skill is unconsciously developed for pupils to learn. In the view of Gray (2018) and Hedges and Koriban (2021) stated that games serves as reinforcement for team spirit among the pupils. This help pupil in role

maintenance, patience, coordination and how to handle wins and losses which learning better ways for improvements.

Therapeutic benefit of digital games

Games can serve as remedy therapy for children with learning challenges and attention deficient issues according to W H O (2018). It was discovered that groups of struggling readers were able to read better and without difficulties when motivated with games. Many readers do not separate games from reading; they read game related texts as an integral part of their play. Steinkuehler and Squire (2014), Kappa (2012) opined that games help prepare the pupils for essential 21st century skills which they cannot acquire all from the classroom setting in the 21st century by bringing information to real life situations with innovative and creative ideas. Pupils multi- task and learn to take risks without compulsion. Similarly, emotional benefits like mind and brain relaxation, stress relief, help to produce better focus when primary school pupiks engage in gaming activities as Curry, (2013), also, Granic, Lobel and Engels, (2014) opined.

Social live development

One of the benefits of engaging in digital gaming is pointed out by Granic (2014) as the development of pupils' social lives can be promoted by using games for inclusiveness and collaboration and when used as teaching aid. Hence, Elkins (2015) and Gee (2012) promoted equal opportunity for the socioeconomically disadvantaged pupils in the school platform and creation of connection between the pupils. Further still, Amundson (2015) believes that an attitude of self-efficacy can be built in pupils when a learner- centered teaching method such as games is used to teach. Any project depends heavily on the

mindset of the person carrying it out for it to be successful. According to Hedges and Gable (2016), self-efficacy is the belief that one will be able to execute a task successfully. These researchers argued that pupils who believe they are proficient are more inclined to value adding tasks.

Career development

Engaging in video gaming has the ability to made pupils begin to develop interest in technology based career paths on the types of games they play. Games like fashion show makeup, merge beauty love and makeover, mini block craft, block world craft city, block craft, dream league soccer 2026 may create interest in pupils in wanting to do a career path in building engineering, fashion, footballs and others.

Challenges associated with the use of digital games by primary school pupils

Distractions associated with the use of digital devices and poor academic performances. Observations has been on the rise on the side of the primary school pupils. Clever (2014) asserted that pupils can distracted when they are allowed to play with technological devices and this, can reduce their academic performance and lead to laziness on the part of the pupils. The fear of distraction from parents to be true. Ravi and Karl (2015) suggested that pupils may become lazy readers especially if they prefer to play other games on the technological devices that are not reading related. Some may not have the self-control to limit their activities per time within the scope of their academic requirement most especially when they are not guided hence this becomes an in-balanced situation where pupils prefer to play just ordinary games rather than engaging in those

games that can help improve their academic productivity. Digital devices may negatively reduce the time devoted to reading as sustained by Clever, (2014) and supported by Afreen (2014). this may ultimately lead to poor academic performances.

Challenges associated with addictions and negligence becomes a case when the gaming activities are not properly supervised and timed. Vega and Robb (2019) asserted. From Vega and Robb (2019) observations, modern games are no longer a simple diversion from the real world for academic purposes but has obviously become an obsession which usually take over other activities that should ordinarily be attended to, and this alone can be associated with some negative consequences in the gamers' life especially the primary school pupils. Although not all gamers are affected the same way, Flynn and Colon (2016) mentioned some of the consequences to include Psychological issues like addictions, depression, low self-esteem, and high level of stress, shyness and even social anxieties. WHO (2018), also upheld that unplanned and unsupervised gaming activities can lead to serious addiction in pupils. Poor health, Poor sleeping habits, poor eating habit and poor hygiene. Other signs of addiction include: feeling euphoria, tranquility, or peace while playing (particularly if these feelings are not normally experienced).

Another major negative impact is reduced inter-personal relationships. Flynn and Colon (2016) claimed that because gamers spend more times on computer, phones or even television screen, time spent with other people automatically reduces and inter-personal relationship is thereby reduced or minimized while contact with online/ virtual technologies increases, it can also

lead to social isolation and solitary life style. Flynn and Colon (2016) pointed out that disconnection from the world around the gamer becomes reality.

Recommendations and way forward for enhanced use of digital games by primary school pupils

Addictions and distractions that accumulate from the use of digital gaming can be handled by good awareness and proper monitoring of users by the parents on one end and the school teacher or caregivers on the other hand. Gametrack (2019) okayed parental control tools both on phone devices, laptops and other appliances and also enjoined teachers and parents alike to join their wards to know their game contents and to be able to set time limits since addiction can easily be developed by a continuous use of devices. Parents' learning to say no is a big factor in game playing for learning. On the other hand, Hossain (2018) encouraged collaboration between teachers and school librarians to work out a timetable for classroom game activities and also suggested library hour programs based on games and a proper supervision to ensure that the pupils are doing the right thing.

Elementary school curriculum's incorporation of gaming tools for instruction and learning according to Zirawaga, Olusanya and Maduku (2017) for practical activity which can help make learning permanent, personal, interesting, pleasurable and also help the pupils to always want to participate in the reading exercise was encouraged. Quik, Atkinson and Lin (2012) and Dike (2017) was also in favor of adding additional informational resources to the school library and also use these non-book resources as part of the teaching aids.

Pupils should be educated on a healthy games activity as well as the health implication of addiction to games and screens for too long. This digital literacy awareness will go a long way to checkmate the activities of the pupils while playing games. Time management should not be compromised if a balanced life style must be achieved. Timer should set on all devices such that can automatically log the gamer out once the time is up. Also, pupils can be engaged with other interesting activities like cooking skills, fashion and entrepreneurial skills, musical activities and other things.

Conclusion

The utilization of digital games among school pupils presents both significant education opportunities and noble challenges. When carefully selected and properly integrated into teaching and learning, digital games can enhance cognitive development, critical thinking, reading ability, creativity, collaboration, and problem-solving skills. To ensure productive use of digital games among school pupils, stakeholders-including parent, teachers school librarians, curriculum developers and government agencies should collaborate to promote educational gaming while minimizing associated risks. However, excessive and unsupervised use may result in gaming addiction, poor academic performance, reduce social interaction, health-related problems and exposure to inappropriate content. Therefore, maximizing the educational benefits of digital games requires a balance approach that combines technology with effective parental guidance, teacher supervision and responsible digital literacy practice.

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