

## EDUCATIONAL GAMES: THE INDISPENSABLE TOOLS IN LEARNING

Soetan.A.K.

Department of Educational Technology  
University of Ilorin, Nigeria

### Abstract

*Different strategies have been developed to achieve quality education at different stages of learning. Educational games involve deployment of appropriate human and non-human resources in order to achieve learning objectives which serve as Instructional materials that are used to stimulate learning in a conducive academic environment. These could be in form of models, visuals or games that can help spice up learning through play. Games are designed to suit specific learning purposes, help develop skills and serve as impetus to learning. This paper discussed the necessity of games in instruction, types, video games as learning tools, guides on how to use games and significance of games in learning among others. It is therefore imperative that games should be encouraged to enhance learning under teachers' or parents' guidance.*

**Keywords:** Educational Games, Learning, Play, Indispensable tools.

### Introduction

This paper sensitizes on playing of games to enhance learning. Play is an instructional strategy that employs humor to hold attention and enrich learning. Usually play is student-centered, and it enables learners to express themselves freely with tools like games for learning to take place. Games have the tendency to ease emotional strains and constraints of fear in the learner. Ginsburg (2007) described play as an important element for healthy child development including learning development. This can be through playing of games between one or two people. Games are activities that serve as a training ground for learners to achieve a common goal using problem solving skills. However, games are not usually used in education because it is assumed that it has social consequences. Games have high presence in non-formal and informal segments of learning. Unfortunately, in formal education games are still often seen just as non-serious activity and the potentials of games for learning remain undiscovered (Microsoft Educator Network, 2014).

Games vary according to the type and objective(s) of the development but all games require coordination of the brain, hand and must be stimulating-and exciting to enrich learning. Adeyemo (2008) submitted that games can be used for instruction as they provide opportunity for the presentation of instructional content using play way method. Games are pleasurable activities that involve humour for the development of cognitive, psychomotor and social needs for learners. According to Mathematical Games for Secondary Schools (2002), games facilitate mathematics environment and can be used in teaching other subjects from early childhood to tertiary level of education. Soetan (2015) posited that Games are universal exercises that are present in all culture – Yoruba, Hausa, Ibo and the western world it is a structure playing tools undertaken for enjoyment and learning

Production of games involves acquisition of materials, planning, designing and developing through collaborative efforts of experts to determine the aim of the games and users. Games call for



total commitment and involvement of the players to be able to concentrate while playing it. Encarta (2009) described games as activities governed by set of rules and regulations. The rules must be adhered to strictly, to be able to know the number of players, the strategies, and procedures and also the likely follow-up activities. Romiszowski (1992) posited that the value of such game is indirect to how useful the games stimulate the decisions that have to be taken in the real world.

Games can be produced using non-human resources like markers, pencils, bottle tops, pebbles, paper (thick and thin), plastics, soft wood, clay and other materials, found within the school environment. The teacher can use all these materials to produce games which will enhance teaching.

### **Types of games for instruction**

All games can be considered as a branch of educational stimulation which can be played in and outside the classroom to enhance learning. The type of game depends on the environment where learning is taking place. Such games include:

- **Single player games:** It requires a single player engaging oneself with an artificial opponent for learning.
- **Table Top games:** This kind of games are usually played on a table e.g. Ludo. The brain coordinates the hands to carry out the exercise. It may be between two and four people and usually highly competitive.
- **Card games:** This refers to a deck of cards as the tool. They are played with a small selection of cards collected or purchased from available stores.
- **Mathematical games:** These are games that are played to stimulate interest of learners towards mathematics.
- **Simulation games:** This is a replica of real life situations. It represents interactions between playable characters and the environment realistically. Such games include SimCity; Tiger Woods PGA Tours, also flight and driving simulations business, government, and host of others. It is used to provide clear goals, challenging students, allowing for collaboration, using criterion based assessment, giving students more control over learning process and incorporating novelty into the environment.

### **Video games as learning tools in school**

Video game motivates digital environment in order to foster learning among the 21<sup>st</sup> century learners. Video games ameliorates aggression, but elicit wonder and joy. It creates emotional balance of character traits, game rewards, competition with humour and collaboration with others. It is good for instructional technologists who design interactive digital learning environments. Video game has the potential to foster learning among students in this ever growing technological global village. NCREL and Metiri, (2003) posited that it is not what student learns that shift but how and when they learn. Students are growing up with laptops, tablets, cell phone and video calls and this have influence on their daily activities, these new generation has to be enticed with current strategies to learn.. Also Wastiau, Kearney, and Van den Berghe (2009) reported that several commercial and custom made video games have been used in K-12 classrooms across the world to enhance students' learning experience. Federation of American Scientists (2006) concluded that success in games



require thinking, planning, learning and technical skills. All these skills, if acquired can help prepare learners to face the task ahead in future endeavors. Games in learning motivates, encourages learner's participation and provide instant assessment in an enabling environment.

### **Educational games as a focus**

Games in instruction are necessary to awaken the spirit of competition through which learners are subjected to think, construct and interact with others to bring about result/feedback. This may eventually equip students with skills to face challenges in other disciplines and life in its entirety. Games are activities which develop sense of competitiveness, bring satisfaction and pleasure to the student, help to improve creative use of mathematical and meaningful learning related to social needs. Games teaches perseverance through excitement.

Educational technologists consider use of game in learning to, motivate learners interest, simplify abstract and difficult concepts especially in mathematics and related subjects, enliven learners spirit and modify their behavior. Slow learners are encouraged as they compete with fast learners, hence, the gap is bridged. Use of game is thought provoking as learners are subjected to ways of getting problem solved which further encourages children to participate actively in learning. Games played in a conducive environment enable learners to adapt to lives situations whereby lessons are taught to persevere and accommodate others and to see life as full of challenges which must be adapted to.

Squire (2006) also posited game as teaching 21<sup>st</sup> century skills because they can accommodate various learning styles within a complex making context for further decision/economic growth. Games can be used as a source of entertainment at school programs whereby children are divided into groups to play various games engaging them meaningfully. In addition, games can be used for relaxation after tedious or complex assignments for learners to play as "all works no play makes jack a dull boy". Games can also be used to rehabilitate drug addicts, if he is involved in playing of games, his attention could be shifted towards positive activities leading to proper time management. Dickey (2005) posited that games are also built with clear goals and provide immediate feedback to improve their performance. Also, use of game to socialize and interact enliven the spirit of students who may not be interested in learning.

Learning can be defined as acquisition of skills towards expected behavioural change. It is a persisting change in behaviour in performance from experience resulting from interaction with the world. Learning is important because learners have the opportunity to discover, explore and find solution to problems through the use of instructional materials to enhance learning in order to increase efficiency (Ormrod 2004 & Driscoll 2005). It is an activity which takes place in an individual either inside or outside the classroom through various media as determined by the topic to teach. Piaget and Vygotsky's theory support use of play and socialization. People learn through person-to-person interaction and then individually through internalization process leading to deep understanding. Game is a suitable tool for social interaction where ideas are exchanged to foster learning. Piaget further opined that adaptation to conducive environment that is rich with suitable instructional material like games help intellectual growth which strengthens the learners to accommodate new things (Discoll, 2005). Learners could be motivated for action by interacting with the environment using concrete examples to support teaching of abstract concepts. Learners exposed



to use of games find out and discover facts by themselves. Students are not passive but active participators sharing ideas with peers either via the internet or physically.

### **Guides on how to use game in learning**

The following are guides necessary to engage in gaming exercise

- The teacher must determine the need of the learners in terms of objective of the game before it is played.
- Content must be adequate and relevant to the curriculum.
- Students must be guided towards the procedures and rules of the game
- There should be a follow up in terms of questions to determine if learning has taken place, must be precise and not too clumsy or distractive.

### **Significance of games in learning**

Games engage the learners meaningfully to take part in an action towards attainment of a goal, something is learnt not just for playing, it allays fear especially when used in teaching, makes the subject to be friendly so that interest will be created towards better performance in it. Games encourage both slow and fast learners because the two are grouped together and the fast one encourages the other. Healthy rivalry is encouraged as they all want to excel in the game. Games provide opportunities for continued practice because it does not associate with failure rather failure serves as integral part of the learning experience (Gee, 2003). Games provide personalized learning opportunities by catering for individual differences of learners to learn at their own pace (Kiili, 2005). Games also foster collaboration, problem solving and procedural thinking, competitiveness and reward of good performance. It occupies the learners as they are engaged in cognitive and psychomotor activities to improve themselves instead of roaming about. All games encourage feedback for learners to enable them proceed to the next stage. It is suitable for all ages of diverse backgrounds and ability. Games help to develop certain skills of inquiry and communication, provide certain experiences needed to help students come alive in the thinking like a student. Learning and play occur simultaneously and that students learn not knowing they are learning (Gee 2003 & Adeyemo 2008). This could be through drill to find solutions to problems and also increase motivation through learning activities.

### **Limitation of game in learning**

Games have their shortcomings if learners are not properly guided, they can become addicted to the game which in turn affects their academic performance. and amounts to time wastage if care is not taken. The child simplifies everything in the real world thinking all is entertainment and It may lead to social isolation, violence, aggression or negative imagery if one is neck deep in video game playing.

### **Recommendation**

- (i) Parents should encourage and guide their ward(s) towards the choice of educational games.



- (ii) Teachers should guide the students so that time is used judiciously in playing and learning from the game.
- (iii) Teacher should be encouraged to go for workshop and seminars to be more enlightened on how to design and develop learning games.
- (iv) School proprietors should develop and maintain proper electrification of the academic premises, procure games that facilitate learning and should also monitor student's online activities.
- (v) School authorities should provide computer laboratories equipped with computers adequately maintained where students may have access to the computer game

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