

**EFFECT OF EDUCATIONAL GAMES ON TEACHING ENTREPRENEURIAL VALUES AMONG HOME ECONOMICS STUDENTS IN UPPER BASIC SCHOOLS IN ZARIA EDUCATION ZONE, KADUNA STATE**

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*This study investigated the effect of educational games on teaching entrepreneurial values among home economics students in upper basic schools in Zaria Educational Zone of Kaduna State. A quasi-experimental design was used, involving 120 home economics students randomly assigned to experimental and control groups after a pre-test categorization test. The experimental group was taught entrepreneurial values using educational games, while the control group received traditional instruction. Data were collected using the Home Economics Achievement Test (HEAT). Data was analysis using mean, standard deviation and t-test. Results showed that students in the experimental group demonstrated a significant improvement in entrepreneurial values compared to the control group. The study concluded that educational games are an effective teaching strategy for promoting entrepreneurial values among home economics students. The findings also reveal the gender friendliness of educational games in teaching entrepreneurial values. The implications of the findings were highlighted and recommendations were made.*

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**Introduction**

The development of entrepreneurial skills among students has become a pressing concern in Nigeria's education sector. The National Education Policy (2013) emphasizes the need for entrepreneurship education to equip students with the skills required to succeed in the 21st-century economy. Home Economics, as a subject, plays a vital role in fostering entrepreneurial values and skills among students.

The integration of home economics and entrepreneurial values provides a comprehensive foundation for success (Chua,2018). Home economics equips individuals with essential skills such as meal planning, household management, and personal finance (Oladokun,2020). Entrepreneurial values, including innovation, self-reliance, and resilience, empower

individuals to take calculated risks and adapt to change (Uduafemhe,2023).

With a combination of these two concepts, individuals can develop innovative solutions to everyday problems, apply their knowledge to start and run a successful business, and cultivate essential skills for the modern workforce. The integration of home economics and entrepreneurial values fosters a strong work ethic, a willingness to take calculated risks, and a passion for lifelong learning (Bae., Qian, Miao and Fiet, 2014).

This approach offers a unique pathway to success, enabling individuals to navigate the complexities of modern life with confidence and competence. By embracing the integration of home economics and entrepreneurial values, individuals can unlock their full potential and achieve their goals.

Entrepreneurship education has been recognized globally as a crucial driver of economic growth and development (Global Entrepreneurship Monitor, GEM, 2019). In Nigeria, the government has initiated various programs to promote entrepreneurship among youths (Federal Ministry of Education, 2018). However, despite these efforts, the country still faces significant challenges in terms of unemployment and economic stagnation.

In Zaria Education Zone, Kaduna State, the need for entrepreneurship education is particularly acute. The zone has been identified as one of the areas with high levels of poverty and unemployment (Kaduna State Government, 2020). Furthermore, gender disparities in education and economic opportunities persist, with females facing significant barriers to entrepreneurship (Ogunyemi, 2014).

Research has shown that traditional teaching methods have limitations in developing entrepreneurial skills among students (Kolb, 1984). The current teaching methods in Home Economics focus primarily on theoretical knowledge, neglecting practical skills and experiential learning. This gap has resulted in students lacking the necessary skills to start and manage their own businesses. Moreover, gender stereotypes and biases in education have hindered females' participation in entrepreneurship (Adeyemo et al., 2021).

Despite the potential benefits of educational games in enhancing learning outcomes, their application in teaching entrepreneurial values among home economics students remains largely underexplored.

To address this challenge, innovative teaching methods such as educational games

can be employed to enhance entrepreneurial skills among Home Economics students (Wouters et al., 2013). Educational games have been shown to improve learning outcomes, increase student engagement, and develop problem-solving skills (Gee, 2013).

This study aims to investigate the effect of educational games on teaching entrepreneurial values among Home Economics students in Upper Basic Schools in Zaria Education Zone, Kaduna State.

### **Purpose of the study**

The purpose of this study is to investigate the effect of educational games on teaching entrepreneurial values among Home Economics students, particularly females, in Upper Basic Schools in Zaria Education Zone, Kaduna State.

Specifically, is set to:

1. Determine the cognitive level of upper basic students taught entrepreneurial values using education games and those taught with conventional lecture method in Zaria Educational Zone in Kaduna State, Nigeria.
2. Determine whether gender affects the cognitive levels of upper basic students taught entrepreneurial values using education games.

### **Research Question**

Two research questions were posed for the study:

1. What is the difference in the cognitive level of upper basic students taught entrepreneurial values using educational games and those taught with conventional lecture method in Zaria Educational Zone in Kaduna State, Nigeria?
2. What is the difference between the cognitive level of male and female upper basic students taught entrepreneurial

values using educational games and those taught with conventional lecture method in Zaria Educational Zone in Kaduna State ,Nigeria?

### Research Hypotheses

Arising from the research questions, the following two null hypotheses were set at  $P < 0.05$ :

1. There is no significant difference in the cognitive level of upper basic students taught entrepreneurial values using educational games and those taught with conventional lecture method in Zaria Educational Zone in Kaduna State ,Nigeria.
2. There is no significant difference between the cognitive level of male and female upper basic students taught entrepreneurial values using educational games and those taught with conventional lecture method in Zaria Educational Zone in Kaduna State ,Nigeria.

### Methodology

#### Research Design

A Quasi-experimental design, Pre-test, post-test control group design was used for the study, since there was no randomization of subjects into groups. Thus, intact groups, which were already organized into classes, were used.

#### Population

The population for this study consists of Home Economics students in Upper Basic Schools in Zaria Education Zone, Kaduna State. Zaria education zone is made up of 100 schools with a population of about 30,000 students\*. The predominance of the students offering home economics were female with few males in the select population.

Data from Ministry. of Education, Zaria Education Zone.

### Sample and Sampling Technique

The study was conducted using 120 students (60 treatment group, 60 control group) from 6 Upper Basic schools selected using stratified random sampling

### Instrument for Data Collection

One instrument was used for the study. This was the Home Economics Achievement Test (HEAT). This consist of 20 multiple and short answer test item questions carefully drawn a pool of entrepreneurship and home economics questions for upper basic instructional test and from the investigators design who is also a specialist in home economics.

### Validation and reliability of research instrument

Before administering the HEAT, they were subjected to content and face validity by experts in home economics and entrepreneurship education to ascertain its appropriateness. The reliability coefficient from a pilot study conducted outside the zone of study was computed using Pearson's product moment correlation method and the value obtained was found to be  $r = 0.86$ . This indicate that the test was reliable and as such it would test what it was out to test.

### Ethical Considerations

Informed consent was obtained from parties to be involved in this study that is purely for academic purpose and permission was granted as appropriate.

### Pre-Test Session

Prior to commencement of the study, the students were subjected to a pre-test session to determine the equivalence of the group.

### Data Collection Procedure

The study began with the administration of the Home Economics Achievement Test (HEAT) to both the treatment and control

groups. This initial assessment established a baseline for the participants' knowledge. Next, the treatment group engaged in educational games for a period of six weeks, while the control group did not receive any intervention. Following the six-week period, the EKT was administered again to both groups. This final assessment allowed researchers to compare the knowledge retention and progress of the treatment group, who had participated in the educational games, with the control group, who had not received any intervention.

### Method of Data Analysis

The data was analyzed using mean, standard deviation and t-test.

### Results

#### Analysis of Answers to Research Questions

**Research Question 1:** What is the difference in the cognitive level of upper basic students taught entrepreneurial values using educational games and those taught with conventional lecture method in Zaria Educational Zone in Kaduna State ,Nigeria?

**Table 1: Descriptive Statistics on the Cognitive Level of Upper Basic(JSS) Students Taught Entrepreneurial Values Using Educational Games and those Taught with Conventional(Lecture) Methods in Zaria Educational Zone, Kaduna State,Nigeria**

Treatment Groups	N	Mean	S.D
Educational Game	60	68.1833	7.69
Lecture Method	60	39.3000	7.41

Table 1 shows the difference in the cognitive level of upper basic students taught entrepreneurial values using educational games and those taught with conventional method in Zaria Educational Zone, Kaduna State, An examination of the groups indicate that the post-test scores of students taught entrepreneurial values using educational games are higher than those taught using conventional method.

**Research Question 2:** What is the difference between the cognitive level of male and female upper basic students taught entrepreneurial values using educational games and those taught with conventional lecture method in Zaria Educational Zone in Kaduna State, Nigeria?

**Table 2: Descriptive Statistics on the Cognitive Level of Male and Female Upper Basic(JSS) Students Taught Entrepreneurial Values Using Educational Games and those Taught with Conventional(Lecture) Methods in Zaria Educational Zone, Kaduna State, Nigeria**

Treatment Groups	N	Mean	S.D
Male	30	67.833	7.79
Female	30	68.533	7.71

### Test of Hypotheses

H<sub>01</sub> : There is no significant difference in the cognitive level of upper basic students taught entrepreneurial values using educational

games and those taught with conventional lecture method in Zaria Educational Zone in Kaduna State, Nigeria.

**Table 3:** Independent t-test sample statistics on Mean Cognitive Level of Experimental and Control Groups

Treatment Groups	N	Mean	S.D	Df	t-cal	t-crit	Sig(p)
Educational Games	60	68.183	7.69	118	20.08	1.96	0.000
Conventional Method	60	39.300	7.40				

Calculated  $P < 0.05$ , calculated  $t > 196$  at  $Df=118$

Table 3 shows that significant difference existed in the cognitive level of upper basic students taught entrepreneurial values using educational games and those taught with conventional method in Zaria Educational Zone, kaduna state, Nigeria. This is due to the fact that the calculated t-value of 20.08 is higher than the 1.96 t critical value at Df 118. Therefore, the null hypothesis is rejected.

H<sub>02</sub> : There is no significant difference between the cognitive level of male and female upper basic students taught entrepreneurial values using educational games and those taught with conventional lecture method in Zaria Educational Zone in Kaduna State ,Nigeria.

**Table 4:** Independent t-test sample statistics on Mean Cognitive Level of Male and Female Experimental Groups

Treatment Groups	N	Mean	S.D	Df	t-cal	t-crit	Sig(p)
Male	30	67.833	7.79	58	0.350	1.96	0.728
Female	30	68.533	7.70				

Calculated  $P < 0.05$ , calculated  $t > 196$  at  $Df=118$

Table 4 shows that there is no significant difference between the cognition level of male and female taught entrepreneurial values using educational games in Zaria Educational Zone in Kaduna State ,Nigeria. This is due to the fact that the calculated t-value of 20.08 is higher than the 1.96 t critical value at Df 118. Therefore, the null hypothesis is retained

### Discussion

One of the major goal of education is to enhance academic performance through acquisition of skills and knowledge that will add value to learners in their career progression. In this study we report among other considered variables the effect of educational games on teaching entrepreneurial values among home economics students in upper basic schools in Zaria Education Zone, Kaduna state

The impact of educational games on the teaching entrepreneurial values among home economics students in our present study, is on a positive direction implying a very strong potential for cognitive level following the use of ICT. These findings and indeed in the literature is not surprising judging from what educational games brings to the table when it comes to facilitating teaching and learning. Daniel *et al.*,(2024) has shown that educational game-based learning effectively enhances students' entrepreneurial competence, particularly in areas like generating ideas, managing resources and taking action, while also boosting self-efficacy. It also helps to improve students' and teachers' capacity.

Research on the cognitive level of students taught with entrepreneurial values using educational games versus conventional lecture methods in Zaria Educational Zone is scarce. However, a study conducted in South-East Nigeria provides valuable insights into the effectiveness of business game learning approaches in developing entrepreneurial mindsets among business education students <sup>1</sup>.

The study found that business game learning approaches are highly effective in developing an entrepreneurial mindset in students, with a grand mean rating of 3.29 out of 4. These approaches provide direct experiences, stimulate imaginative thinking, encourage independent thinking and analysis, develop social interaction skills, and present real-world challenges. Students valued these approaches for their practical and engaging nature, which helped build confidence, creativity, and problem-solving skills. The study highlights the importance of business game learning in entrepreneurship education, providing a comprehensive and interactive learning experience that prepares students for real-world challenges. Additionally, the study revealed no significant difference in the mean responses of

200-level and 300-level students on the extent to which problem-based learning approaches are utilized for developing entrepreneurial mindset (Ebere and Ndidi,2022). Its findings suggest that educational games can be an effective tool for teaching entrepreneurial values and promoting cognitive development in students. Findings is consistent with present study.

As to the question of gender and its impact on academic achievement, the literature are at variance with each other as males and females prefer to learn differently. In a study on Gender differences in learning preferences among participants of serious business games, Garber *et al.*,(2017) found no gender bias between sexes. Feraras *et al.*,(2019) in a study on Gender and Learning Outcomes in Entrepreneurship Education found male to perform significantly better than the female Also in a recent study by Makudza *et al.*,(2024) on Driving entrepreneurship through gender-moderated entrepreneurial mindset among tertiary students, it was found that gender stereotype is still rife within the entrepreneurship arena and cultural determinants and gender roles influence females' uptake of entrepreneurial roles. The results of this study indicate that upper basic male students taught entrepreneurial values using educational games in Zaria Educational Zone performed equally like their female counterparts on cognitive achievement tests (HEAT). However, the study also reveals that educational games significantly improved cognitive achievement for both male and female students. This supports the notion that experiential learning approaches, such as educational games, can enhance entrepreneurship education outcomes (Gee, 2013). In a review conducted by Bagheri *et al.*, (2020) found limited literature on the interrelationship between gamification and students' entrepreneurship learning outcomes (ELOs). The majority of these studies suggested a positive association between gamification and students' ELOs.

The significant interaction effect between gender and treatment suggests that educational

games may have a more pronounced effect on male students' cognitive achievement. This could be attributed to differences in learning styles and preferences between male and female (Raj and Shankar, 2019).

### Conclusion

In conclusion, the study has demonstrated the efficacy of educational games in teaching entrepreneurial values to home economics students in upper basic schools.

The use of educational games has been shown to be a highly effective teaching strategy, capable of promoting entrepreneurial values such as creativity, innovation, risk-taking, and self-reliance among home economics students. Incorporating educational games into their teaching practices, home economics educators can create a more engaging, interactive, and immersive learning environment that fosters the development of entrepreneurial values. It also shows that the use of educational games as a medium of instruction is gender friendly. Moreover, the study's findings suggest that educational games can be a valuable tool for addressing the challenges of entrepreneurship education in Nigeria.

The findings of this research have far-reaching implications for home economics educators, policymakers, and stakeholders seeking innovative approaches to entrepreneurship education.

By leveraging the power of educational games, educators can help to equip home economics students with the knowledge, skills, and attitudes necessary to succeed as entrepreneurs in the 21st century.

### Recommendations

In light of these findings, it is recommended that:

1. Curriculum planners should integrate educational games into entrepreneurship education curriculum
2. Games development should be tailored to specific learning objectives and gender needs by home economics teachers.
3. Home economics educators and policymakers should prioritize the development and implementation of educational games as a teaching strategy for promoting entrepreneurial values.
4. Instructional strategies should be adapted to address gender differences. and promote gender-sensitive entrepreneurship education programs.
5. More topics should be tested with educational games so as to compare findings.

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