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Effect of Heuristic Strategy on Academic Performance and Retention of Islamic Studies Students in Senior Secondary Schools, Kaduna State, Nigeria

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ABSTRACT

The study was guided by two (2) specific objectives and corresponding research questions and hypotheses. The study was delimited to SS II Islamic Studies students of Kaduna State. Only the Islamic Economic System was covered with Heuristic, performance, and retention ability as variables. The study adopted a Quasi-experimental design with a population of 29 senior secondary schools and 2, 138 students. A 195-sample size was drawn from the population and used from 3 intact classes using the purposive sampling technique. Islamic Studies Performance and Retention Ability Test (ISPRAT) was used as an instrument for data collection. The instrument was pilot tested, and the result obtained for reliability coefficient was 0.83 level of significance. Data was collected by self and analyzed research questions using Mean and standard deviation, and t-test was used to analysed and reject hypothesis one and retained hypothesis two. The study found that students taught the Islamic Economic System using the heuristic strategy performed better than those taught with conventional method in Islamic Studies in Senior Secondary Schools in Kaduna, Nigeria ($p = .003$). The Heuristic strategy retains students' Islamic Economic System knowledge in Islamic Studies in Senior Secondary Schools in Kaduna – Nigeria ($p = .185$). The study concluded by recommending that, Senior Secondary school authorities encourage teachers to use a Heuristic approach to teach Islamic Studies since it enhances students' performances. A Heuristic strategy should be used instead of the conventional teaching method to retain the Islamic Economic System in students.

Keywords: *Academic Performance, Heuristic Strategies, Islamic Studies, Retention Ability*

Introduction

To transfer knowledge to students, teaching entails communication between teachers and students. It's a complicated and diverse field that demands teachers to skilfully handle multiple tasks and goals at once. Rules or regulations that emphasise the need of purposeful instruction must be put in place to facilitate effective teaching. At its core, teaching is the process of imparting information about a subject to others. It is the work, vocation, or career of a teacher and includes the ideas or values that experts in a field impart. This applies to nearly every subject that students should learn from their instructors, who use a variety of teaching techniques and resources to promote thorough learning.

Educators engage in a range of activities during teaching in order to assist students in achieving desired learning objectives. It entails imparting information, guiding people through tasks, and promoting learning or comprehension through experience or example. Helping people learn more, sharing experiences, and benefiting from one another's expertise is at the heart of both the art and science of teaching. To support learning objectives, teaching involves establishing an atmosphere and interacting with people. Important components that are necessary for motivating people to study are skill, knowledge, and focus (Smith, 2018). These definitions emphasise how interactive learning is—involving students, teachers, and the learning environment. Since teachers' behaviours in the classroom are greatly influenced by their knowledge of the meaning and duties of teaching, it is imperative that they have clarity and accuracy on these matters. Successful teaching outcomes are influenced by having a solid understanding of the subject, having access to high-quality materials, and being able to effectively engage students.

The needs, feelings, and experiences of the students must always be taken into account when teaching. According to Kabir (2020), teaching is assisting students in participating in the process that makes knowledge production easier rather than just making them memorise results. There are many different teaching styles, and using a variety of instructional strategies is essential to implementing a curriculum successfully. Therefore, an effective teacher should always be coming up with new ways to improve the learning process. In any teaching-learning situation, the method or approach selected is crucial because it affects students' interest in or dislike of a subject. Using the right teaching strategies is crucial to a successful curriculum implementation. A teacher's approach can either facilitate or hinder learning, increase mental activity, and develop initiative and curiosity (Yusuf, 2012).

Learning strategies are a procedure that prioritizes the requirements and preferences of the learners. When the curriculum is built upon the needs and interests of the learners, the process of planning learning becomes more significant and intentional for them. Moreover, learners tend to be more motivated to learn when the content aligns with their desires rather than being dictated by adult-prescribed material. The driving force behind motivation is not the potential rewards or punishments learners might encounter but rather the relevance, authenticity, and significance of the acquired knowledge.

Similarly, other strategies are referred to as learner-centred, where the learners are seen and made to be creative, participatory, and collaborative in classroom interaction. The current research focuses on the learners-centred strategies where learners will be encouraged in their activities to create knowledge to make decisions and encourage teamwork. These call for selecting Heuristic strategy to see whether they will improve on retaining learners' attention and boosting their performance.

Proficiency in retaining and performing religious studies has become increasingly significant in Nigeria. Retention, in this context, refers to consistently recalling information or materials learned later. The effectiveness of retention is influenced by the teaching strategy employed, with factors such as meaningfulness, familiarity, and image-evoking characteristics of the materials playing a crucial role (Bichi, 2002). Retention is what is learned minus what has been forgotten, highlighting the importance of memory in the learning process (Mang & Mankilik, 2009). The theories of forgetting underscore that the passage of time can contribute to memory loss. Consequently, students should enhance their retention abilities through techniques like memorization, practical exercises, and activity-based learning, which are the chosen strategies in this study.

Islamic studies entail the academic exploration of Islam, constituting a multidisciplinary field that parallels other disciplines focusing on history, texts, and theology. Additionally, it serves as a discipline aiming to elucidate the achievements of the Islamic world in the past and anticipate its future. The well-being and sustainability of a nation are intricately linked to the lifestyle of its members, encompassing their moral and mental orientation and societal cohesion. Islamic studies recognize this reality, emphasizing examining society and pursuing balanced outcomes (FME, 2013). It serves as a subject that facilitates comprehensive learning and teaching about all aspects of the Islamic religion.

Students at Senior Schools today are not performing well in Islamic studies, and their concentration, attention, interest, remembering, and retention are so low that it is shown or seen

in the outcome of their results. The issue at hand may be attributed to Islamic studies teachers' insufficient knowledge of contemporary teaching strategies. Furthermore, it may also stem from the unskilful and unprofessional selection and application of these modern pedagogical methods. Additionally, factors such as lack of creativity, inadequate motivation, and challenges in managing large class sizes could contribute to the decline in students' performance in Islamic studies. These considerations, among others, prompted the necessity for the current study. Hence, the effect of Heuristic strategy on academic performance and retention ability of students in Islamic Studies in Senior Secondary Schools in Kaduna State, Nigeria.

Statement of the Problem

Islamic studies curriculum is one of the curriculum contents taught at senior secondary schools. Therefore, Islamic studies teachers should implement it using different instructional strategies to bring academic success to the students at such levels. Research findings, observations, and practical experience revealed student performance inconsistencies. Results in Islamic studies in senior secondary schools in recent years prove that. Evidence is shown in the works of Ibrahim (2019). The results revealed such inconsistency in students' performances in Islamic Studies. Islamic studies students may present good grades in their final results. However, the level of knowledge comprehension, application and recalling or bringing back from the memory what the teacher taught in the class may need to be revised. A series of attempts were made to curtail this problem, but the story is the same today.

In addition, Islamic studies teachers are also found wanting in the relevant selection, utilization, and improvisation of instructional materials that will take care of students with different learning styles and, at the same time, sustain and retain students' interest and attention (Bolanle, 2021). The inability of teachers to adopt relevant teaching strategies could have a devastating effect on students' academic performance and retention in Islamic studies (Kabir, 2020). Moreover, Islamic studies students of today are fond of displaying negative attitudes to learning; these attitudes distract the learners' attention, retention, interest, and concentration, by extension, making the learners un-participatory, un-collaborative, and un-creative.

A teaching strategy that calls for interactivity, cooperativeness, and collaboration is among the better approaches to teaching and learning Islamic studies at senior secondary levels; hence, the choice of Heuristic strategy in the present study, in which Nguyen, Wiliam and Nguyen (2012) made similar assertion. Research findings, observations, and practical experience revealed student performance inconsistencies. Results in Islamic studies in senior secondary

schools in recent years prove that. Evidence is shown in the works of Ibrahim (2019) and Aliyu (2023). The results revealed such inconsistency in students' performances in Islamic Studies. Islamic studies students may present good grades in their results. However, the level of knowledge comprehension, application and recalling or bringing back from the memory what the teacher taught in the class may need to be revised. A series of attempts were made to curtail this problem, but the story is the same today. These problems and many more call for the current research, the study of the effect of Heuristic Strategy on Academic Performance and Retention of Students in Islamic Studies in Senior Secondary Schools in Kaduna State, Nigeria.

Objectives of the Study

The objectives of the study are to:

- i. determine the post-test performance scores of students taught Islamic Economic System using Heuristic strategy and those taught using conventional strategy in Islamic Studies in Senior Secondary Schools in Kaduna State, Nigeria.
- ii. ascertain the post-test performance and post-post test retention ability scores of students taught Islamic Economic System using heuristic strategy in Islamic Studies in Senior Secondary Schools Kaduna State, Nigeria.

Research Questions

The following questions guided the conduct of the study:

- i. What are the post-test performance scores of students taught Islamic Economic System using Heuristic strategy and those taught using conventional strategy in Islamic Studies in Senior Secondary Schools in Kaduna State, Nigeria?
- ii. What is the difference in the post-test performance scores and post-post test retention ability of students taught Islamic Economic System using the Heuristic strategy in Islamic Studies in Senior Secondary Schools in Kaduna State, Nigeria?

Hypotheses

The following null hypotheses were tested at a 0.05 level of significance:

- H₀₁: There is no significant difference between the post-test performance scores of students taught Islamic Economic System using Heuristic strategy and those taught using conventional strategy in Islamic Studies in Senior Secondary Schools in Kaduna State, Nigeria.

H0₂: There is no significant difference between the post-test performance scores and post-post test retention ability of students taught Islamic Economic System using Heuristic strategy in Islamic Studies in Senior Secondary Schools in Kaduna State, Nigeria.

Methodology

The research employed a Quasi-experimental design, incorporating a post-test as suggested by Sambo (2008) and a post-post test for assessing retention ability. The study population comprised all SS II Islamic Studies Students in Kaduna State, Nigeria, Senior Secondary Schools with a population of 2,138 students. The research sample comprised one hundred and ninety-five (195) students which was gotten from Zaria Quality Assurance Authority, Kaduna State, specifically drawn from SS II Islamic Studies students using purposive sampling technique.

The instrument used in this study was a self-structured test item titled "Islamic Studies Performance and Retention Ability Test (ISPRAT)". It comprised 40 multiple-choice items, which were used for the study to determine the student's performance prior to the treatment on the issues of zakat and sadaqah in Islam and after treatment, as well as their retention ability in the experimental and control groups. The students were made to select correct options from four (4) alternative responses (A-D), drafted from topics on the concept and importance of zakat, baytul-mal and sadaqah in Islam. The test design was administered for a specific period of forty (40) minutes. The responses and the findings from the set test were used to evaluate the effects of heuristic strategy on the performance and retention ability of students in Islamic Studies. The instrument was subjected to face, content, construct, and predictive validity from experts in the fields of curriculum and instruction, Islamic studies, test and measurement, and the department of English language, both in Ahmadu Bello University and the Federal College of Education, Zaria. A total number of twenty (20) students from GSS Dakace were used for a pilot test and a test-retest reliability analysis of the instrument was performed using Pearson Product Moment Correlation (PPMC) and obtained reliability coefficient of 0.83 at the 0.05 significance level. This indicates a strong and positive correlation, affirming the instrument's reliability in the actual research.

A teaching intervention was provided to two experimental groups. Following the teaching sessions, the researcher, along with the assistance of Islamic Studies teachers serving as research assistants, conducted the Islamic Studies Performance and Retention Ability Test (ISPRAT) post-test for both the experimental and control groups. In the first experimental

group, the Islamic Economic System was taught using the Heuristic strategy, while the control group received instruction on the same topics through the traditional lecture method. Post-tests was administered, with the first occurring immediately after four weeks of lessons for both groups. This initial post-test aimed to assess the effectiveness of the treatment in improving students' performance scores in learning about the Islamic economic system. The second post-test occurred two weeks after the first one, testing the retention ability of students to retain the knowledge acquired during the instructional period. The researchers used Mean and Standard Deviation at the descriptive level to analyse the research questions while a t-test was used to analyse research hypotheses using the Statistical Package for Social Science (SPSS version 23).

Results

Research Question One: What is the post-test performance scores of students taught Islamic Economic System using Heuristic strategy and those taught using conventional strategy in Islamic Studies in Senior Secondary Schools Kaduna State, Nigeria?

To address this research question, an examination outcome was utilized, and the overview of the scores is outlined in Table 1.

Table 1: Mean and standard deviation on differences in the post-test performance scores of students taught Islamic Economic System using Heuristic strategy and those taught using conventional strategy in Islamic Studies in Senior Secondary Schools in Kaduna State, Nigeria

Variable	N	Mean	SD	Mean Diff.
Post-test Heuristic Str.	65	24.73	2.92	
				7.6
Post-test Conventional	70	17.18	3.07	

Source: (Field survey, 2023)

The examination of the outcomes presented in Table 1 indicates the contrast in the average post-test performance scores of students instructed in the Islamic Economic System using the Heuristic teaching strategy and those taught through the conventional method in

Islamic Studies at Senior Secondary Schools in Kaduna State, Nigeria. The findings unveiled a post-test mean performance of 24.73 for students taught the Islamic Economic System using the Heuristic teaching strategy, compared to a post-test mean performance of 17.18 for those taught with the conventional method, resulting in a mean difference of 7.6 in favour of the Heuristic teaching strategy. This implies that the Heuristic teaching strategy proved more effective than the conventional method in instructing students in the Islamic Economic System in Senior Secondary Schools in Kaduna State, Nigeria.

Research Question Two: What is the difference between the post-test performance scores and post-post test retention ability scores of students taught Islamic Economic System using Heuristic strategy in Islamic Studies in Senior Secondary Schools Kaduna State, Nigeria?

To address this research question, the analysis relied on a test outcome, and a concise overview of the scores is provided in Table 2.

Table 2: Mean and standard deviation on retention ability of Students taught Islamic Economic System using Heuristic strategy in Islamic Studies in Senior Secondary Schools in Kaduna State, Nigeria

Variable	N	Mean	SD	Mean Diff.
Post-test Heuristic Str.	65	24.73	2.92	
				0.24
Post-post-test Heuristic Str.	65	24.97	3.06	

Source: (Field survey, 2023)

The investigation results in Table 2 demonstrate how differently students taught the Islamic Economic System in Islamic Studies in Senior Secondary Schools in Kaduna State, Nigeria, could retain the material. The findings showed that students' post-test mean scores were 24.73 and 24.97, respectively, with a 0.24 difference. This indicates that in Senior Secondary Schools in Kaduna State, Nigeria, the heuristic teaching approach preserves students' learning experiences in Islamic Studies.

Null Hypothesis One: There is no significant difference between the post-test performance scores of students taught Islamic Economic System using Heuristic strategy and those taught using conventional

strategy in Islamic Studies in Senior Secondary Schools Kaduna State, Nigeria

Data collected to address the null hypothesis one was summarised and presented in Table 3.

Table 3: t-test analysis on the mean difference of post-test performance scores of students taught Islamic Economic System using Heuristic strategy and those taught using conventional strategy in Islamic Studies in Senior Secondary Schools in Kaduna State, Nigeria

Variable	Mean	SD	Df	t-cal.	Sig.
Post-test Heuristic Str.	24.73	2.92	133	11.95	.003
Post-test Conventional	17.18	3.07			

Source: (Field survey, 2023)

Table 3 examines the differences in the mean performance scores on the post-test between students taught the Islamic Economic System in Senior Secondary Schools in Kaduna State, Nigeria, using a heuristic teaching style and those taught it conventionally. Because of the sig, the null hypothesis is rejected. A value of .003 is considered less significant at the 0.05 level. Thus, in Islamic Studies at Senior Secondary Schools in Kaduna State, Nigeria, there is no discernible difference in the post-test performance scores of students taught the Islamic Economic System using a heuristic teaching strategy and those taught it using a conventional method.

Null Hypothesis Two: There is no significant difference between post-test mean performance scores and post-post test retention ability of students taught Islamic Economic System using Heuristic strategy in Islamic Studies in Senior Secondary Schools Kaduna State, Nigeria

Data collected to address the null hypothesis four was summarised and presented in Table 4.

Table 4: T-test analysis on the mean difference between post test performance scores and the retention ability test of students taught Islamic Economic System using Heuristic strategy in Islamic Studies in Senior Secondary Schools in Kaduna State, Nigeria

Variable	Mean	SD	Df	t-cal.	Sig.
Post-test Heuristic Str.	24.73	2.92			
			128	.987	.185
Post-post-test Heuristic Str.	24.97	3.06			

Source: (Field Survey, 2023)

Table 4 revealed the difference in the post-test and post-post-test mean performances of students taught the Islamic Economic System in Islamic Studies in Senior Secondary Schools in Kaduna State, Nigeria, utilising heuristic teaching technique, is displayed in Table 4's analysis of data. Because the sig. A value of .185 is more than the 0.05 significance level, so the null hypothesis is retained. This indicated no discernible difference between the retention ability scores of students taught the Islamic Economic System utilising heuristic teaching techniques in Islamic Studies in Senior Secondary Schools in Kaduna State, Nigeria, and the post-test means students' performance scores.

Discussion of Findings

Based on the findings of the study, the following discussions were made. Students instructed in the Islamic Economic System using the Heuristic teaching strategy demonstrated significantly higher performance than those taught using the conventional method in Islamic Studies in Senior Secondary Schools in Kaduna State, Nigeria ($p = .003$). This observation aligns with Eze's (2001) assertion that a systematic approach to problem-solving, such as heuristic learning, fosters positive learning habits, contributes to clarity in thinking, enhances logical reasoning, and promotes intellectual development. When these attributes are cultivated, there is a positive impact on students' performance and retention. In heuristic strategy, students are presented with a problem and tasked with finding a solution through various literacy means, such as libraries, laboratories, workshops, etc. The teacher's role is to initiate the learning process, and students actively engage throughout, utilizing creative thinking and imagination to arrive at solutions based on logical reasoning. This addresses the first research question: "What are the post-test performance scores of students taught the Islamic Economic System using Heuristic strategy compared to those taught using the conventional strategy in Islamic Studies in Senior Secondary Schools in Kaduna State, Nigeria?" This, however revealed that

there is no significant difference between the post-test performance scores of students taught Islamic Economic System using Heuristic strategy and those taught using conventional strategy in Islamic Studies in Senior Secondary Schools in Kaduna State, Nigeria.

Heuristic teaching strategy significantly retains students' knowledge of the Islamic Economic System in Islamic Studies in Senior Secondary Schools in Kaduna State, Nigeria ($p = .185$). This finding resonates with Shika's (2019) assertion that Heuristic strategy aids learners in approaching problems scientifically, broadens their minds, encourages critical thinking, logical reasoning, and active involvement in learning. It makes learning more meaningful, joyful, and permanent, fostering enthusiasm and interest in students. This responds to research question four, which investigates the difference in the post-test retention ability of students taught the Islamic Economic System using Heuristic strategy compared to those taught using the conventional strategy in Islamic Studies in Senior Secondary Schools in Kaduna State, Nigeria. This is a confirmation that there is no significant difference between the post-test performance scores and retention ability of students taught Islamic Economic System using Heuristic strategy in Islamic Studies in Senior Secondary Schools in Kaduna State, Nigeria.

Conclusion

Heuristic teaching strategy in Islamic Studies promote motivation, active participation and efficient collaboration in the instructional process. Students create knowledge by themselves, develop confidence and defend their findings in a small group or large class. Moreover, the peer technique of sharing ideas, knowledge, opinions, and thoughts worked better in these strategies. It was therefore deduced that the two strategies call for respecting each other's views, learning through peer and share, and developing independent learning and critical thinking skills. Knowledge and experiences learnt and gained through the use of these strategies are concluded to be stored or retained longer and recall the same known concept without much difficulty. It was also supposed that using these strategies could make the teacher less burden, more active in the observation and mere facilitation and learners more active than passive.

Based on the findings, the study also concluded that Heuristic strategy improve the teaching and learning of Islamic Economic System in Islamic Studies of Senior Secondary Schools in Kaduna State, Nigeria. The results also showed that Heuristic strategy can retain student knowledge. Therefore, it implies that students will learn Islamic Studies better when taught with Heuristic strategy in Senior Secondary Schools in Kaduna State, Nigeria.

Recommendations

Drawing from the outcomes of this study, the following recommendations are put forward:

1. School authorities should train teachers and create awareness on the proper use of Heuristic strategy and encourage Islamic Studies teachers to use Heuristic strategy to teach Islamic Studies in all the topics since it enhances students' performances.
2. Islamic Studies teachers should be motivated to use Heuristic strategy. This is because there is good student retention of Islamic Studies content; a heuristic strategy should be used instead of the conventional teaching method.
3. Students on their sides should be encouraged by their teachers to develop the habit of solving-problems within and make them become self-dependent, creative and critical thinkers, as well as problem solvers.

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