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KNOWLEDGE RETENTION OF CATALOGUING AND CLASSIFICATION COURSES AMONG UNIVERSITY UNDERGRADUATES IN ANAMBRA STATE, NIGERIA; THE PLACE OF JIGSAW AND LECTURE METHODS

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ABSTRACT

The purpose of this study was to determine the effect of jigsaw teaching strategy on tertiary students' retention in Cataloguing and Classification course. Two research questions guided the study. The study adopted a pre-test, post-test non-equivalent quasi-experimental design. The population of the study consisted of 250 second year library and information science students while the sample size was 45 students drawn through simple random sampling technique. A purposive sampling technique was employed to obtain two universities within Anambra State that have well equipped teaching laboratories, Nnamdi Azikiwe University, Awka and Chukwuemeka Odimegwu Ojukwu University, Igbariam, Federal College of Education(Technical) Umuze (Degree Awarding Institution affiliated to Nnamdi Azikiwe University, Awka) were selected. This is because the researchers needed well-equipped universities with well-equipped laboratory and experienced lecturers. Instrument used for data collection was Cataloguing and Classification Retention Test (CCRT), which was constructed and validated by the researchers. Reliability co-efficient of 0.86 were established using Kuder-Richardson (KR-21). Research questions were answered using mean and standard deviation. The results indicated that teaching with jigsaw teaching method enhances students' retention in cataloguing and classification than using lecture method. Also, teaching with jigsaw teaching method enhances male students' retention in Cataloguing and Classification than female students. It was recommended that lecturers should be encouraged to adopt jigsaw teaching method in teaching.

Key words: Jigsaw, Retention, Cataloguing and Classification, University.

INTRODUCTION

Background and Problem

In Nigerian library schools, Cataloguing and Classification is one of the core courses every student must pass before going to the next class. Cataloguing and Classification is being taught both at the undergraduate and postgraduate (Masters) level in the university system in Nigeria and other parts of the world (Olubiyo,2023). Cataloguing and classification are essential aspects of quality library services by facilitating proper arrangements of information resources which would also enhance prompt and ease of identifying, retrieving and using formation resources (Ajani Amzat James, Sulyman,2022). Hence, Iwhiwhu (2020) affirmed that undergraduates in particular have negative attitude towards the study of cataloguing and classification as well as the use of the library catalogue in the library. Despite the importance of the courses in the library profession and schools, it was

observed from library educators and students that there is apathy for the courses in the library schools (Olubiyo, 2023). The author further opined that some graduates in library schools are not interested in working in the cataloguing section of the library. Olubiyo further stated that cataloguing is the most difficult major subject. Irrespective of the importance and interesting nature of cataloguing and classification and its role in Nigeria economy development, most students seem to hate, have fear for the course and dislike the course which results to mass failure in the course. So much has been said on the abstract nature of Cataloguing and Classification concepts. Cataloguing and classification were done manually which made the work very difficult, boring and time consuming (Orbih & Aina, 2014).

Retention in education refers to a learner's ability to recall and retain acquired knowledge in his/her memory within intervals of time. Retention is also the ability of the student to recall what is taught after a given period of time (Nwanze, 2016). The author also refers to students' learning retention as the students' ability to recall the lesson contents measured through an achievement in the contents areas over a given period of time. Retention is the ability of the cataloguing and classification students to recall what is taught after a given period of time. Whatfix (2022) listed strategies for improving learning retention to include: spaced learning, blended learning, micro learning, video learning, interactive and engaging content, apply learning to the real world, teach others, learning in the flow of work, take tests, learn from mistakes, use a mix of learning formats.

Importance of jigsaw teaching strategy in education cannot be overemphasized. The jigsaw teaching strategy is a collaborative learning approach, which was first developed by Elliot Aronson in 1971 (Dhull & Verma, 2019). They further opined that it is believed that each student is different and as a member of the team he/she contributes unique. Thus, Dhull & Verma further stated that it can be concluded that each student plays a vital role to complete the assignments given by the teacher by cooperating with other students. According to Firestone (2021) the general steps involved in jigsaw method are as follows: Divide students into groups of five or six, Assign a group leader, Divide the assignments up into sections that equal the number of students in each group, Give each student in each group one segment of this topic to learn, Students take the required time to learn their part of the lesson and rehearsing what they will be presenting to their main group, Each group member then returns to his/her original group and teaches what he/she's learned (cited in firestone, 2021).

It appeared that majority of the lecturers use the lecture method often than other teaching methods to teach Cataloguing and Classification. This may be a reason for students' continued poor retention in Cataloguing and Classification (Lawan, 2016). When teachers teach, their first target is the learner, because unless someone is learning, there is no teaching (Agogo, Arubi, Ogbeba & dernen, 2017). The authors further opined that it should also be stressed that the nature of the learning materials affects learning in term of nature, level of difficulty and skills required. However, teaching methods play important role towards the success or other wise of the teaching and learning process (Yusuf & Umar, 2019). They further opined that teaching methods which support the learner to have control over his learning should always be encouraged by all education stake holders. These teaching methods are regarded as cooperative method.

Knowledge retention refers to the process of absorbing and retaining information (Bloomfire, 2022). Techniques to improve knowledge retention according to Malik (2022) include teach using real life example, first impressions matter, monitor closely, include quizzes and tests throughout the session, encourage your students to use the knowledge they learn, be creative and unique, representing the story through various formats,

Statement of the Problem

There has been a continual report on poor retention of students in semester examinations in the university Cataloguing and Classification course. A number of factors which have been found to be responsible for this situation include poor teaching method, and poor attitudes of students to study, inadequate laboratory activities, and practical work (Osuafor, 2017).

Purpose of the Study

This is a study of the retention ability of university students in cataloguing and classification course. Specifically, the study intends to:

1. Ascertain the mean retention scores of students taught with jigsaw teaching method and those taught with lecture method.
2. Ascertain the effect of gender on the mean retention score of students' exposed to jigsaw method.

3. Research Questions

1. What would be the mean retention scores of students taught with jigsaw teaching method and those taught by lecture method?
2. What is the effect of gender on the mean retention score of students' exposed to jigsaw method?

Review of Related Literature

University education is a generic term referring to the education offered at universities. A university, on the other hand, represents both a higher learning institution and a community of scholars or persons (Alemu, 2018). This type of education normally follows upon a successful completion of education at secondary school or other mid-level colleges and tertiary institutions. Students are normally awarded academic degrees after going through an undergraduate or a postgraduate education by the respective universities (IvyPanda, 2023).

The choice of possessing and acquiring relevant knowledge and relevant instruction technique by a qualified Cataloguing and Classification lecturer cannot be over emphasized. Putting into consideration the topic to be taught, provision of materials, enabling environment, experience, learner's ability and level should be the starting point and a foundation for meeting lecturer's and learner's needs, in attaining effective communication in cataloguing and classification classroom. According to Alachi, Ugwu, Chukwunenye and Anozie (2017). Lecture method is a teaching method where an instructor is the central focus of information transfer. The authors further opined that in lecture method the teacher talks to the students and writes on the chalkboard. A lecture is also a passive form of learning where the learner simply sits back and listens to information being spoon-fed to them by the teacher or professor (Whatfix, 2022). They further opined that lecture is one of the most ineffective methods for learning and retaining information. Lectures may include several different types of delivery (Sanda & Mazia, 2017). However, depending on the requirements of any particular circumstances, a lecture is usually delivered in one of ways (Sanda & Mazia, 2017):

- Reading from a typed or written manuscript.
- Reciting memorized materials without the aid of a manuscript.
- Speaking extemporaneously from an online.
- Speaking impromptu without preparation.

Cataloguing and Classification subjects are educational subjects relevant to the development of the nation. Cataloguing and Classification is the study of various ways through which library materials are organized for easy retrieval. It helps one to understand the collections available in the library. It

helps students to acquire skills, competencies, attitudes, and knowledge required for world of work. Cataloguing and Classification subjects in university are also known as organization of knowledge. There is need for adequate training and preparation of minds for Cataloguing and Classification activities in all library and information science department classroom. That could be the reason for generically referring Cataloguing and Classification as organization of knowledge. It is an aid to search and one of the foundations on which information location rests. Lecturers of Cataloguing and Classification subjects are professionals who are constantly aware of the state of the art in library education and library world. They impart requisite skills and knowledge to students for and about library. Practices or Procedures of cataloguing involves descriptive cataloguing, authority control, subject cataloguing and classification. No student can graduate without requisite knowledge of how to catalogue and classify materials.

Retention has to do with students' being able to reproduce what they have learnt in the recent past (Nwanze, 2016). Retention on the other hand, refers to the ability of the learners to recall information, ideas or learning activities at a later time which he/she may be asked to mention, write or remember after some time (Yusuf a& Umar, 2019). The authors further opined that retention is a very important aspect of students' learning or rather an aspect of measuring the cognitive ability of learners.

Dat(2016) examined the effects of jigsaw learning on students' knowledge retention in Vietnamese higher education. Pre-test-Post-test was adopted. The findings show that a month after the experiment, students in the jigsaw group had greater long-term achievement than those did in the lecture group. However, students in both groups had a similar percentage of knowledge retention on the delay test of achievement. They retained nearly all of what they had learned(approximately 99 percent of knowledge) a month after the six weeks of the instruction.

Some research studies have been carried out on the effect of jigsaw on students' retention. However, Omokorede and Siyelen (2021) studied the effect of jigsaw instructional strategy on senior secondary school students; knowledge retention in physics in Jos, Nigeria. The objective of the study was to determine the effect of jigsaw instructional strategy (JIS) on students' knowledge retention towards physics, based on score levels and gender. The study was a quasi-experimental, pre-test and post-test control group design. Purposive sampling technique was used to select two schools, from which two intact classes of senior secondary school two students in physics were involved in the study. A total of 84 students comprising the experimental and control groups (experimental group =43; control=41) took part in the study. The instrument used for data collection was Physics Retention Test(PRT). The reliability of PRT was ensured using Kuder Richardson formula-21, with a reliability coefficient of 0.79. Four research questions raised in the study were answered using frequency, percentage, mean and standard deviation while the hypotheses formulated were tested using t-test and Analysis of Covariance (ANCOVA) at 0.05 levels of significance. The findings from the study showed that JIS improved students' knowledge retention in physics irrespective of gender and score level.

Method

The research design adopted in the conduct of this study was quasi-experimental design. The area covered was Anambra State of Nigeria where two public universities were randomly drawn from five (5) universities in Anambra State using purposive random sampling technique. The population consists of all second year students in universities in Anambra State offering library and information science programme. The second year students were chosen because the foundational

knowledge required to study cataloguing and classification is impacted at this level. The population comprised 250 library and information science students from two universities in Anambra State offering the programme namely, Nnamdi Azikiwe University, Awka and Chukwuemeka Odimegwu Ojukwu University, Igbariam. Purposive sampling technique was used to select two universities based on the facilities available in the university. Purposive sampling technique was used to select 45 LIS students from the population. The two schools selected were assigned to experimental group (E) and control groups (C) by simple flip of coin. Experimental group had 33 students while control group had 12 students. The choice of the universities was carefully made so as to remove interaction effect among students in different treatment groups. The researchers constructed multiple choice questionnaire titled 'Cataloguing and Classification Retention Test' (CCRT) which was used as instrument for data collection. CCRT was developed by the researchers. It is made up of 25 questions. Each of the questions had four options from which the testee is expected to choose the right answer. The experimental group was taught using jigsaw while the control group was taught using the lecture method. At the end, the same test was administered on both the experimental and control group. The reliability of the instrument was established using Kuder Richardson (KR 21). The reliability of the instrument was found to be 0.86. Mean and standard deviation scores were used to answer the research questions.

Results

Research Question 1

What would be the mean retention scores of students taught with jigsaw teaching method and those taught by lecture method?

The answer to research question one is presented on Table 1.

Table 1: Mean knowledge retention scores of students taught with Jigsaw method and those taught with lecture method

S/n	GROUP/ Method	N	Mean	Std. Deviation
1	Jigsaw(Experimental)	33	42.27	15.47
2	Lecture(Control)	12	25.83	14.28
	Total	45	37.89	16.70

Table 1 presents the result on the mean retention scores of students taught with jigsaw teaching method and those taught using lecture method. The summary of the mean retention scores of students taught with Jigsaw method and those taught with lecture method presented in Table 1 shows that the students in the experimental group who were taught with jigsaw method scored 42.27 with standard deviation of 15.47 while those in the control group who were taught with lecture method scored 25.83 with standard deviation of 14.28. This indicates that jigsaw method enhanced the retention of students more than lecture method.

Research Question 2: What is the effect of gender on the mean retention scores of students exposed to Jigsaw method? The answer to research question two is presented on Table 2.

Table 2: Mean retention scores of male and female students taught with Jigsaw method

S/n	Gender	N	Mean	Std. Deviation
1	Female	31	41.45	13.55
2	Male	2	55.00	42.43
	Total	33	42.27	15.47

The data in Table 2 presents the results on effect of gender on the mean retention scores of students exposed to jigsaw method. The summary of the mean pre-test and post test scores of male and female students **taught with jigsaw method** shows that female students obtained a mean pre-test and mean post-test scores of 41.45 and 13.55 respectively while the corresponding figures for male students are 55.00 and 42.43 respectively. It could be observed that male students who were taught with jigsaw had a higher mean gain of **40.00 as against 30.00 obtained by female students**. This result suggests that teaching with jigsaw method enhances male students' retention in Cataloguing and Classification than their female counterparts.

Discussion

The result from Table 1 showed that Students taught cataloguing and classification with jigsaw teaching method have a better retention than the students taught with lecture method. Question 1 (Table 1) indicated that jigsaw approach promoted higher retention in Cataloguing and Classification than lecture method. The standard deviation values further implied that experimental group had higher number of extreme scores than the control group. This supports earlier report by Omokorede and Siyelen (2021), who asserted that jigsaw (JIS) improved students' knowledge retention in physics irrespective of gender and score level. Also table 2 showed that male students achieved better than female counterpart.

It is clear that the findings of this study suggest that the use of jigsaw must have improved instruction; therefore demonstrated more superiority over lecture method in students' retention in cataloguing and classification. These imply that instructional methods matters in the teaching of library and information science courses especially in Cataloguing and classification course.

Conclusion

The result of this study established the following:

1. The use of jigsaw teaching method enhanced students' retention in Cataloguing and Classification topics more than the lecture method. This was observed in the mean score of the experimental group being higher than that of the control group.
2. There is significant difference between the mean retention scores of male and female students taught with jigsaw in cataloguing and classification, as measured by the Cataloguing and Classification Retention Test (CCRT).

Recommendations

Based on the findings of this study, the following recommendations were made:

1. Jigsaw teaching strategy for teaching cataloguing and classification to tertiary

- institution students should be adopted by lecturers in all tertiary institutions in Nigeria and Anambra State in particular.
2. Conferences, workshops and seminars should be organized to train the cataloguing and classification lecturers on the importance of jigsaw in the teaching and learning of course.
 3. Management of tertiary institutions should provide enabling environment for lecturers of Cataloguing and Classification courses to use jigsaw teaching method.
 4. Library and Information Science curriculum developers should integrate jigsaw teaching method in the programme to achieve the desired objectives.

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