

The Effect of Collaborative Learning Strategy on Office Technology and Management Students' Academic Achievement and Interest in Office Management

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Abstract: *The study was conducted to ascertain the effect of collaborative learning strategy on office technology and management students' academic achievement and interest in office management. Two specific purposes, research questions and null hypotheses were carefully developed to guide the study. In carrying out this study, a quasi experimental design was adopted which involved both treatment and control groups to be used intact since no randomization was needed. The population of the study comprised of NCE III students. Two colleges of education were selected through a purposive sampling technique. One group comprising of 34 students of both male and female was assigned to the treatment group and the other group made up of 26 students was assigned to the control group. An instructional package was developed for each of the groups. Package for the treatment group was the collaborative learning strategy while the package for the control group was individualized learning method. Data were collected with the aid of two instruments namely: Office Management Achievement Test (OMAT) and the Office Management Interest Inventory (OMII). Both instruments were validated and necessary adjustments made. The internal consistency testing of OMAT using K-R20 yielded a reliability index of 0.94. Also, Cronbach alpha of 0.94 was obtained from the reliability testing of OMII. Data for the two research questions that guided the study were answered using mean and standard deviation. On the other hand, the two hypotheses that guided the study were tested using ANCOVA. The results revealed that collaborative learning strategy has a strong positive effect on Office Technology and Management Students' Academic Achievement and Interest in Office Management. Collaborative learning strategy, in this study, is better than the individualized learning method in enhancing both male and female students' academic achievement and interest. Therefore, the study recommended among others that curriculum planners should integrate the collaborative learning strategy into the office management curriculum because of its effectiveness in enhancing students' academic achievement and interest in the course. College management should train and retrain office management lecturers on ways of adopting and effectively using collaborative learning strategy in learning.*

Keywords: collaborative learning strategy, office technology and management, academic achievement, interest, office management

INTRODUCTION

Learning in technological classroom is no longer an issue of transferring knowledge. Learning has become an act of developing critical thinking, interaction, and collaboration among learners. Instead of teacher-centred approaches, the focus has shifted to learner-centred technique which allows autonomy among learners. Teachers are required to transform their pedagogical practices according to the evolving technology to better equip students with the skills needed to thrive in the 21st century and the 4th industrial revolution. Little wonder Chong and Yunus (2019) suggested that the most effective state to acquire knowledge is when a learner is aware of his needs and acts autonomously in his own learning. In this new educational dispensation, learners are no longer to be seen as empty vessels to be filled in, rather they are to be co-creators of knowledge; they are to take ownership of their learning and contribute significantly to the development of knowledge. Learners can monitor their own learning and could seize the opportunity to express themselves with their peers as well as the teacher who assumes the facilitator role (Schinkeke-LIano in Chong and Yunus, 2019). In this regard, teachers' ability and willingness to make use of learner-centered methods like collaborative learning strategy, competitive learning strategy and individualized learning or personalized learning strategy becomes very pertinent. Collaborative learning strategy is traceable to Vygotsky's socio-cultural theory as well as his concept of Zone of Proximal Development (ZPD) (Mohammed, 2016). The concept of Zone of Proximal Development is centered on a belief that learners do not learn in isolation but their learning is influenced by interactions that occur in a meaningful context. It is one of the learner-centered instructional approaches that allow social interactions which help learners to perform task(s) through initial help of their teachers. The teacher provides a task to be treated, starts by performing the task and gradually withdraws with the aim of helping the learner gain independence (Aslam Khanam, Fatima, Akbar and Muhammad, 2017). The teacher collaboratively engages learners to carry out tasks that are beyond their abilities. Teachers' involvement provides learners with needed help to finish the task which they cannot complete on their own. As an expert, the teacher reduces the cognitive anxiety clouding learners' ability to perform a task by providing a referent structure. A more knowledgeable person completely assists the learner and gradually withdraws from the task as learners abilities increase.

Undoubtedly, the application of collaborative learning strategy has the potency of enhancing effective learning of office management in colleges of education. This learning strategy actively involves learners at all levels of instructional delivery by making them active recipients, contributors and participants of instructional content and evaluation. The application of such strategy makes learners not to be spectators only but active contributors to learning. With this, learners will be motivated to learn as they have the opportunity to participate throughout the learning process thereby feeling that their contributions were valued. Schools are therefore

Publication of the European Centre for Research Training and Development-UK encouraged to adopt learning practices that promote the active involvement of students' learning in small-groups. The learning strategy will help students to gain and create both academic and social relationships as well as to accomplish shared goals. Through such kind of interactions, students learn to cross-examine issues, share ideas, elucidate differences, and construct new understandings.

If a member does not appear to understand the expectations of the task, then the teacher passes responsibility back to the group and walks away, leaving the group members to support their peer in coming to understand the expectations of the task (Jorgensen in Danjuma, 2015). This makes the teacher to be more of a facilitator than a dominant content expert. The teacher's goal is to assist learners achieve their objectives through motivating them as well as determining their process. With collaboration, teachers facilitate learning by assisting students at every step throughout the learning process. To have an effective collaborative learning group, Danjuma (2015) pointed out that teachers must know their students well. Grouping of students can be a difficult process and must be decided with care. Teachers must consider the different learning skills, cultural background, personalities and even gender when arranging collaborative groups. Utilization of collaborative learning strategy in learning office management can contribute to effective learning of the course. According to Mahmoud (2015), teachers' utilization of learner centered strategies such as instructional scaffolding which is applicable to the collaborative learning strategy motivates learners to be more interested in the learning process. Collaborative learning takes place in groups of five and six and helps in situations where there is inadequate number of teachers in a school. This could be useful in office management classes where there are sometimes inadequate teachers, inadequate and non-functional facilities, among others, in tertiary institutions. Students are encouraged to maintain active participation and interaction among themselves. The method is all embracing and accommodates every student irrespective of his/her academic background as they study first in their group cooperatively and collaborate among different groups later as illustrated below:

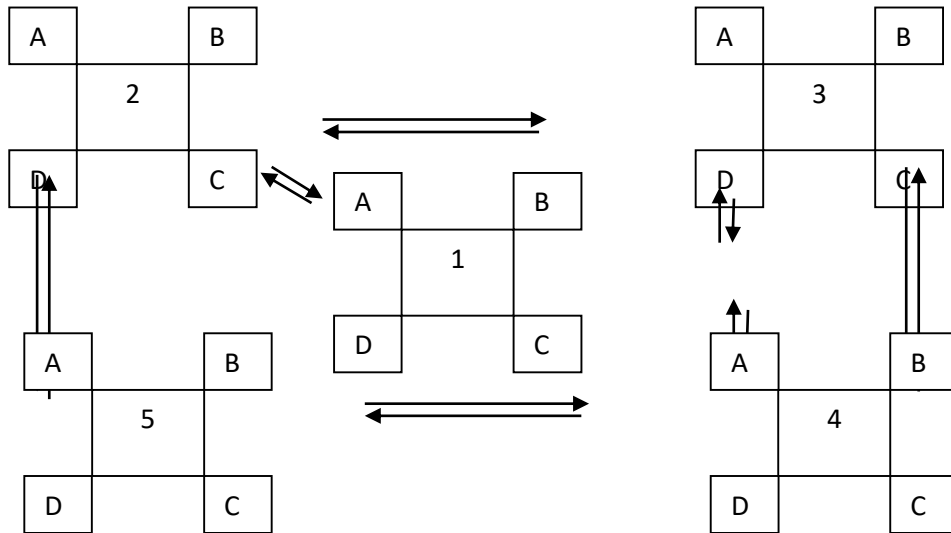


Fig 1: Pathways of collaborative method (Adopted from Igwe 2017 on TAI Group number – 1, 2,3,4 and 5; task schedule A,B,C and D. This is an indication that collaboration takes place within group and between groups. The figure above shows that in collaborative learning, learners in a major group can be shared into 4 of 4 members each that will allow them to interact with one another within their groups as well as interacting with other group members, having a synergy that will lead to academic achievement.

Collaborative learning cannot be applied through verbal instruction only. Collaborative learning refers to a learning method in which students at various performance levels work together in small groups toward a common goal. The students are responsible for one another's learning as well as their own. Thus, the success of one student helps other students to be successful (Slavin in Kulo 2021). Collaborative learning encourages active student participation in the small group learning. In collaborative classrooms, where every student learns from everyone else, no student is deprived of the opportunity for making contributions and appreciating the contributions of others. Each member of the group reaches his goal only if all the other members reach their own learning goals. Acikgoz in Altun (2022) defined collaborative learning as working of students in small groups and helping each other in the learning process. Deliente (2017) noted that collaborative learning method enhanced critical thinking of student. He further stated that students who participated in collaborative learning had performed significantly better on the critical thinking test than those who studied individually. Nwaodo (2016) discovered that application of learner centred instructional strategy helps in improving their classroom participation and critical thinking thereby helping them to retain knowledge required. Exposing the students to collaborative learning strategy helps them in the development of reflective thinking ability which facilitates information

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storage and retrieval when needed. More so, a study by Panitz in Kulo (2021) revealed that students who took part in collaborative learning method have the following advantages – increases students retention, builds self esteem, enhances students’ satisfaction with the learning experience, and promotes a positive attitude toward the subject matter. Luluk, Achmad, Mintarti and Achmad (2017) noted that learning is a change in behavior caused by mutual interaction between individuals and the environment with the aim of achieving their objectives.

Office Technology and Management (OTM) was the product of the review of the old secretarial studies for producing office workers in Nigeria. The review was taken with the view to produce graduates who could be efficient in management roles and have the confidence and practical skills necessary to put theory into practice. It is a programme of instruction which offers specialized instruction for office occupations and general business orientation. Baba & Akarahu in Umoru & Zakka (2019) asserted that OTM is used as a comprehensive term referring to aspects of the educational process involving, in addition to general education, the study of related technologies and related sciences and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of the economic and social life. Office Technology and Management programme is a fundamental part of vocational education in the Department of Business Education. Office Technology and Management, according to Yakubu in Agim (2016), is a programme from which students can obtain office administrative skills applicable to various careers, industries as well as cognitive skills transferable to other employment situations and life experiences. Ezeahurukwe & Ameh (2017) reiterated that OTM is an efficient, effective, productive and functional education which lends itself to self-employment, self-reliance, paid employment and consequently self-actualization. It focuses on combining office technical skills with adequate and relevant business knowledge in solving organization wide problems.

One of the objectives of OTM is to fully prepare students to be effective and competent in the world of work. According to the National Commission for Colleges of Education (2020), the objectives of OTM include: equipping graduates with the right skills that will enable them engage in a life of work in the office as well as for self-employment and to produce Nigeria Certificate in Education (NCE) business teachers who will be involved in the much desired revolution of vocational development right from the primary to tertiary institutions. Office technology and management programme had reached an advance stage that the responsibilities of a secretary now extend to wider boundaries far beyond that of a mere typist. Thus, a secretary can be regarded as a person who assists a member of staff or top management level, and who undertakes a lot of administrative tasks for the smooth running of the office (Wordnet in Igwe and Chukwu, 2019). This definition was confirmed by Wikipedia (2018) where a secretary is seen as a person

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employed to write orders, letters, dispatch public or private papers, records and the like; an official scribe, one who attends to correspondences and transacts other businesses for an association, a public body, or an individual. A secretary is an indispensable element in achieving organizational goals. He serves as a memory bank in his organization, scrutinizes visitors so as to prevent embarrassment and the loss of important documents which could consequently have a negative effect on the organization. Regrettably, records from colleges of education in Cross River State shows abysmal performance of Office Technology and Management students' in office management as shown in Table 1 below.

Office management is one of the vocational courses taught in colleges of education which involve preparing recipients with the relevant managerial skills to enable them fit in effectively in the world of work for national development. Ganesh (2023) defined office management as the process of planning, organizing, guiding, communicating, directing, coordinating and controlling the activities of a group of people who are working to achieve business objectives efficiently and economically. Office management is very imperative to the Nigerian economy as it inculcates in the learners, acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of the economic and social life and provides the basis for preparing future entrepreneurs, managers, employees and employers of labour. Considering the role of office information in decision making and critical thinking, leadership skills and general management of an organization geared towards efficient and effective realization of sustainable developmental goals, performance of office management students while in school becomes imperative.

According to Moore, Herzog and Perkins in Nwagwu (2022), teachers apply learner centered strategies to encourage and motivate learners to view a task as what they can commonly solve thereby gaining experience that contributes to their academic performance. With this, their anxiety and feeling of seeing the task as being difficult and beyond their individual ability will be reduced thereby making learners to be prepared for the instruction. In the same vein, learners' interest to participate in a class activity and undertake a task could be improved through asking them questions to ascertain their level of progress and how to start helping them. From their responses to the questions, the teacher can design the best way of assisting them to work on one task together and become creative towards performing the tasks. As contained in the NCCE (2020) minimum standard, the course is taught with the view to producing graduates who will be efficient in management roles and have the confidence and practical skills necessary to put theory into action. It is a course which offers specialized instruction for office occupations, general business orientation and prepares graduates for the world of work as global workers.

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Office Management course contents can be covered and realized through the use of appropriate learning strategy. The teacher is a major factor in the learning processes. Therefore, the ability of the teacher in selecting appropriate learning strategy(s) that will enhance students' understanding of the concept is very essential, as it will create room for good academic performance. Dresden and Lee in Dike and Umegboro (2015), also affirmed that when students are adequately engaged in the learning process, performance becomes higher as students find the classroom or learning environment more enjoyable and enriching. It therefore becomes imperative that new ways of presenting Office Management course contents be developed, such that theoretical or textbook knowledge are complemented with practical demonstrations and applications. National Commission for Colleges Education (2020) designed Office Management content to equip recipients with office skills for employment in various fields of endeavour. It includes acquisition of vocational skills, effective work competencies and socio-psychological work skills which are very essential to every day interactions with others. The implication of this is that office management teachers/lecturers need to re-examine their classroom method(s) of learning with the view of adopting or indeed devising school-based practical activities in which specific resources are effectively utilized to the benefits of the students (Eya in Dike and Umegboro, 2015). Office Management, according to Boyarsky (2020), involves the planning, design, implementation of work in an organization and its offices. This includes creating a focused work environment, and guiding and coordinating the activities of office personnel to achieve business goals. These activities are evaluated and adjusted to improve and maintain efficiency, effectiveness, and productivity. The focus of this definition is on the personnel because the road to an efficient workplace is paved with hardworking and efficiently managed individuals. The students' learning performance and achievement in Office Management (OM) have been poor over recent years. The poor performance and proficiency in Office Management might be caused by not having innovative and activity based approaches used in learning that stand up to challenges against the objectives of Office Management.

Academic achievement in this study is the extent to which a student has achieved his/her short or long term educational goal. Cumulative GPA and completion of educational benchmarks such as school diplomas and bachelor's degree represent academic performance. It represents outcomes that indicate the extent to which a person has accomplished specific goals that were the focus of activities in instructional environments, specifically in schools, colleges and universities. In educational institutions, success is measured by academic performance. The importance of students doing well in school has caught the attention of parents, legislators and government. Moreover, employers are also paying close attention to the education and students performances as they hire new graduates. Much effort is made to identify, evaluate, track and encourage the

Publication of the European Centre for Research Training and Development-UK progress of students in schools. Parents care about their children's educational performance because it is generally believed that good result will provide more career choices and job security. Schools that invest in fostering positive habits for the same reason are also often influenced by concerns about the school's reputation and the possibility of monetary aid from government, which can hinge on the overall academic achievement of the school. State and federal departments of education are charged with improving schools, and so devise methods of measuring success in order to create plans for improvement. Academic achievement is of utmost importance for the wealth of a nation and its prosperity as the results are used to analyze the strengths and weaknesses of a nation's educational system and to guide educational policy decisions. Academic achievement is therefore the achievement in standardized tests or examinations scored by a student. According to Niebuth in Jamillah (2016), academic achievement of students is typically assessed by the use of teacher's rating, tests, and examinations. The achievement of the above skills and competencies is anchored on the use of appropriate learning methods. Many learning methods have been in use in office management; however, the methods do not seem to be yielding the expected results. Below is the summary of students' achievement in Office Management in two Colleges of Education at the post final year level for five years.

Table 1: Summary of Students' achievement in Office Management in Colleges of Education in Cross River State, 2014 – 2018 Academic Sessions

SCHOOL	YEAR	GRADES					
		A	B	C	D	E	F
COE, Akamkpa	2014	2	3	4	7	8	5
	2015	-	-	7	8	5	4
	2016	1	4	8	-	6	2
	2017	1	2	4	6	9	3
	2018	-	3	5	8	10	6
FCE, Obudu	2014	1	3	5	6	9	4
	2015	-	2	8	9	7	3
	2016	-	3	-	10	5	1
	2017	2	-	6	8	9	4
	2018	-	2	4	7	6	-

Source: Records from Business Education Department of the Colleges.

The results indicate that there is a problem that needs to be properly addressed. This trend could affect the overall achievement of office technology and management students in colleges of education in Cross River State if it is not checked.

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Academic achievement could be described as an evidence of students' level of accomplishment of a set goal after going through an academic training which is qualified using their scores in a test. Maganga (2016) defined academic achievement as the performance of students in a test which is assessed using a specific rating scale. Therefore, academic achievement of students in office management indicates their level of acquiring the needed knowledge and skills after being exposed to office management learning activities. Confirmation of student's success or otherwise in office management course could be determined by administering test to them which will be marked and scores awarded. It involves the determination of the degree of attainment on individual tasks, courses or programme to which the individuals were sufficiently exposed.

Interest is a powerful motivational process that energizes learning, guides academic and career trajectories, and is essential to academic performance (Harackiewicz and Knogler, 2017) Learning of office management as a subject will be of no meaning if there is no interest on both the teacher and the learner. Students' performance level in office management is dependent upon their desire and willingness to be interested in the learning process. Interest is a caterpillar that drives a student to learn a particular thing in life if he/she feels that it will be of benefit to him or her in lifetime. Hornby in Kulo (2021) defined interest as "the feelings that you have when you want to know or learn about somebody/something". It is the quality that something has that attract attention of someone to know more about it. Interest stands as an instrument for motivation that direct one's willingness and desire to study, research and investigate a subject matter with the view of arriving at a concrete and qualitative output. It is believed that self-control is better than imposed control, anything that one willingly involve himself/herself to do will do it better as he/she will take his/her time to do it at whatever cost (money, material and time). Interest governs one's feeling and attitude towards a particular thing or activity. It implies, therefore, that the degree of interest one has in a subject or activity is determined by the level of value placed on the expected something derivable from the object or activity. If a student shows a higher interest in a course 'office management', this would help him or her to put in more time, effort and energy in learning which will in turn, lead to higher or better achievement (Godpower-Echie & Ihenko, 2017). It is evidence that when students' interest in office management becomes poor, the academic achievement in office management becomes poor also, this is to show that relationship between interest and cognitive achievement of learners in office management is significant. Some activities could tend to stimulate students to develop high interest in the learning of office management as is anticipated in collaborative method. This is because some learning contents in office management are complex, abstract and difficult to learn. To master such tasks for a reasonable achievement, perseverance and resilience are required by the learner, which are made possible with developed interest. It is on this basis that Gigena and Nweze in Kulo (2021) stated that the learning method

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employed by the teacher could influence interest positively or negatively. Ukamaka, (2014) opined that direct interest increases the strength of ego-involvement of the learner and does not allow learners to be distracted by trivial extraneous events in the perceptual environment. Interest in this study simply referred to the mental state of students in relation to the learning of office management. It is, therefore, necessary that teachers should use appropriate learning strategies that ensured active involvement; provide a suitable learning environment to improve academic achievement and stimulate the interest of the male and female students.

Gender is one of the variables that have been related to differences found in interest and academic achievement. Ukwueze in Agim (2016) is of the opinion that the instructional method used in the classroom has a way of either positively or negatively influencing students' gender and their academic achievements. The term refers to economic, social and cultural attributes and opportunities associated with being male or female. Essentially, gender refers to set of relationship, attitudes, roles, beliefs and attitudes that define what being a man or a woman is within a culture. It is a socially ascribed attribute as opposed to sex which is a biological attribute (Nnaka and Anaekwe in Anaekwe and Nnaka (2020). Ezenwosu and Nworgu in Nwagwu (2022) found that instructional strategies and gender did not interact as male and female students in the experimental group performed better than their peers in control group. However, despite the gender of the students, teacher's ability to effectively align learning methods with the needs of the students can influence their enthusiasm to learn thereby contributing to their performances. The finding also agreed with Bayim (2016) that whether a student is male or female, gender does not make a difference in their academic achievement. Many researchers agreed that there is no significant difference found between male and female students' achievement (Oleabhie in Kulo, 2021). More so, Eze, Ezenwafor and Obidile (2016) maintained that gender difference may exist but a good method should be capable of neutralizing the difference. Olusola-Fadumiye and Jamalludin (2021) emphasized that teachers ability to effectively use any method can lead to changes in students performance not really the learning method itself. Therefore, achieving good students performance may not really be based on the learning method used but the teacher's mastery of the method and his/her ability to effectively utilize the learning method. Where teachers effectively apply the appropriate methods in learning, attainment of the curriculum objectives will be eminent. Azih and Nwosu in Nwagwu (2022) agreed that teachers' use of learning methods influences the result to be gotten when students are evaluated at the end of an instructional involvement. It is imperative therefore to posit that academic achievement and interest of any programme depends on teachers' ability to use suitable learning methods. In teaching and learning office management in colleges of education, application of collaborative strategy allows students the opportunity of elaborating concepts to suit their level of understanding. Teachers notwithstanding the students'

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gender can blend learning strategies with the needs and aspirations of the learners to achieve the specific learning objectives. Therefore, effective application of collaborative learning strategy can help to actualize the learning objectives of office management despite the students' gender. Ewah (2016) stated that male students had lower scores on all of the standardized tests, being uniformly rated as performing less well in the area of reading, written expression, mathematics and spelling. The study equally noted that the higher rate of educational under-achievement in male was adequately explained by gender related differences in classroom behavior. Roberts in Agim (2016) revealed that females have general tendencies to think in negative ways about the task in which they are engaged. This attitude of females may affect their academic performance as this requires interaction with others through discussion in groups. Umar, Yagana, Hajja and Mohammed (2015) also affirmed that although the literacy rate is more among the boys than girls, it is quite interesting to observe that girls are securing better ranks than boys in almost all competitive examinations. Similarly, Mutchler, Uyar and Gungormus in Kulo (2021) argue that female students perform better than male.

They also maintained that both male and female students should be given equal opportunities in education and allowed to participate actively in teaching and learning situations. Bayim (2016) opined that many boys these days find school system overly hostile and they wrongly conclude that education and literacy are primarily of female concerns. Abakpa and Iji in Nwagwu (2022) found that there is no significant difference in academic achievement of male and female students. With their revelations, it is obvious that disparities in academic achievement of students might be disappearing creating equal competitive ground for both genders. Study carried out by Hyde and Mertz in Nwagwu (2022) revealed that both male and female students who were exposed to equal opportunity of deepening their understanding and access to assessing simple concept performed better without male students having edge over their female counterparts. Hyde and Mertz study revealed that female had slight better performance than their male counterparts. The influx of females into the programme is connected to the fact that the females have dominated the males even in performance in office management as a course. This seems to be true as enrollment into office technology and management programme that was hitherto seen to be male and female dominated seems to be contemporarily dominated by females. This surge in female enrollment may be as a result of their better performance which now serves as motivation to them. However, despite gender influence on students' achievement in office management, other factors such as effects of teacher's choice of learning strategies and their usage are imperative. With the contradictions and lack of a clear trend in gender influence on students' academic achievement and interest, more records of investigations have become necessary to establish a base for this study.

Statement of the Problem

In the period of this study, the Nigeria economy appears saturated with the magnitude population of educated unemployed graduates from various institutions of higher learning, roaming the street of urban and rural areas searching for non-existing white-collar jobs. To this extent, the general education system has therefore failed to yield the desired result as it has not matched with the expected pace of industrialization needed in the country. The skills that job seekers possess do not match the needs and demands of employers. The global changes in economic competitiveness are creating an increasing demand for competent young men and women with requisite skills that will make them relevant in the present modern office to face the economic reality of the nation. The Records obtained from colleges of education in Cross River State as shown in table 1 indicates poor performance in students' academic achievement in office management. Many methods like: student-centered method, teachers-student interactive method, teacher-centered method, discussion method, mentoring method, integrated learning methods have been used by teachers in teaching office management, however, learning strategies used by teachers seem not to be appropriate to yield the desired result of effective participation and development of team working spirit and courage necessary for optimal academic achievement and interest in office management. Passive participation of students in learning office management may negatively affect their concentration and interest to learn, thereby leading to poor academic performance of students. Moreover, the high rate of unemployment among school leavers in Nigeria is an indicator that school leavers (Office Technology and Management graduates inclusive) may be deficient in the requisite learning outcomes needed for employment. The continuous poor academic achievement and the high rate of unemployment have been blamed on many factors among which are - inadequacy of needed learning facilities and loss of students' interest in the prevalent use of conventional learning methods in lesson presentation that have diverted learners interest from spending quality time on their study to unproductive social interactions. It is assumed that if the collaborative learning strategy is used as a learning approach, there could be a better learning outcome. However, this assumption has no empirical evidence in the study area, hence, the study on the effect of collaborative learning strategy on Office Technology and Management students' academic achievement and interest in office management students' academic achievement and interest in office management.

Purpose of the Study

The major purpose of this study was to determine the effect of collaborative learning strategy on Office Technology and Management students' academic achievement and interest in office management. In specific terms, the study seeks to:

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1. Determine the mean achievement score of students who learnt Office Management using the Collaborative Learning Strategy and those using the Individualized Learning Method;
2. Determine the mean achievement score of male and female students who learnt Office Management using the Collaborative Learning Strategy;
3. Determine the interaction effect of learning methods and gender on students' mean achievement score in Office Management

Research Questions

The following research questions guide the study:

1. What is the mean achievement score of students who learnt Office Management using the Collaborative Learning Strategy and those using the Individualized Learning Method?
2. What is the mean achievement score of male and female students who learnt Office Management using Collaborative Learning Strategy?
3. What is the interaction effect of learning methods and gender on students' mean achievement score in Office Management?

Hypotheses

The following null hypotheses were formulated to guide the study and were tested at 0.05 level of significance

- H₀₁:** There is no significant difference in the mean achievement score of students who learnt Office Management using the Collaborative Learning Strategy and those using the Individualized Learning Method;
- H₀₂:** There is no significant difference in the mean achievement score of male and female students who learnt Office Management using the Collaborative Learning Strategy;
- H₀₃:** There is no significant interaction effect of learning methods and gender on students' mean achievement score in Office Management;

METHODOLOGY

A quasi-experimental design was used in carrying out the study involving a pre-test, post-test non-equivalent control group. Intact classes were used for both the experimental group and the control group. The study was conducted in Cross River State. The population of the study consisted of College of Education students who offer office management. The number consists of 60 NCE III Office Management students in two Colleges of Education in Cross River State. The sample for the study comprises 60 (19 males and 41 females) NCE III office technology and management students in two colleges of education in Cross River State. 34 (thirty-four) students' (6 male and 28 female) NCE III students' from College of Education, Akamkpa as experimental group and 26 (twenty-six) students' (4 male and 22 female) NCE III students' from Federal College of

Publication of the European Centre for Research Training and Development-UK Education, Obudu as control group. Two instruments were used for the collection of data, namely: achievement test titled: Office Management Achievement Test (OMAT) and Office Management Interest Inventory (OMII). OMAT has sections A and B. The section A centered on personal data of the respondents. Section B contained forty (40) objective test items, each of which is awarded two and half marks for a correct answer, designed to test students' cognitive skills in office management.

The 40 multiple test items were used in conducting pre-test and post-test on the experimental and control groups. The achievement test was developed by the researcher from the lesson contents of the four topics that were taught (office organization, office planning and layout, management processes and functions and filing and indexing) to form the table of specification based on Blooms Taxonomy of Educational Objectives of knowledge, comprehension, application, analysis, synthesis and evaluation. Office Management Interest Inventory (OMII) is divided into two sections, A and B. Section A covers students' personal data while Section B contains 40 items to measure students' interest about office management. Two subject experts in Business Education Department and one expert in Measurement and Evaluation in the Department of Science Education, Faculty of Education, Ebonyi State University, Abakaliki subjected the instrument to face validation. The researchers conducted a trial test with thirty (30) students randomly sampled from College of Education, Afahasit, Akwa Ibom State, which is not part of the area of the main study. Data collected were analyzed using Kuder-Richardson 20 formula. The reliability coefficient obtained was 0.94 which indicated a very high internal consistency of the test instrument. Two instructional packages were designed based on the OM course contents. One of the packages, Collaborative Learning Strategy Package (CLSP) was developed for the treatment group, while the other package, the Individualized Learning Method Package (ILMP) was developed for the control group. Data was collected using Office Management Achievement Test (OMAT) and Office Management Interest Inventory (OMII) with the help of the research assistance. At the beginning of the experiment, a pre-test was administered to the students in both groups and at the end of the same experiment, a post-test was administered to the same students in both groups using the same instrument. The scores obtained from the two instruments administered to both groups were subjected to descriptive and inferential statistical analysis. Data collected from the OMAT and OMII were analyzed using mean (\bar{x}), and standard deviation (S.D) to answer the research questions and Analysis of Co-Variance (ANCOVA) to test the hypotheses at alpha level of 0.05.

RESULTS

Research Question 1: What is the mean achievement score of students who learnt Office Management using the Collaborative Learning Strategy and those using the Individualized Learning Method?

Table 2: Mean Achievement Scores in Office Management Based on Learning Methods

Methods	No	\bar{x}	S.D
Collaborative Learning Strategy	34	64.67	3.70
Individualized Learning Method	26	40.88	3.38

Based on the results in Table 2, students using with Collaborative Learning Strategy have mean achievement score of 64.67 with a standard deviation of 3.70 and students using the Individualized Learning Method have a mean achievement score of 40.89 with a standard deviation of 3.38. From the results therefore, the Collaborative Learning Strategy is more facilitating than the Individualized Learning Method in bringing about an improvement in students' achievement in Office Management.

Research Question 2: What is the mean achievement score of male and female students who learnt Office Management using the Collaborative Learning Strategy?

Table 3: Mean Achievement Scores in Office Management Using Collaborative Learning Strategy Based on Gender

Method	Male			Female		
	No	X	S.D	No	X	S.D
Collaborative Learning Strategy	6	64.00	4.16	28	65.06	3.47

The results in Table 3 show that female students in Collaborative Learning Strategy group have a mean achievement score of 65.06 with a standard deviation of 3.47 while the males have a mean score of 64.00 with a standard deviation of 4.16. This means that females have a higher mean achievement score than male students. Therefore, the females performed better than the males.

Research Question 3: What is the interaction effect of learning methods and gender on students' mean achievement score in Office Management?

Table 4: Mean Achievement Scores in Office Management based on Interaction Effect of Learning Methods and Gender

Method	Male			Female		
	N	\bar{x}	S.D	N	\bar{x}	S.D
Collaborative Learning Strategy	6	64.00	4.16	28	65.06	3.47
Individualized Learning Method	4	40.00	2.92	22	41.21	3.54

Based on the results in Table 4 on interaction effect, the female students have higher mean achievement score than the males in the Collaborative Learning Strategy group. In the Individualized learning Method group, the female students also have a higher mean achievement score than the male students. Therefore, there is no interaction effect of learning methods and gender on students' mean achievement score in Office Management.

Hypotheses

H₀₁: There is no significant difference in the mean achievement score of students who learnt Office Management using the Collaborative Learning Strategy and those using the Individualized Learning Method.

H₀₃: There is no significant interaction effect of learning methods and gender on students' mean achievement score in Office Management.

Table 5: ANCOVA Result of Achievement in Office Management Based on Learning Methods, and Interaction Effect of Learning Methods and Gender

Source of Variation	Type III Sum of Squares	Df	Mean Square	F	Sig of F	Alpha level
Corrected Model	8420.688 ^a	4	2105.172	164.49	.000	
Intercept	2432.126	1	2432.126	190.038	.000	
Pretest	1.004	1	1.004	0.078	.780	
Methods	5060.161	1	5060.161	395.384	.000	0.05
Gender	10.331	1	10.331	0.807	.373	
2-Way Interactions	0.047	1	0.047	0.04	.92	
Methods Gender	0.047	1	0.047	0.04	.92	0.05
Error	703.896	55	12.798			
Total	168775.000	60				
Corrected Total	9124.583	59				

a. R Squared = 0.923 (Adjusted R Squared = 0.917); Method: (a) Significant @ p<0.05

Interaction Effect: (b) Not Significant @ $p < 0.05$

(a). The results in Table 5 indicate that the p-value of 0.000 for methods is less than the alpha level value of 0.05, hence, H_{01} is rejected. This means that there is a significant difference in the mean achievement scores of students of office management using collaborative learning strategy and those using the individualized learning method.

(b). The result on interaction effect as shown in Table 5 reveals that the p-value of 0.92 is greater than the alpha level of 0.05 ($0.92 > 0.05$). Therefore, H_{03} is not rejected (i.e. it is accepted). This means that there is no significant interaction effect of learning methods and gender on students' mean achievement score in office management. This confirms the result of no interaction effect as earlier reported in Table 4 for the research question 3.

H_{02} : There is no significant difference in the mean achievement score of male and female students who learnt Office Management using the Collaborative Learning Strategy.

Table 6: ANCOVA Results on Achievement Using Collaborative Learning Strategy Based on Gender

Sources of Variation	Type III Sum of squares	Df	Mean Square	F	Sig. of F	Alpha level
Corrected Model	8.161 ^a	2	4.081	0.2	.77	
Intercept	374.491	1	374.41	29	.00	
Pretest	1.102	1	1.102		.785	
Gender	6.792	1	6.792		.50	0.05
Error	347.839	22	14.493			
Total	113264.00	34				
Corrected Total	356.000	26				

a. R Square=0.023 (Adjusted R Squared= -0.058); Not Significant @ $p > 0.05$

The results on the effect of Collaborative Learning Strategy on gender as shown in Table 6 reveal that the p-value of 0.50 is greater than the alpha level of 0.05 ($0.50 > 0.05$). Therefore, H_{02} is not rejected (ie. it is accepted). This means that there is no significant difference in the mean achievement score of male and female students of Office Management using the Collaborative Learning Strategy.

DISCUSSION

The result of the analysis in Table 2 shows that adoption of collaborative learning strategy led to students' greater performance in office management. Furthermore, analysis in Table 8 shows a

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rejection of the null hypothesis meaning that there is a significant difference in the mean achievement scores of students who learnt office management using collaborative learning strategy and those using individualized learning method in office management. These findings are in line with Deliente (2017) who said that collaborative learning method enhanced critical thinking of student. He further stated that students who participated in collaborative learning had performed significantly better on the critical thinking test than those who studied individually. Supporting the finding, Nwaodo (2016) discovered that application of learner centred instructional strategy helps in improving their classroom participation and critical thinking thereby helping them to retain knowledge required. Exposing the students to collaborative learning strategy helps them in the development of reflective thinking ability which facilitates information storage and retrieval when needed. More so, a study by Panitz in Kulo (2021) revealed that students who took part in collaborative learning method have the following advantages – increases students retention, builds self esteem, enhances students' satisfaction with the learning experience, and promotes a positive attitude toward the subject matter. The above findings lay credence to the postulation in constructivism theory that students perform better when they are given the opportunity to handle tasks through thinking and articulation of thoughts. In collaborative learning strategy, the students after being exposed to the learning tasks by the teacher gradually become independent by handling such tasks themselves with little or no help. Students learning experience are enhanced when they are actively involved in the learning process while the teacher provides help where necessary. When the students are allowed to handle tasks by themselves after being exposed to the rudiments of what is to be done, it helps them to construct new knowledge and improve their performance. This present finding is also affirmed by Luluk, Achmad, Mintarti and Achmad (2017) that learning is a change in behavior caused by mutual interaction between individuals and the environment with the aim of achieving their objectives. In a situation where the observed behavior is positive, an individual tends to imitate and assimilate thereby improving their experiences. Effectiveness of any learning process is usually reflected by students' level of achievement and from the results of this study; students using collaborative learning had greater achievement than their counterparts using individualized method.

Result analysis as contained in Table 3 shows that females have a higher mean achievement score than male students. Therefore, the females performed better than the males in office management using the collaborative learning strategy. Also the test of hypothesis as contained in Table 9 revealed that there is no significant difference in the mean achievement score of male and female students who learnt Office Management using the Collaborative Learning Strategy. This finding is at variance with Ewah (2016) who revealed that male students had lower scores on all of the standardized tests, being uniformly rated as performing less well in the area of reading, written

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expression, mathematics and spelling. The study equally noted that the higher rate of educational under-achievement in male was adequately explained by gender related differences in classroom behavior. Result from the present study further opposes the finding of Roberts in Agim (2016) which revealed that females have general tendencies to think in negative ways about the task in which they are engaged. This attitude of females may affect their academic performance as this requires interaction with others through discussion in groups.

However, findings in this present study is in conformity with that of Umar, Yagana, Hajja and Mohammed (2015) who affirmed that although the literacy rate is more among the boys than girls, it is quite interesting to observe that girls are securing better ranks than boys in almost all competitive examinations. Similarly, Mutchler, Uyar and Gungormus in Kulo (2021) supported with an argument that female students perform better than male. They also maintained that both male and female students should be given equal opportunities in education and allowed to participate actively in teaching and learning situations. Be it as it may, using students centered learning strategy may positively influence students academic achievement and help in eliminating gender inequality in courses in office technology and management generally and office management in particular. In agreement with the finding also Bayim (2016) opined that many boys these days find school system overly hostile and they wrongly conclude that education and literacy are primarily of female concerns. However, while boys may dominate the classroom in some places, the struggle for equal right and promotion of the girl child education has yielded positive fruits in most parts of the world with many girls in schools and many females holding higher management positions in work places.

On the other hand, the findings shares the same position with Abakpa and Iji in Nwagwu (2022) who found that there is no significant difference in academic achievement of male and female students. With their revelations, it is obvious that disparities in academic achievement of students might be disappearing creating equal competitive ground for both genders. Study carried out by Hyde and Mertz in Nwagwu (2022) revealed that both male and female students who were exposed to equal opportunity of deepening their understanding and access to assessing simple concept performed better without male students having edge over their female counterparts. Hyde and Mertz study revealed that female had slight better performance than their male counterparts. This study has further showed that with careful and purposeful utilization of collaborative learning strategy, gender difference is not significant in the achievement of office technology and management students in office management. In the cause of this research, male and female students were shown to have demonstrated equal zeal and produced the same result in office management. This totally rules out the theory that gender places a particular group of students on

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advantage in the cause of learning office management as a subject. Therefore, once the appropriate learning method is effectively applied, all students irrespective of gender are bound to excel.

In Table 4, the result showed that male and female students who learnt using collaborative strategy do better than their counterparts who learnt using the individualized method. The result therefore showed that there is no interaction effect of learning methods and gender on students' mean achievement score in Office Management. Hypothesis 3 in Table 8 there is no significant interaction effect of learning methods and gender on students' mean achievement score in Office Management. This confirms the result of no interaction effect as earlier reported in Table 4 for the research question 3. This finding is in consonance with that of Ezenwosu and Nworgu in Nwagwu (2022) when they found that instructional strategies and gender did not interact as male and female students in the experimental group performed better than their peers in control group. However, despite the gender of the students, teacher's ability to effectively align learning methods with the needs of the students can influence their enthusiasm to learn thereby contributing to their performances. The finding also agreed with Bayim (2016) that whether a student is male or female, gender does not make a difference in their academic achievement. Many researchers agreed that there is no significant difference found between male and female students' achievement (Oleabhiele in Kulo, 2021). More so, Eze, Ezenwafor and Obidile (2016) maintained that gender difference may exist but a good method should be capable of neutralizing the difference. In conformity, Olusola-Fadumiye and Jamalludin (2021) emphasized that teachers ability to effectively use any method can lead to changes in students performance not really the learning method itself. Therefore, achieving good students performance may not really be based on the learning method used but the teacher's mastery of the method and his/her ability to effectively utilize the learning method. Where teachers effectively apply the appropriate methods in learning, attainment of the curriculum objectives will be eminent. Azih and Nwosu in Nwagwu (2022) agreed that teachers' use of learning methods influences the result to be gotten when students are evaluated at the end of an instructional involvement. It is imperative therefore to posit that academic achievement and interest of any programme depends on teachers' ability to use suitable learning methods. In teaching and learning office management in colleges of education, application of collaborative strategy allows students the opportunity of elaborating concepts to suit their level of understanding. Teachers notwithstanding the students' gender can blend learning strategies with the needs and aspirations of the learners to achieve the specific learning objectives. Therefore, effective application of collaborative learning strategy can help to actualize the learning objectives of office management despite the students' gender.

CONCLUSION

Based on the findings, the researcher concluded that collaborative learning strategy is better than individualized learning method in learning office management. Collaborative learning strategy did not seem to have any differential effect on male and female students' academic achievement in office management. There is no interaction effect between learning method and gender on mean achievement scores of students in office management.

Recommendations

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

1. College management should train and retrain office management lecturers on ways of adopting and effectively using collaborative learning strategy in learning;
2. Curriculum planners should encourage the use of collaborative learning strategy by prescribing necessary activities involved using it to learn office management and as well incorporate it into the curriculum for pre-service teachers of office management programme as this will popularize it use among teachers;
3. The government in collaboration with relevant stakeholders should help provide adequate resources that can facilitate lecturers use of collaborative learning strategy in learning office management as a course;

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