



EFFICACY OF CO-TEACHING ON LEARNERS' PERFORMANCE IN ENGLISH LANGUAGE IN INCLUSIVE EDUCATION IN KADUNA STATE OF NIGERIA

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ABSTRACT

This study is premised on investigating the efficacy of co-teaching on learners' performance in English language in inclusive education in Kaduna state of Nigeria. Co-teaching is a delivery instruction method where "two or more professionals blend group of students in a single physical space". Co-teaching appeared in the literature in the early 1990s as a way to better address the needs of special education students. There are several different models of co-teaching which include one teaches, one observes, one teaches, one assist, station teaching, parallel teaching, supplementary teaching, alternative or differentiated teaching, and team teaching. Co-teaching also has a lot of benefits for the students or learners as well as the teachers. Inclusive education is a philosophy that advocates equal opportunities for all children regardless of whether they have a disability or not. It is primarily about restructuring school culture, policy and practice so that it responds to the diversity of students in the locality. It has its advantages and disadvantages. This study focused on the efficacy of co-teaching on learners' performance in English language in inclusive education at Nabeela Academy in Kaduna, Nigeria. Experimental design was used to generate data for analysis. The study constituted of two groups, an experimental group (x) and a control group (-x) of JSS III students. They were exposed to a pretest and a posttest in English which was the instrument used for data collection. Simple percentage, mean and standard deviation was used to analyze the research questions and independent sample test was used to test the hypothesis. From the analysis of data, the findings revealed that, there was no significant difference in the pretest scores of learners and the posttest scores after being exposed to co-teaching. The findings also showed that the correlation and t cannot be computed because the sum of case weights is less than or equal to 1. This imply that because there was only student in the control group, a male, the statistical tool used in analysis could not analyze the data because the value was just 1. However, the result showed a mean difference of 7.500. This means that the female learners who constituted the experimental group (x) performed far better than the male in the control group both in the pretest and posttest. There was no statistical data to measure the collaborative performance of teachers through co-teaching on English language. However, the difference in the mean score of the student in control and that of the experimental groups reveals that interaction of teachers' collaboration in the experimental group affected the students positively.

Based on the finding of this study, it concluded and recommended that co-teaching has a more positive impact on learners' than solo teaching (one teacher in the class). The study also revealed that the interaction between gender and co-teaching is positive. It was recommended that teachers, when properly equipped are able to implement the co-teaching model thereby increasing the academic performance of the learners.

INTRODUCTION

English has become a global lingua franca and is widely perceived as a prerequisite for success in many areas of life. However, language learners with special educational needs may find that they are disadvantaged by the way their learning environment interacts with their individual differences. Such language learners include both 'neurodiverse' learners (those with specific learning difficulties) and those who experience Social, Emotional, and Behavioural Difficulties (SEBD). An attainment gap can develop between these learners and their peers which only increases during the school years. Bridging this attainment gap is at the core of the inclusion agenda developed by international organizations such as UNESCO and the OECD to promote the implementation of inclusive

educational systems in which all learners are actively engaged in learning and can reach their potential.

Learning an additional language can present significant challenges to learners with special educational needs. Consequently, the English language teacher may even be the first to notice indicators of neurodiversity or SEBD. At the same time, the English language classroom can provide the ideal environment for addressing these challenges. Through its long association with learner-centred communicative methodologies, the English language classroom offers many opportunities to implement inclusive practices which allow all learners to participate fully and achieve success. This unique combination of challenges and opportunities compels the



English language teaching community to lead in developing and implementing inclusive practices.

The implementation of inclusive practices requires support and leadership at an institutional level. All school staff need support for the collaboration and cooperation involved in developing an inclusive learning environment. School management also has a vital role to play in providing continuous professional development for teachers in inclusive practices. Equipped to establish an inclusive ethos in their classes, teachers can make small adjustments to classroom practice and learning materials which meet the needs of all their learners.

The drive towards inclusive education practice predisposes Special and General Education teachers to experience increased demands on how instruction is taught, increased content to be taught, and increased classroom populations containing more diverse learners with learning difficulties. An inclusive classroom setting consists of diverse range of learners; from gifted learners to learners with disabilities, varied background and different socio-economic status with a common goal to learn. Inclusion is mandated along the premise that all learners can learn and are expected to meet the same academic standards (Johnson, 2012).

From the foregoing, the need for this study becomes apt, considering the fact that with inclusive education, classrooms are made accessible to all learners. As such, the utilization of instructional approaches effective in meeting the needs of learners with diversity is critical. Co-teaching is most recommended. This explains the rationale for this study to determine the efficacy of Co-teaching method on learners' performance in core subject (English Language) by learners with special needs in Nabeelah Academy in Kaduna (North West).

OBJECTIVES OF THE STUDY

The objectives of this study are to determine the effectiveness of co-teaching as a method of instructional delivery on learners' performance in English Language in an inclusive education setting in Kaduna. Specifically, the study intends to determine the:

- significant differences in academic scores in English Language among group of learners who were exposed to co-teaching and those in control group without co-teaching.
- interaction effect of gender and co-teaching on the performance of English language to learners with special needs in Kaduna in an inclusive school.
- interaction effect of team teachers' qualification to co-teaching on the teaching of English language to students with special needs in Kaduna.

RESEARCH QUESTIONS

This study is premised on the following research questions:

- Are there significant differences in the academic scores in English Language among group of learners who were exposed to co-teaching and control group?

- What is the interaction effect of gender and co-teaching on the performance in core subjects – English Language to learners with special needs in Kaduna?
- What is the interaction effect of teacher qualification and co-teaching on the teaching of core subjects to students with special needs in Kaduna?

HYPOTHESES

The following null hypotheses are formulated to guide the study:

H₀₁: There is no significant difference in the academic scores of students who were exposed to co-teaching in English Language and those not exposed.

H₀₂: There is no significant gender interaction influence on the co-teaching of core subjects-English language to students with special needs in Kaduna town.

LITERATURE REVIEW

The concept of Inclusive Education

Inclusive education setting is regarded as where students with special needs are educated along with their non-disable peers have the highest constructive impact on their academic as well as social skills. In inclusive education environments, to the aim is to increase the efficiency of the students with special needs and their peers in the courses by making adaptations to the teaching materials and instruction Inclusive education environments aim to increase the efficiency of both the students with special needs and their peers who don't have special needs by adapting teaching materials and teaching methods (York *et al.*, 1992; Tichenor *et al.*, 2000; Magiera *et al.*, 2005; Akçamete and Gökbulut, 2018). The impact of delivering special education based on a multi-disciplinary approach is important. This effect can be manifested by class teachers acting in cooperation with field experts, school management, other teachers and / or families to meet the possible needs and to solve the problems that may arise during inclusive applications. The quality of communication and interaction with such fundamental stakeholders of inclusive education plays an effective role in the academic success of inclusion and the satisfaction of both teachers and students The quality of communication and interaction with the primary stakeholders of inclusive education plays an active role both in achieving success and in making teachers and students happy (Mulholland and O'Connor, 2016; Pancsofar and Petroff, 2016; Shin *et al.*, 2016; Jurkowski and Müller, 2018).

Without inclusive and equitable education for all, countries will not succeed in achieving gender equality and breaking the cycle of poverty that is leaving millions of children, youth and adults behind. – UNESCO

Primary goals of Inclusive Education

- To bring out the best in the child, without alienating him/her.
- To provide the child with a warm and enriched environment.
- To assist the child in developing basic skills to cope with day-to-day challenges.
- To develop skills that will enable the child to become self-reliant.

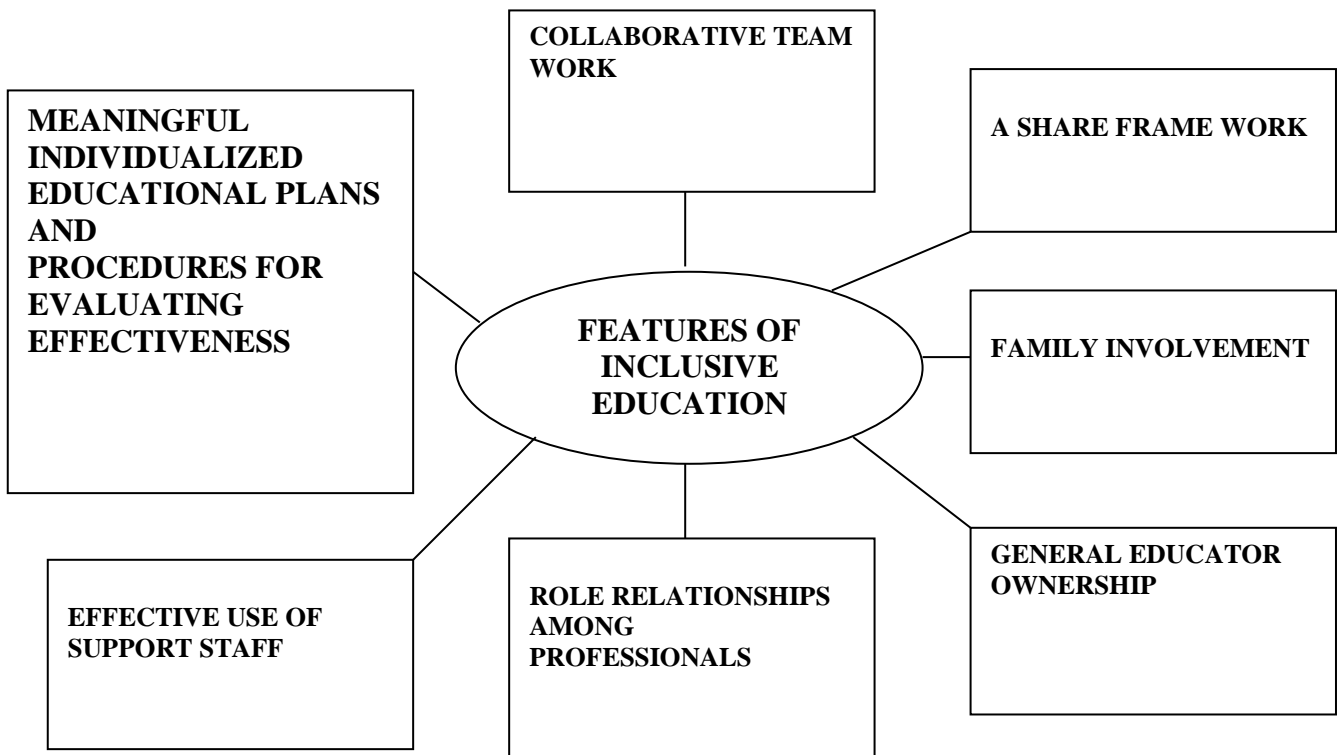
- To help the child develop a desirable attitude towards society.

Essential Components of Inclusive Education

Teacher training and school leadership are essential components for successful implementation of inclusive education in the classroom. There is a need to include a programme on disability in training programmes for regular teachers. This is necessary to help teachers to be sensitive to the specific needs of children with disabilities and empower them to identify and deal with their peculiar disabilities.

This will include provision of effective educational services, assistive devices, support services, age-appropriate classes, barrier free environment, availability of neighbourhood school and involvement, vocational training, sports and cultural activities should be made a part of school curriculum. For meaningful inclusion of children with disabilities, all teachers shall be oriented to deal with such children with disability, in a classroom situation (Sa'ad, & Doki, 2017).

Figure 1: Features of Inclusive Educational Practice



Source: Sa'ad & Bila (2014) Inclusive Education Facilitators' Manual

Co-Teaching (Defined)

Co-teaching is defined as “two or more professionals delivering substantive instruction to a diverse blended group of students in a single physical space” (Cook & Friend, 1995, p. 14). Co-teaching appeared in the literature in the early 1990s as a way to better address the needs of special education students. There are several different models of co-teaching that were developed by St. Cloud University researchers focusing on the student teaching experience (St. Cloud State University, 2014).

The seven strategies or models described below can be used in a variety of classroom situations to assist students of diverse learning backgrounds better.

1. **One teaches, one observes:** one teacher has primary responsibility While the other gathers specific observational information on Students or the (instructing) teacher.
2. **One Teach, One Assist:** One teacher has primary instructional responsibility while the other assists

students with their work, monitors behaviors, or corrects assignments.

3. **Station Teaching:** The co-teaching pair divides the instructional content into parts; each teacher instructs one of the groups, and groups then rotate or spend a designated amount of time at each station.
4. **Parallel Teaching:** Each teacher instructs half the students. The two teachers are addressing the same instructional material and presenting the material using the same teaching strategies.
5. **Supplemental Teaching:** Allows one teacher to work with students at their expected grade level, while the other teacher works with those students who need the information and/or materials re-taught, extended, or remediated.
6. **Alternative or Differentiated Teaching:** Each teacher provides two different approaches to teaching the same information. The learning



outcome is the same for all students; however, the avenue for getting there is different.

- Team Teaching:** Incorporates a well-planned, team-taught lessons, exhibiting an invisible flow of instruction with no prescribed division of authority. Both teachers are actively involved in the lesson.

Co-teaching is an ongoing process that forces teachers to communicate more intimately with each other and with their students. Different co-teaching methods can require different levels of planning (Cook, 2004).

Benefits of Co-Teaching

Several researchers have demonstrated the benefits of co-teaching for students. In a study conducted by Almon and Feng (2012) in an urban elementary school, co-teaching in the fourth-grade classroom had a more positive effect than solo teaching, as measured by student math achievement. The study analyzed the performance of two fourth grade classrooms, one with co-teaching instruction and the other with solo teaching instruction. Students increased their time on task engagement during co-taught lessons versus solo-taught lessons. In addition, St. Cloud University (2014) highlights several examples of the positive effects co-teaching has on students. For instance, these include: a reduction in the student/teacher ratio, an increase in instructional options for all students, an increase in diversity of instructional styles, and greater student engagement and student participation levels. Further, co-teaching models also appear to exhibit success when conducted with student teachers (Merk, Waggoner, & Carroll, 2013).

Much research has demonstrated that co-teaching benefits students. For instance, research done by Walsh (2012) shows that co-teaching can be considered a high-leverage strategy capable of accelerating achievement to close the achievement

gaps in reading and mathematics. The study emphasizes that students demonstrate more growth and increased academic performance when teachers are well trained in implementing co-teaching methods and well supported by the school administration.

As schools prepare to implement a co-teaching model and make selections for successful strategies, it would be helpful to know which co-teaching strategies work better than others in an inclusive classroom. However, sufficient research has not been conducted on the specific use and most effective co-teaching methods. It appears that the lack of data is due to the fact that co-teaching is not conducive to large-scale, standardized research (Hanover Research Report, 2012). Also, there is too much variance in the definitions of co-teaching and typically classes are not similar enough to provide meaningful comparative data. However, one study highlighted in the Hanover Research Report (2012) stated that a team of teachers faced with specific behavioral challenges alternately used parallel teaching, alternative teaching, station teaching, and team teaching. The co-teaching team has to decide when to utilize each strategy. Methods may be implemented independently or in combination, however the most prevalent form of co-teaching in schools is One Teach, One Assist.

METHODOLOGY

Research Design

The study employed quasi-experimental design. Specifically, pre-test-post-test-non-equivalent control group design was employed for the study. Quasi-experimental design according to Nworgu (2006) is an experiment where random assignment of study to both experimental and control group is not possible. The design is considered appropriate because the researchers in this study used intact classes as experimental and control groups respectively without randomization. The design is illustrated below:

Groups	Pretest	Treatment	Post-test
Experimental Group	O_1	X	O_2
Control Group	O_1	-X	O_2

Where:

O_1 = Pre-test administered to both experimental and control groups

O_2 = Post-test administered to both experimental and control groups

X = Treatment administered to experimental group

-X = No Treatment

Sample Size and Sampling Techniques

The population of the study comprised of all JSS 3 students of Nabeelah Academy, Kaduna, Nigeria. The sample size for this study was made up of all JSS 3 learners, purposively sampled where students in JSS 3A served as experimental group while those in JSS 3B constituted the control group. This is because the population was manageable.

Instruments for Data Collection

The instrument for data collection was JSS 3 English questions developed by an English teacher. A treatment package known as Co-Teaching of Core Subjects (CTCS) was developed by the researchers and used for treatment. The JSS 3 question papers was administered to all participants of the study both at pre-test and post-test stages.

Method of Data Analysis

Research questions were tested using mean and standard deviation, while Independent Sample Test was used in testing the hypotheses at 0.05 level of significance.

The pre-test scores were used as a covariate to the post-test scores. The Independent Sample Test served as a control for the initial differences across groups as well as increasing the



precision due to the extraneous variable thus reducing the error variance.

RESULTS

Question One: What is the significant difference in academic scores in English Language among group of learners who were exposed to co-teaching method?

Table 1: Mean and standard deviation on significant difference of Co-teaching in English Language between pretest and posttest scores of students with special needs in inclusive education.

Variable	Group	N	Mean	Std	Std. Err	Mean Difference
Co-teaching Scores	Pre-test	2	8.00	1.414	1.000	-1.500
	Post-test	2	9.500	2.121	1.500	

Std= Standard deviation

Source: SPSS output computation (2023)

Table 1 shows the pre-test mean of experimental group of co-teaching is 8.00 while that of the post-test is 9.50 which show that there is a mean increase of 1.500 at the post-test level after

the introduction of co-teaching method of English Language among students with special needs in inclusive education.

Table 2: Mean and standard deviation on significant difference between control group and those exposed to co-teaching among students with special needs in an inclusive education.

Variable	Group	N	Mean	Std	Std.Err	Mean Difference
Control	Post-test	1	2.00			-7.500
Co-teaching Scores Experiment	Post-test	2	9.50	2.121	1.500	

Std= Standard deviation

Source: SPSS output computation (2023)

Table 2 shows the post-test mean of the control group of co-teaching is 2.00 while that of the post-test experimental group is 9.50 which shows that there is a mean difference of 7.500 at the post-test level after the introduction of co-teaching method

of English Language among students with special needs in inclusive education. The standard deviation and the standard deviation did not reflect in the analysis because the value is just 1 (one student).

Question 2: How does interaction affect gender and co-teaching on performance in English language for learners with special needs in the inclusive classroom?

Table 3: Mean and standard deviation on significant difference between control (Male) group and those exposed to co-teaching (female) among students with special needs in an inclusive education.

Variable	Group	N	Mean	Std	Std.Err	Mean Difference
Control	Post-test	1	2.00			-7.500
Co-teaching Scores Experiment	Post-test	2	9.50	2.121	1.500	

Source: SPSS output computation (2023)

Table 3 shows the post-test mean of the control group (male) of co-teaching is 2.00 while that of the post-test experimental group (females) is 9.50 which show that there is a mean increase of 7.500 at the post-test level after the introduction of co-teaching method of English Language among students with special needs in inclusive education. There is However no value for standard deviation and standard deviation error because the value is less than 1 (only one male student in the control group)

There is no statistical data to measure the collaborative performance of teachers through co-teaching on English language. The demographic data however shows the teachers' level of qualification. The difference in the mean score of students in both control and experimental groups implies that interaction of teachers' collaboration in the experimental group affected the students positively.

Hypotheses

This segment compared the significant difference of mean score of learners' performance in English language, the role of gender and the collaboration of teachers.

Question 3: How does interaction affect teachers' collaborative performance through co-teaching English language to learners with special needs in the inclusive classroom?



Hypothesis One: There is no significant difference of Co-teaching in English Language between pretest and posttest scores of students with special needs in inclusive education.

Table 4: Paired sample t-test on difference of Co-teaching in English Language between pretest and posttest scores of students with special needs in inclusive education.

Variable	Groups	N	Mean	Std	Std.Err	Df	T value	P
Co-teaching Scores	Pre-test	2	8.00	1.414	1.000	1	-.600	*.656
	Post-test	2	9.500	2.121	1.500			

*P>.05

Source: SPSS output computation (2023)

Result of the paired sample t-test revealed that there was no statistically significant difference between pre-test English language scores (M=8.00, SD=1.414) compare to the post-test co-teaching English language (M=9.500, SD=2.121), t (1), -.600 while p= .656 which is higher than 0.05 alpha level of significant. Therefore, the null hypothesis which states that there is no significant difference of Co-teaching in English Language between pre-test and post-test scores of students with

special needs in inclusive education is hereby supported and upheld.

Hypothesis Two: There is no significant difference between gender interaction and co-teaching on performance in English language for learners with special needs in the inclusive classroom.

Table 5: Independent sample t-test on difference between gender interaction and co-teaching among students with special needs in an inclusive education
Independent Samples Test

t-test for Equality of Means

		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
							Lower	Upper
POSTTEST	Equal variances assumed	-2.887	1	.212	-7.500	2.598	-40.512	25.512
	Equal variances not assumed	.	.	.	-7.500	.	.	.

Source: SPSS output computation (2023)

Result of the independent sample t-test revealed that the correlation and t cannot be computed because the sum of case weights is less than or equal to 1. However, there was a statistically significant mean difference (MD=-7.500) between posttest scores for the male in the control group and the females in the experimental group in English language. Therefore, the null hypothesis which states that there is no significant difference between gender interaction and co-teaching among students with special needs in an inclusive classroom with the p-value (0.212) greater than level of significant (0.05) at 95% confident limit is upheld.

CONCLUSION

This study was premised to find out the effectiveness of co-teaching on learners' performance in English language in inclusive education at Nabeela Academy in Kaduna. The study revealed valuable information about the use of co-teaching as a method of instruction not only for Nabeelah Academy, but for any school that would adopt its models. Based on the finding of

this study, the researchers have concluded that co-teaching has a more positive impact on learners' than solo teaching (one teacher in the class). The study also revealed that the interaction between gender and co-teaching is positive. It was revealed that teachers, when properly equipped are able to implement the co-teaching model thereby increasing the academic performance of the learners

RECOMMENDATIONS

Based on the findings of the study, it is recommended that:

- a. There should be training and retraining of teachers on the use of the co-teaching models in inclusive settings.
- b. Educational planners should emphasize the implementation of inclusive education in schools for an improved academic achievement among learners.



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