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## Exploring Factors Influencing the Adoption of Collaborative Teaching Approaches among Trainee Teachers at Federal Capital Territory College of Education Zuba, Nigeria: Counselling Implications.

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### ABSTRACT:

This study explored the factors influencing the adoption of collaborative teaching approaches among the trainee teachers at Federal Capital Territory College of Education (F.C.T. C.O.E.), Zuba. Five research hypotheses were formulated to guide this study and tested at 0.05 level of significance. Ex-post factor research design was adopted for the study. A total sample of 405 trainee teachers at the College was used for this study. A researcher-made questionnaire termed 'Factors Influencing the Adoption of Collaborative Teaching Approaches' Questionnaire, (FICTAQ) was the instrument for data collection. This instrument was validated by Two experts in Guidance and Counselling and Two in Measurement and Evaluation. The reliability for this study was determined through a pilot study that yielded a test-retest reliability coefficient of between 75 and 86 and was considered high enough. The instrument for data analysis was a One-way Analysis of Variance tested at a .05 level of significance. The findings revealed that the perception of collaborative teaching as beneficial for students' engagement and learning outcomes, the perception of ease of implementation of collaborative teaching by trainee teachers, the perception of the availability of institutional support, high self-efficacy of trainee teachers in implementing collaborative teaching methods had significant positive influence on adoption of collaborative teaching approach while resource availability for collaborative teaching had a significant negative influence on the adoption of collaborative teaching among trainee teachers at F.C.T. C.O.E. Zuba. It was therefore recommended among others that Guidance Counsellors should work in close collaboration with school administrators to ensure that collaborative teaching approaches are effectively adopted in schools and colleges.

**Keywords:** collaborative teaching, exploring, factors, resources, school support, trainee teachers.

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## **INTRODUCTION**

The need to transfer learning that occurs in the classroom into a true-life situation is of utmost importance. Learning that cannot be applied outside the school is of little or no benefit. For instance, a student who has been taught methods of separating substances in a mixture in the science laboratory should be able to apply or transfer these methods and knowledge to his kitchen at home, his workshop, or other places of endeavour. When this is effectively done, it can be said that learning has taken place. Adopting collaborative teaching approaches by trainee teachers may also be one of the ways to enhance effective teaching and learning.

Johnson et al.[1] and Slavin [2] asserted that in recent years collaborative teaching has garnered increased attention as an effective pedagogical approach in teacher education programmes worldwide. Collaborative Learning refers to students working together in groups to achieve common learning goals and has been revealed to promote active engagement, critical thinking, and social interaction among learners[3]. Arends [4] opined that adopting collaborative teaching approaches in teacher education programmes is important because it prepares teacher educators to facilitate cooperative learning environments in their classrooms and makes for culturally competent teachers[5]. The establishment of Professional Learning Communities [6]and the use of instructional materials in teaching [7]are effective strategies to ensure collaborative teaching and learning.

Despite the potential benefits of collaborative learning in teacher education, the adoption of collaborative teaching approaches among trainee teachers remains a challenge [8]. Gordon and Nieto [9] suggested that trainee teachers face obstacles related to their attitudes, beliefs, and readiness to embrace collaborative teaching methods. Jong et al.[10] pointed out that institutional factors such as curriculum design, instructional resources, and support mechanisms can influence the extent of integration of collaborative approaches into teacher preparation programmes. The factors that influence the adoption of collaborative teaching approaches as identified by several other studies include teachers' beliefs about the effectiveness of collaborative teaching in improving student learning outcomes [11], teachers' participation in training and development programmes on collaborative teaching [12], support from school administrators and colleagues in implementing collaborative teaching approaches [13].

According to Mitchell [14] , teachers with higher levels of self-efficacy were more likely to adopt collaborative teaching approaches, such as co-planning and co-teaching. Niyonsaba [15] in his finding revealed that the availability of resources and infrastructure supported collaborative teaching practices in Nigerian secondary schools. Teachers who had access to adequate resources and infrastructure such as technology, classrooms, and internet connectivity were more likely to engage in collaborative teaching practices. Khalid et al. [16] revealed that the trainee teachers who have positive beliefs about the benefits of collaborative teaching are more likely to adopt collaborative teaching and learning approaches and can manage entrepreneurship education [17]. In a similar study on technology integration practices, Ertmer et al.[18] revealed that teachers' beliefs about the benefits of technology for teaching and learning influence their actual integration of technology into their teaching practices.

Lester et al.[19] in their systematic review of factors influencing the adoption of collaborative teaching approaches identified institutional support, teacher attitudes, pedagogical beliefs and technological infrastructure as the factors influencing the adoption of collaborative teaching approaches. Doolittle et al.[20] revealed that higher levels of teacher efficacy are associated with greater willingness to engage in collaborative teaching practices. Talebi et al.[21]showed that strong institutional support including professional

development opportunities and administrative encouragement positively influences teachers' willingness to collaborate. Vo and Le [22] explored the factors influencing student teachers' adoption of collaborative teaching approaches in the context of teaching practicum and found that student teachers' adoption of collaborative teaching approaches was influenced by their teaching beliefs, self-efficacy, and perceived school support. Denwigwe [23] asserted that their lifestyle and nutrition are also contributory factors. Vangrieken et al.[24] identified teacher beliefs, school culture, and professional development opportunities as influencing teachers' adoption of collaborative teaching approaches. Perceived effectiveness, ease of use, and perceived student engagement were revealed as factors that influenced adoption of technology-enhanced collaborative teaching by teachers[25]. Gymnastiar[26], [27] and Adam et al.[26] discovered that teacher beliefs, school leadership support, and professional development opportunities are influencing factors in the adoption of student-centred teaching approaches by teachers. A teacher's teaching style and level of training had an impact on how they instruct students [28]. Oinam [29] revealed that perceived effectiveness, ease of use and perceived student engagement influence teachers' adoption of student-centred teaching approaches. Teachers' beliefs, school culture, and professional development opportunities were factors that influenced the adoption of collaborative teaching approaches [30]. Chen and Chen [22] discovered in their study that teachers' adoption of collaborative teaching approaches was influenced by their perceived effectiveness, ease of use and perceived student engagement.

Understanding the factors that influence the adoption of collaborative teaching approaches among trainee teachers is essential for designing effective teacher education curricula and supporting the professional development of future educators. The study therefore seeks to address the problem of finding the factors influencing the adoption of collaborative teaching approaches among trainee teachers at FCT College of Education, Zuba, Nigeria, and the counselling implications for supporting their integration into teacher education programmes. Through the investigation of this problem therefore, the research aims to provide insights into how counsellor support can facilitate the effective implementation of collaborative learning strategies in teacher education, ultimately enhancing the preparation of future educators for collaborative teaching environments. Thus, [31], [32]and [33]stressed the importance of a counsellor support in the teaching and learning process.

## **THEORETICAL FRAMEWORK**

The theoretical framework for this research is the Technology Acceptance Model by Davis [34]. TAM posits that the adoption of a new technology or innovation is influenced by two main factors namely perceived usefulness and perceived ease of use. In otherwards it explains how users accept and use technology. The perceived usefulness (PU) is the extent to which a user believes that the technology will improve their performance or productivity, while the perceived ease of use (PEU) is the extent a user believes that the technology is easy to use and understand. This theory relates to this research in that it can be applied to collaborative teaching approaches as technology or innovation that trainee teachers can use. The research can investigate how trainee teachers perceive the usefulness of and ease of use of collaborative teaching approaches and how these perceptions influence their intention to adopt and implement them.

## **GAPS IN RESEARCH**

A gap exists in the literature concerning the factors that influence its adoption among trainee teachers, particularly within specific institutional contexts such as FCT College of Education, Zuba. Previous studies exploring the efficacy of collaborative teaching approaches are mostly foreign based, while there are only few of such studies on this in Nigeria, this research will fill this gap. It will also fill the gap of examining counselling implications of promoting collaborative learning among trainee teachers. Adoption of collaborative teaching approaches among trainee teachers in FCT C.O.E. Zuba depends on various factors, which if comprehended will be essential for the development of effective ways to encourage the adoption of collaborative teaching approaches. This study would contribute to the existing body of knowledge by exploring the factors influencing the adoption of collaborative teaching approaches.

## **PURPOSE OF STUDY**

The essence of this study was to examine the factors influencing the adoption of collaborative teaching approaches among trainee teachers at FCT College of Education Zuba, Nigeria, and the Counselling implications. Specifically, it sought to:

1. Examine how the perception of collaborative teaching approaches as beneficial by trainee teachers influences their adoption.
2. Explore how the ease of implementation of collaborative teaching approaches influences their adoption.
3. Determine if the availability of institutional support to the trainee teachers could influence the adoption of collaborative teaching approaches.
4. Determine if high self-efficacy of trainee teachers in implementing collaborative teaching approaches could influence their adoption.
5. Examine how resource availability for collaborative teaching approaches could influence their adoption.

## **HYPOTHESES:**

**Hypothesis 1:** The perception of collaborative teaching as beneficial for student engagement and learning outcomes by trainee teachers does not significantly influence the adoption of collaborative teaching approaches.

**Hypothesis 2:** The Perception of ease of implementation of collaborative teaching approaches by trainee teachers does not significantly influence the adoption of collaborative teaching approaches.

**Hypothesis 3:** The perception of the availability of institutional support by the Trainee teachers does not significantly influence the adoption of collaborative teaching approaches.

**Hypothesis 4:** High self-efficacy of trainee teachers in implementing collaborative teaching approaches does not significantly influence the adoption of collaborative teaching approaches.

**Hypothesis 5:** Resource availability for collaborative teaching does not significantly influence the adoption of collaborative teaching approaches by the trainee teachers.

## **MATERIALS AND METHOD:**

This is a descriptive survey using FCT College of Education, Zuba as a case study. A simple random sampling was used to select a sample of 405 students at the College. A researcher-made questionnaire, the 'Factors Influencing the Adoption of Collaborative Teaching Approaches' Questionnaire, (FIACTAQ) was the instrument for data collection. This instrument comprised three sections A, B, and C. Section A measured demographic data of the students (sex and age), while section B consisting of 30 items sought the opinion of trainee teachers on the factors influencing the adoption of collaborative teaching approaches. A modified five-point Likert-type scale ranging from Strongly Agree to strongly Disagree was used. Section C of the instrument had 10 items measuring the adoption of collaborative teaching approaches by trainee teachers on a modified four-point Likert-type scale ranging from strongly Agree to strongly Disagree. Two experts in Guidance and Counselling and two in measurements and evaluation scrutinised the instrument to establish its face and content validity. A pilot study of 50 students of similar characteristics with the research respondents for this study yielded a test-retest reliability coefficient of between .75 and .86; this was considered high enough. The instrument for data analysis was the one -way Analysis of Variance.

### **Ethical Considerations**

In line with best practices, the researchers got the consent of the respondents by giving them a form which they filled and signed indicating that they were not forced into this research and were aware of the objectives of the study. The participants were assured of the confidentiality of the information they would provide. The data was coded and stored in a computer system with an access code which only the researchers can decode.

### **Test of Hypotheses**

Hypothesis 1: The perception of collaborative teaching as beneficial for student engagement and learning outcomes by trainee teachers does not significantly influence the adoption of collaborative teaching approaches.

The perception of collaborative teaching as beneficial for student engagement and learning outcomes by trainee teachers was measured with 6 items and respondents who scored between 6-11 were categorised as low, and those who scored between 12 -18 were categorized as moderate while those who scored between 19 and 24 were categorized as high. The perception of collaborative teaching as beneficial for student engagement and learning outcomes by trainee teachers was taken as the independent variable while the adoption of collaborative teaching approaches was the dependent variable. The hypothesis was analyzed using One-way analysis of variance tested at 0.05 level of significance in comparing the adoption of collaborative teaching approaches based on their perception of collaborative teaching as beneficial for student engagement and learning outcomes. The result of the analysis is presented in Table 1.

**TABLE 1.** One-way Analysis of Variance for influence of the perception of collaborative teaching as beneficial for student engagement and learning outcomes by trainee teachers on the adoption of collaborative teaching approaches in FCT College of Education, Zuba (N=405)

Level of perception of benefits of collaborative teaching.	N	Mean	SD
Low	86	27.78	10.22
Moderate	214	28.85	8.84
High	105	34.30	7.75
Total	405	30.04	9.23

  

Source of variance	Sum of squares	Df	Mean square	F-ratio	p-level
Between groups	2652.180	2	1326.090	16.791*	.000
Within groups	31748.265	402	78.976		
Total	34400.444	404			

\*Significant at .05 alpha level;  $p < .05$ .

The result in Table 1 revealed that the 86 respondents whose perception of collaborative teaching as beneficial for student engagement and learning outcomes were low had a mean score of 27.78 with a standard deviation of 10.22, while 214 whose perception of collaborative teaching as beneficial for student engagement and learning outcomes were moderate had a mean score of 28.85 with a standard deviation of 8.84 and 105 of them whose perception of collaborative teaching as beneficial for student engagement and learning outcomes were high had a mean score of 37.30 with a standard deviation of 7.75. The results further revealed that the calculated F-ratio of 16.791 with a p-value of .000 at a .05 level of significance with 2 and 402 degrees of freedom obtained was statistically significant since the p-value (.000) is less than .05. This then implies that the hypothesis which states that the perception of collaborative teaching as beneficial for student engagement and learning outcomes by trainee teachers does not significantly influence the adoption of collaborative teaching approaches in FCT College of Education, Zuba, was rejected, and its alternate upheld.

Since the adoption of collaborative teaching approaches in FCT College of Education, Zuba has been significantly influenced by the perception of collaborative teaching as beneficial for student engagement and learning outcomes, the source of the difference was determined using Fisher Least Significant Difference (LSD) Post Hoc Test comparison analysis as presented in Table 2.

**TABLE 2.** Fisher Least Significant Difference Post Hoc Test comparison analysis for the perception of collaborative teaching as beneficial for student engagement and learning outcomes by trainee teachers and the adoption of collaborative teaching approaches in FCT College of Education, Zuba.

(I) perception of collaborative teaching as beneficial for student engagement and learning outcomes	(J) perception of collaborative teaching as beneficial for student engagement and learning outcomes	Mean Difference (I-J)	p-level
Low	Moderate	-1.071	.346
	High	-6.526*	.000
Moderate	Low	1.071	.346
	High	-5.454*	.000
High	Low	6.526*	.000
	Moderate	5.454*	.000

\* The mean difference is significant at the .05 level;  $p < .05$ .

The results of the Fisher Least Significant Difference (LSD) Post Hoc Test comparison analysis, as presented in Table 2, revealed that the subjects who scored low in perception of collaborative teaching as beneficial for student engagement and learning outcomes had a lower mean in the adoption of collaborative teaching approaches when compared with those that had a moderate score in perception of collaborative teaching as beneficial for student engagement and learning outcomes but the mean difference was not statistically significant ( $MD = -1.07$ ;  $p > .05$ ), while they had a significantly lower mean score in the adoption of collaborative teaching approaches when compared with those that had a high score in perception of collaborative teaching as beneficial for student engagement and learning outcomes ( $MD = -6.53$ ;  $p < .05$ ). The result finally revealed that the subjects who had a moderate score in perception of collaborative teaching as beneficial for student engagement and learning outcomes had a significantly lower mean score in the adoption of collaborative teaching approaches when compared with those that had high score in perception of collaborative teaching as beneficial for student engagement and learning outcomes ( $MD = -5.45$ ;  $p < .05$ ).

Hypothesis 2: The Perception of ease of implementation of collaborative teaching approaches by trainee teachers does not significantly influence the adoption of collaborative teaching approaches.

The independent variable is the Perception of ease of implementation of collaborative teaching approaches by trainee teachers which was categorized into three (low, moderate, and high) based on the sum of the respondents' responses to items 7 – 12 of Section B of FIACTAQ while the dependent variable is the adoption of collaborative teaching approaches among trainee teachers in FCT college of Education Zuba. The hypothesis was analyzed using One-way Analysis of Variance tested at .05 level of significance in comparing the trainee teachers' level of adoption of collaborative teaching approaches based on the Perception of ease of implementation of collaborative teaching approaches by trainee teachers. The result of the analysis is presented in Table 3.

**TABLE 3.** One-way Analysis of Variance for influence of the Perception of ease of implementation of collaborative teaching approaches by trainee teachers on the adoption of collaborative teaching methods by Trainee teachers of FCT College of Education Zuba. (N=405).

Level of the Perception of ease of implementation of collaborative teaching approaches by trainee teachers	N	Mean	SD
Low	81	20.64	4.63
Moderate	193	31.21	8.19
High	131	34.11	8.86
Total	405	30.04	9.23

  

Source of variance	Sum of squares	Df	Mean square	F-ratio	p-level
Between groups	9594.255	2	4797.127	77.740*	.000
Within groups	24806.190	402	61.707		
Total	34400.444	404			

\*Significant at .05 alpha level;  $p < .05$ .

The result in Table 3 revealed that the mean score of 20.64 with a standard deviation of 4.63 was obtained by the 81 subjects who were low in the perception of ease of implementation of collaborative teaching approaches by trainee teachers, while 193 who were moderate in the Perception of ease of implementation of collaborative teaching approaches by trainee teachers obtained a mean score of 31.21 with a standard deviation of 8.19 and 131 of them who were high the perception of ease of implementation of collaborative teaching approaches by trainee teachers obtained a mean score of 34.11 with a standard deviation of .86. The results further revealed that the calculated F-ratio of 77.740 with a p-value of .000 at .05 level of significance with 2 and 402 degrees of freedom obtained was statistically significant since the p-value (.000) is less than .05. This then implies that the hypothesis which states that the perception of ease of implementation of collaborative teaching approaches by trainee teachers does not significantly influence the adoption of collaborative teaching approaches was rejected, and its alternative accepted.

Since the adoption of collaborative teaching approach was significantly influenced by the perception of ease of implementation of collaborative teaching approaches by trainee teachers, the source of the difference was determined using Fisher Least Significant Difference (LSD) Post Hoc Test comparison analysis as presented in Table 4.



**TABLE 4.** Fisher Least Significant Difference Post Hoc Test comparison analysis for the Perception of ease of implementation of collaborative teaching approaches by trainee teachers and the adoption of collaborative teaching approaches by trainee teachers in FCT COE Zuba

(I)The Perception of ease of implementation of collaborative teaching approaches	(J) The Perception of ease of implementation of collaborative teaching approaches	Mean Difference (I-J)	p-level
Low	Moderate	-10.570*	.000
	High	-13.473*	.000
Moderate	Low	10.570*	.000
	High	-2.902*	.001
High	Low	13.473*	.000
	Moderate	2.902*	.001

\* The mean difference is significant at the .05 level;  $p < .05$ .

The results of the Fisher Least Significant Difference (LSD) Post Hoc Test comparison analysis as presented in Table 4 revealed that the subjects who were low in the perception of ease of implementation of collaborative teaching approaches had a significant lower mean in the adoption of collaborative teaching approaches when compared with those that were moderate in the perception of ease of implementation of collaborative teaching approaches ( $MD = -10.57$ ;  $p < .05$ ), as well as when compared with those that were high in the the perception of ease of implementation of collaborative teaching approaches ( $MD = -13.47$ ;  $p < .05$ ). The result finally revealed that the subjects who were moderate in the perception of collaborative teaching approaches as easy to implement had significant lower mean score in the adoption of collaborative teaching approaches when compared with those that were high in the perception of ease of implementation of collaborative teaching approaches ( $MD = -2.90$ ;  $p < .05$ ).

Hypothesis 3: The third hypothesis states the perception of the availability of institutional support by the Trainee teachers does not significantly influence the adoption of collaborative teaching approaches. The independent variable is the perception of the availability of institutional support by the trainee teachers which was categorized into three (low, moderate, and high) based on the sum of the respondents' responses to items 13 – 18 of Section B of FIACTAQ while the dependent variable is the adoption of collaborative teaching approaches by trainee teachers in F.C.T C.O.E. Zuba. The hypothesis was analyzed using One-way Analysis of Variance tested at .05 level of significance in comparing the trainee teachers' adoption of collaborative teaching approaches based on the perception of the availability of institutional support by the trainee teachers. The result of the analysis is presented in Table 5.

**TABLE 5.** One-way Analysis of Variance for influence of the availability of institutional support on the adoption of collaborative teaching approaches by trainee teachers in F.C.T C.O.E. Zuba. (N=405)

Level of availability of institutional support.	N	Mean	SD
Low	91	24.57	7.50
Moderate	193	30.92	8.86
High	121	32.74	9.36
Total	405	30.04	9.23

  

Source of variance	Sum of squares	Df	Mean square	F-ratio	p-level
Between groups	3750.787	2	1875.394	24.598*	.000
Within groups	30649.657	402	76.243		
Total	34400.444	404			

\*Significant at .05 alpha

The result in Table 5 revealed that the mean score of 24.57 with a standard deviation of 7.50 was obtained by the 91 subjects who scored low on the availability of institutional support, while 193 who had moderate score the availability of institutional support, obtained a mean score of 30.92 with a standard deviation of 8.86 and 121 of them who obtained high score in the availability of institutional support, obtained a mean score of 32.74 with a standard deviation of 9.36. The results further revealed that the calculated F-ratio of 24.598 with a p-value of .000 at .05 level of significance with 2 and 402 degrees of freedom obtained was statistically significant since the p-value (.000) is less than .05. This then implies that the hypothesis which states that the availability of institutional support, does not significantly influence the adoption of collaborative teaching approaches by trainee teachers in F.C.T C.O.E. Zuba was rejected, and its alternate accepted.

Since the adoption of collaborative teaching methods was significantly influenced by the availability of institutional support, the source of the difference was determined using Fisher Least Significant Difference (LSD) Post Hoc Test comparison analysis as presented in Table 6.

**TABLE 6.** Fisher Least Significant Difference Post Hoc Test comparison analysis of the availability of institutional support, and the adoption of collaborative teaching approaches by trainee teachers in F.C.T C.O.E. Zuba. Zone

(I) availability of institutional support.	(J) availability of institutional support.	Mean Difference (I-J)	p-level
Low	Moderate	-6.351*	.000
	High	-8.164*	.000
Moderate	Low	6.351*	.000
	High	-1.813	.074
High	Low	8.164*	.000
	Moderate	1.813	.074

\* The mean difference is significant at the .05 level;  $p < .05$ .

The results of the Fisher Least Significant Difference (LSD) Post Hoc Test comparison analysis as presented in Table 6 revealed that the subjects who had low score in availability of institutional support had a significant lower mean than the adoption of collaborative teaching approaches when compared with those that had moderate scores in availability of institutional support ( $MD = -6.35$ ;  $p > .05$ ), as well as when compared with those that had high scores in availability of institutional support ( $MD = -8.16$ ;  $p < .05$ ). The result finally revealed that the subjects who were moderate in availability of institutional support had a lower mean score in the adoption of collaborative teaching approaches when compared with those that were high in availability of institutional support, but the mean difference was not statistically significant ( $MD = -1.81$ ;  $p > .05$ )

Hypothesis 4: The fourth hypothesis states that high self-efficacy of trainee teachers in implementing collaborative teaching approaches does not significantly influence the adoption of collaborative teaching approaches.

The independent variable is high self-efficacy of trainee teachers in implementing collaborative teaching approaches which was categorized into three (low, moderate, and high) based on the sum of the respondents' responses to items 19 – 24 of Section B of FIACTAQ while the dependent variable is the adoption of collaborative teaching approaches among trainee teachers in F.C.T. C.O.E. Zuba. The hypothesis was analyzed using One-way Analysis of Variance tested at .05 level of significance in comparing the adoption of collaborative teaching approaches among trainee teachers in F.C.T. C.O.E. Zuba based on high self-efficacy of trainee teachers in implementing collaborative teaching approaches. The result of the analysis is presented in Table 7.

**TABLE 7.** One-way Analysis of Variance for influence of high self-efficacy of trainee teachers in implementing collaborative teaching approaches on the adoption of collaborative teaching approaches among trainee teachers in F.C.T. C.O.E. Zuba (N=405)

Level of high self-efficacy of trainee teachers in implementing collaborative teaching approaches	N	Mean	SD
Low	103	23.98	7.60
Moderate	193	31.44	8.40
High	109	33.28	9.46
Total	405	30.04	9.23

  

Source of variance	Sum of squares	Df	Mean square	F-ratio	p-level
Between groups	5304.859	2	2652.430	36.647*	.000
Within groups	29095.585	402	72.377		
Total	34400.444	404			

\*Significant at .05 alpha level;  $p < .05$ .

The result in Table 7 revealed that the mean score of 23.98 with a standard deviation of 7.60 was obtained by the 103 subjects who had low scores on self-efficacy of trainee teachers in implementing collaborative teaching approaches, while 193 who showed moderate scores on self-efficacy of trainee teachers in implementing collaborative teaching approaches obtained a mean score of 31.44 with a standard deviation of 8.40 and 109 of them who had high scores on self-efficacy of trainee teachers in implementing collaborative teaching approaches obtained a mean score of 33.28 with a standard deviation of 9.46. The results further revealed that the calculated F-ratio of 36.647 with a p-value of .000 at .05 level of significance with 2 and 402 degrees of freedom obtained was statistically significant since the p-value (.000) is less than .05. This then implies that the hypothesis which states that the high self-efficacy of trainee teachers in implementing collaborative teaching approaches does not significantly influence the adoption of collaborative teaching approaches was rejected, and the alternative upheld. Since the adoption of collaborative teaching approaches was significantly influenced by high self-efficacy of trainee teachers in implementing collaborative teaching approaches, the source of the difference was determined using Fisher Least Significant Difference (LSD) Post Hoc Test comparison analysis as presented in Table 8

**TABLE 8.** Fisher Least Significant Difference Post Hoc Test comparison analysis for high self-efficacy of trainee teachers in implementing collaborative teaching approaches and the adoption of collaborative teaching approaches among trainee teachers in F.C.T. C.O.E. Zuba

(I) high self-efficacy of trainee teachers in implementing collaborative teaching approaches	(J) high self-efficacy of trainee teachers in implementing collaborative teaching approaches	Mean Difference (I-J)	p-level
Low	Moderate	-7.455*	.000
	High	-9.304*	.000
Moderate	Low	7.455*	.000
	High	-1.849	.070
High	Low	9.304*	.000
	Moderate	1.849	.070

\* The mean difference is significant at the .05 level;  $p < .05$ .

The results of the Fisher Least Significant Difference (LSD) Post Hoc Test comparison analysis as presented in Table 8 revealed that the subjects who scored low in high self-efficacy of trainee teachers in implementing collaborative teaching approaches had a significant lower mean in the adoption of collaborative learning approaches when compared with those who had moderate score in high self-efficacy of trainee teachers in implementing collaborative teaching approaches ( $MD = -7.46$ ;  $p > .05$ ), as well as when compared with those that scored high in self-efficacy in implementing collaborative teaching approaches ( $MD = -9.30$ ;  $p < .05$ ). The result finally revealed that the subjects who had moderate scores in self-efficacy in implementing collaborative teaching approaches had a lower mean score in the adoption of collaborative teaching approaches among trainee teachers in F.C.T. C.O.E. Zuba when compared with those that were high in self-efficacy in implementing collaborative teaching approaches, but the mean difference was not statistically significant ( $MD = -1.85$ ;  $p > .05$ ).

Hypothesis 5: The fifth hypothesis states that resource availability for collaborative teaching does not significantly influence the adoption of collaborative teaching approaches by the trainee teachers. The independent variable is resource availability for collaborative teaching which was categorized into three (low, moderate, and high) based on the sum of the respondents' responses to items 31 – 36 of Section B of FIACTAQ while the dependent variable is the adoption of collaborative teaching approaches by Trainee teachers in F.C.T. C.O.E. Zuba. The hypothesis was analyzed using One-way Analysis of Variance tested at .05 level of significance in comparing adoption of collaborative teaching approaches by Trainee teachers in F.C.T. C.O.E. Zuba based on resource availability for collaborative teaching. The result of the analysis is presented in Table 9.

**TABLE 9.** One-way Analysis of Variance for influence of resource availability for collaborative teaching and adoption of collaborative teaching approaches (N=405)

resource availability for collaborative teaching	N	Mean	SD
Low	98	32.29	7.84
Moderate	230	30.51	9.05
High	77	24.49	9.07
Total	405	30.04	9.23

  

Source of variance	Sum of squares	Df	Mean square	F-ratio	p-level
Between groups	3451.715	2	1725.858	22.418*	.000
Within groups	30948.729	402	76.987		
Total	34400.444	404			

\*Significant at .05 alpha level;  $p < .05$ .

The result in Table 9 revealed that the mean score of 33.29 with a standard deviation of 7.84 was obtained by the 98 subjects who Scored low on resource availability for collaborative teaching, while 230 who had moderate scores on resource availability for collaborative teaching obtained a mean score of 30.51 with a standard deviation of 9.05 and 77 of them who scored high in on resource availability for collaborative teaching obtained a mean score of 24.49 with a standard deviation of 9.07. The results further revealed that the calculated F-ratio of 22.418 with a p-value of .000 at .05 level of significance with 2 and 402 degrees of freedom obtained was statistically significant since the p-value (.000) is less than .05. This then implies that the hypothesis which states that resource availability for collaborative teaching does not significantly influence the adoption of collaborative teaching approaches by the trainee teachers was rejected, and its alternative hypothesis upheld.

Since the adoption of collaborative teaching approaches by trainee teachers in F.C.T. C.O.E. Zuba was significantly influenced by resource availability for collaborative teaching, the source of the difference was determined using Fisher Least Significant Difference (LSD) Post Hoc Test comparison analysis as presented in Table 10.

**TABLE 10.** Fisher Least Significant Difference Post Hoc Test comparison analysis of resource availability for collaborative teaching and the adoption of collaborative learning approaches by the trainee teachers in F.C.T. C.O.E. Zuba.

(I) resource availability for collaborative teaching	(J) resource availability for collaborative teaching	Mean Difference (I-J)	p-level
Low	Moderate	2.777*	.009
	High	8.792*	.000
Moderate	Low	-2.777*	.009
	High	6.015*	.000
High	Low	-8.792*	.000
	Moderate	-6.015*	.000

\* The mean difference is significant at the .05 level;  $p < .05$ .

The results of the Fisher Least Significant Difference (LSD) Post Hoc Test comparison analysis as presented in Table 10 revealed that the subjects who were low perception of resource availability for collaborative teaching had a significant higher mean in the adoption of collaborative teaching approaches when compared with those that were moderate in perception of resource availability for collaborative teaching (MD=2.78;  $p < .05$ ), as well as when compared with those that were high in perception of resource availability for collaborative teaching (MD=8.79;  $p < .05$ ). The result finally revealed that the subjects who were moderate in perception of resource availability for collaborative teaching had significant higher mean score in the adoption of collaborative teaching approach when compared with those that were high in perception of resource availability for collaborative teaching (MD=6.02;  $p < .05$ ).

## DISCUSSION

Findings on hypothesis one revealed that the perception of collaborative teaching as beneficial for students' engagement and learning outcomes had significant positive influence on the adoption of collaborative teaching approaches by trainee teachers in F.C.T C.O.E Zuba. The higher the level of the students' perception that collaborative teaching is beneficial for students' engagement and learning outcomes, the higher the adoption of collaborative teaching approaches. This finding is in line with the findings of a study by Cheung and Wong (2018) which revealed that the trainee teachers who have positive beliefs about the benefits of collaborative teaching are more likely to adopt collaborative teaching and learning approaches. It is also in agreement with Wang, Odell, and Schwille (2008) whose study revealed that teachers' beliefs about the benefits of technology for teaching and learning influence their actual integration of technology into their teaching practices (this is like the idea that beliefs in the benefits of collaborative teaching influences the adoption of collaborative teaching).

Results on hypothesis 2 showed that the perception of ease of implementation of collaborative teaching by trainee teachers had a positive influence on the adoption of collaborative teaching approaches. The finding aligns with the findings by Tsai and Lin (2016) which revealed ease of use as one of the factors that influenced adoption of technology-enhanced collaborative teaching by teachers. It also agrees with the finding by Sawalhi and Shaaban (2017) which revealed the ease of use of collaborative teaching methods as one of the factors that influence teachers' adoption of student-centred teaching approaches. Tsai and Lin (2019) also revealed a similar finding.

The finding on hypothesis 3 revealed that perception of the availability of institutional support had significant positive influence on the adoption of collaborative teaching approaches. This is in consonance with a study finding by Oliver, Robinson, and McLean (2019) which pointed out that institutional factors such as curriculum design, instructional resources, and support mechanisms can influence the extent of integration of collaborative approaches into teacher preparation programmes. It also agrees with the finding by Smith and Johnson (2023) which identified institutional support, teacher attitudes, pedagogical beliefs and technological infrastructure as the factors influencing the adoption of collaborative teaching approaches.

The result on hypothesis 4 revealed that high self-efficacy of trainee teachers in implementing collaborative teaching methods has a significant positive influence on the adoption of collaborative teaching approaches. It corroborates the finding by Lee and Kim (2022), that teachers with higher levels of self-efficacy were more likely to adopt collaborative teaching approaches, such as co-planning and co-teaching. It also aligns with finding by Vo and Le (2022) who found that student teachers' adoption of collaborative teaching approaches was influenced by their teaching beliefs, self-efficacy, and perceived school support.

The findings on hypothesis 5 revealed that resource availability for collaborative teaching has a significant negative influence on adoption of collaborative teaching. This finding supports the findings by Achuonye (2022) and Khasawneh, Alsarayreh, and Khasawneh (2023) that resource availability for collaborative teaching does not influence adoption of collaborative teaching approaches. It does not however corroborate the findings by Ogundipe (2020) and Smith and Johnson (2023) which revealed the reverse as their findings.

### **Implications for Counselling**

Counsellors are expected to provide adequate support and guidance for teachers to instil self-efficacy and confidence in them so they can effectively adopt collaborative teaching approaches. They should work with school administrators to ensure that the school climate encourages collaboration and teamwork. They should advocate for professional development for teachers and strive to create Professional Learning Communities through which teachers can collaborate more and build teams.

### **CONCLUSION**

This study revealed the importance of adopting collaborative strategies in both teaching and learning. It revealed among others the factors that can influence adoption of collaborative teaching approaches by trainee teachers such as belief that collaborative teaching is beneficial, belief that it is easy to implement, availability of institutional support, self-efficacy, and confidence of the trainee teachers, and so on. There is a need to ensure that these factors are encouraged for there to be effective adoption of collaborative teaching approaches.



## RECOMMENDATION

To support the adoption of collaborative teaching approaches by trainee teachers it is recommended that emphasis should be placed on professional development of teachers, provision of institutional support, and instilling confidence in teachers. Good interpersonal relationships should be encouraged among the trainee teachers and professional learning communities should be encouraged. Guidance Counsellors should work in close collaboration with school administrators to ensure that collaborative teaching approaches are effectively adopted in schools and colleges.

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