

EFFECT OF CLASSROOM ENVIRONMENT ON STUDENTS' ACADEMIC ACHIEVEMENT IN ENGLISH AT SECONDARY SCHOOL LEVEL

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ABSTRACT

The aim of the study was to examine the effect of classroom environment on students' academic achievement in English at secondary school level. It was hypothesized that there is no significant difference between the experimental and control group in terms of academic achievement in English after intervention. To carry out this research, true experimental research design was employed. Secondary school students of district Haripur were considered as the population of the study. Seventy (70) students at Government Girls High School Bhera (GGHSB) district Haripur were selected as a sample of the study. A self-constructed English Academic Achievement Test (EAAT) of reliability coefficient 0.829 was used to collect data. The students were divided into experimental and control groups each consisted of thirty-five (35) students through the pretest EAAT scores. The experimental and control groups were taught English in Conducive Classroom Environment (CCE), and Traditional Classroom Environment (TCE) respectively. Both these groups were post-tested through utilizing the same EAAT. The analyzed data revealed that experimental group performed very well in the test as compared to the control group. So, students taught English in CCE took active participation in activities that led them towards higher achievement in English. It was suggested that classrooms may be well-organized, well equipped, and facilitated to create an effective learning environment that motivate the students for higher learning.

Keywords: Effect, conducive classroom environment, traditional classroom, environment, academic achievement, active participation.

INTRODUCTION

Improving educational outcomes in is not a simple task, rather it requires a lot of effort and commitment, as it is the most challenging problem. The education system in schooling has not been able to provide high-quality education for the students. The vision of better schooling includes using innovative technology in the classroom, but also placing a greater emphasis on creating an

environment that is offering a learning atmosphere, collaborative tasks, and using interactive teaching and learning methods for better outcomes (Loewenberg Ball & Forzani, 2009).

The process of teaching and learning cannot be performed in a vacuum type surrounding. In formal education situations, that appears through interaction amongst the classroom members leads to

classroom culture. In classroom situations, there are a variety of elements that occurs in the teaching-learning process, comprising the educator, learners, educational materials, the learning process, and environment (Malik & Rizvi, 2018). The learning environment or atmosphere refers to the conditions in which the learning process basically takes place. Every single schoolroom basically requires its own distinctive teaching and learning situations. According to Arends (2007), classes should be represented in such a manner that it should be related from distant while also vary in their flows and practices. Further, a classroom environment has two primary factors related to physical and humane aspects. The physical component of the classroom includes all the physical objects present like the blackboard, equipment, furniture, lighting, projector, desktops, and books. But the human component is made up of the teachers and students who are present in the classroom.

Wu, Tennyson, and Hsia (2010) argued that classroom environment refers to the physical and social aspects of a schoolroom shaped, designed, and enabled by the educators. Furthermore, numerous factors contribute to the schoolroom situation's impact on student erudition with respect to his or her behavior and performance. Peng (2015) studied university freshies in China to recognize the most important factors in their schoolroom atmosphere and determined that English courses should exhibit an encouraging atmosphere that includes informative books and schooling techniques. According to Oluwatayo and Oyeboade (2016), classroom atmosphere has a strong association with the academic accomplishment of students.

The term "academic accomplishment" indicates the consequences which represent an individual achievement of precise objectives that were emphasized in the actions in institutes' educational atmosphere precisely like in schools, colleges, and universities. Kaloiya and Basu (2017) specified that assessment of students is the most effective way to estimate their academic accomplishment. They additionally described the academic accomplishment as the degree of school teaching as to be successful completion of education. Anbalagan (2017) found in his study at secondary school that a positive effect on the association

amongst a learner's school situation and their educational accomplishment. According to Umar (2017), classroom environment plays a significant role in determining students' level of academic achievement and enhancing their holistic growth. For students, the classroom is not just an intellectual space, but also a social, emotional, and physical environment. Further, the study of Nsa et al. (2014) reveals a strong connection between the environmental variables in school and learners' educational performance. In the light of the above discussions, it is found that classroom environment has a direct relationship with the academic performance of the learners.

Statement of the Problem

Less number of research studies have been done in Pakistan to investigate how the classroom atmosphere effects students' academic performance in English. As a result, this study aimed to find the effect of classroom environment on the secondary school students' academic achievement in English at secondary school level.

Objectives of the Study

To carry out the study, the below objectives were framed.

1. To find the students' academic achievement in English at secondary school level prior to the intervention.
2. To examine the effect of classroom environment on students' academic achievement in English at secondary school level.

Research Hypotheses

It was hypothesized that:

H₀₁:

There is no significant difference between experimental and control group in terms of academic achievement in English before intervention.

H₀₂:

There is no significant difference between experimental and control group in terms of academic achievement in English after intervention.

Significance of the Study

The study is beneficial for all the stake holders including curricula developers, teachers, students studying English, the administrators, the policy makers, and department of education etc. It might create awareness about conducive learning environment as key factor for higher academic achievement of students in English and ultimately contributes to the development of the teachers' knowledge about the effectiveness of classroom environment.

Delimitation of the Study

Due to lack of resources and time constraints, the study was delimited to government girls secondary school students of district Haripur. The study was further delimited only seventy (70) students of grade 9th studying English at Govt. Girls High school (GGHS) Bhera.

1. REVIEW OF LITERATURE

A conducive learning atmosphere is one that makes it easier for kids to learn (Ahmed, Tayyub & Ismail, 2020). It is a situation that creates conditions that make it easier for pupils to work (Lim et al., 2003). Khalid (2008) stated that a beneficial learning atmosphere is "one that run into the demands of its contributors not only in the development of proficiency and literateness capabilities but also in the ability to link the sets of students economic and professional needs to literateness with their learning practises." A welcoming classroom climate aids both teachers and students in learning more effectively and performing better academically. It contains different elements such as room size, lighting, temperature, walls, floor, ventilation, seats, whiteboards, mats, computers, and other materials, all of which have beneficial impacts on students' learning (Suleman & Hussain, 2014). The major features at educational institutes are the buildings' structure and design, natural or artificial lighting, electricity and ventilation in classrooms, clean drinking water, clean and good washrooms, and a creative playground (Awan, 2018). Students' academic accomplishments is better in small-size classrooms, well-furnished with superior amenities than in large-size classrooms (Olufemi & Olayinka, 2017). In the classroom, the use of diverse teaching approaches like skills, practices, pedagogical tactics, and educational plans aid teachers in

successful teaching and promote students' to clearly grasp the lesson needed for enhancing their learning (Chen et al., 2010). Moreover, lectures, discussion, questioning, collaboration, cooperation, talk chalk, demonstration, recreation, field trip, emotional and dramatic attitude, review, finding and discovery manners, Dalton plan, planned course learning, research and experimentation, project development, microteaching, and mastery learning approaches are examples of these methods. They not only assist tutors in providing efficient tutoring, but they also assist students in improving their learning, which ultimately enhances their academic success (Chen et al., 2010; Dorgu, 2015; Khan et al., 2017 a).

Factors of Classroom Environment

The whole classroom atmosphere is developed from four numerous factors including physical situation; time and education administration; behavioural supervision; and teacher efficiency. All these factors are required to be implied collectively to deliver a powerful positive effect on student education and the learning process (Turano, 2005).

a) Physical environment:

The physical situation is the initial step towards "developing a logical environment" for creating a situation helpful to learn. The physical situation of a classroom comprises specific places for specific exercises, picking and arranging furniture, positioning seats for a better learning, adorning places for vital reasons, and providing materials and places for ease entree. If the physical situation of the schoolroom is avoided, it would have a damaging consequence on the teachers and students (Stewart et al., 1997). Furniture must be organized in such a way that adequate traffic patterns can be shaped, and all ingredients are effortlessly available. Desks can be arranged in clusters to produce adequate area in a schoolroom for suitable circulation arrangements. It converts more friendly and aids pupils with incapacities or ill health cases, as they can easily move around the room (Landau, 2004). Instructors can walk about in the schoolroom more readily now that the tables are organized up in appropriate sets, keeping an eye on student behavior. Gathering the students' desks can also be served to establish a situation where children feel at ease working constructively with their colleagues

and asking for assistance if they want it. Visual pupils, such as, do improve at any stage if the schoolroom has motivating and attractive objects on exhibition. According to Landau (2004), instructors can improve the representation to be appealing for their schoolrooms by introducing bright, colorful exhibitions or bulletin panels all over the schoolrooms to understand students the subject via graphical representation.

b) Time management

Basically, every instructor should develop and adapt according to timetables for mutually schoolroom and every student to keep classes functioning properly (Khan et al, 2017 b). Educators should be capable to dedicate as most time available and as feasible to fundamental topics of course education using these planned timetables. Thus, educators who follow their planned teaching lesson end up less usually to use up their time for other teaching courses. Further, a timetable is necessary to the aware kids about what to learn and attain during their school period and so forth the closing time. According to Moore (2007), educational time need to be converted into a good learning exercise. To maximize learning, basically, learners should be guided to be engaged productively and this should be applied upon the majority on the school daily routine and the instructors must utilize things that are fascinating, encouraging, and attractive to their learners.

c) Managing behavior

The two elements with the greatest influence on learner education and learning are behavior and classroom management (Marzano & Marzano, 2003). To express anticipations, tutors should construct classroom instructions. Managing behavior and classroom stability and control are crucial to promoting learning. Educators that are expert in managing schoolroom behavior are also good at promoting and raising the academic success and capabilities of pupils, based on the research. Educators should restrict the quantity of rules in their classes to about three to five. These regulations must be introduced unequivocally at the beginning of the school as it starts its year, displayed, and studied on a regular basis. Multiple interventions

should be used by teachers to encounter the necessities of their pupils.

d) Efficiency of teachers

Teachers' activities have been investigated and researched for many years to see if there is a link between teachers and students' accomplishments. Research has proved that teachers' behaviors in their classrooms have double the inspiration for learner success, as school rules representing curriculum, homework, staff collegiality, and community engrossment (Marzano & Marzano, 2003). The impressions of educator communications with pupils have been researched upon, and it has been revealed that the grade and rate of occurrence of admiration, utilization of schoolroom time duration, and the amount of consideration and understanding delivered to the set of students or even individuals' student have a strong optimistic correlate impact to a student capacity to study (Cano, 2001).

School Environments

Non-material factors cause a stifle in the learning method in schools. Many Pakistani schools deal with a wide range of languages, cultures, customs, and ethnicity. Even then, the situation is swiftly changing in favour of the advancement of education and the educational structure system. Nevertheless, several schools, on the other hand, still do not possess the basic resources such as an infrastructure for studying, proper furniture, drinkable water, teaching materials, and competent teachers. The educational atmosphere has a significant impact not only on kids' but academic development and on their character and personality building and the access to such an atmosphere allows learners to learn and groom appropriately (Horwitz, 2000). Further, teachers find it difficult to treat each kid fairly and equitably in overcrowded classes (Ipinge, 2018). Discipline is given more weight, and as a result, it has a stronger influence on learners' personalities. Co-curricular activities also teach students teamwork, communication, and coordination skills. Besides, the environment of private schools is more accommodating, hospitable, and helpful to language learners (Lodhi et al., 2019).

Kelly (2002) defined learning as a variety of theoretical methods. After kids have learned, there

is a lasting shift in their learning and behavior aspects. Many elements interact in the educational learning atmosphere, yet all with the goal of improving the students' performance. The interplay of students, instructors, and the school facilities determines the result of the learning environment. A pleasant learning atmosphere is necessary for a learner's welfare and accomplishments. Learners feel at ease and inspire to accomplish when they appear at an institute with a favorable learning atmosphere. The physical learning atmosphere act as an important part in the complicated and advanced contextualized nature of learning, which is noticeable by dynamics and collaborations between the student, the instructor, the material, the equipment, and advanced technology used (OECD, 2013). The educator should organize the schoolroom in such a design and setting those pupils have time to talk with one another to learn to appreciate their peers.

According to McLaughlin and Talbert (2006), the school atmosphere has a noteworthy inspiration on the well-being of learners and communities. Schools that are not well-maintained and poorly erected discourage pupils' and tutors' morality and motivation and have a disadvantageous effect on student performance results. Filardo (2008) highlighted on many components that have a plan on learners' learning and physical scenario, whether directly or indirectly. Aspects just like the cultural, progressive, and communal features of the physical and virtual learning atmosphere all subsidise to pupils' learning in organizations (McGregor, 2004). There is a strong correlation between the space and size of the schoolroom and the utilization of set tutoring, which diminishes the number of students with proof linking their performance to their histories (Graue et al., 2007). Students contribute more to learning activities in well-equipped and well-designed facilities, because there is more material and gear accessibility, that boosts students' interest and further motivates them (Rudd, Reed & Smith, 2008).

Teachers organize the tables in the schoolroom to foster learner connections with one another, permitting them to subsidise to active learning to build a pleasant atmosphere. As these aspects are either aided or not by a pleasant school atmosphere, which also adds to an awareness of social,

psychological, and personal wellbeing (Sithole, 2017). According to Khan, Khan and Majoka (2011), a good classroom management contained four core aspects: content, conduct, covenant, and these elements almost completely satisfy all prerequisites for an efficient teaching/learning process. A healthy school climate would allow student to respect and trust to grow. But it also encourages pupils to form groups and work together, all of which lead to a better learning environment (Anderson, 1982). School atmosphere is significantly linked to health issues, and can even be harmful to it (Sithole, 2017).

Theoretical Framework of Study

Constructivist Learning Theory (CLT) is a student-centric learning technique where, learners can control positively, and building their meaning (Almala, 2005). Dewey (1933–1998) is credited with developing the CLT. Piaget (1972) and Bruner (1990) are also regarded as the leading philosophers of the cognitive constructivist school. However, Vygotsky (1978) was the main social constructivist. According to Mascolo and Fischer (2005), constructivism is the theoretical and systematic view that information is created actively. The students in a constructivist educational environment question one another to build their knowledge and are based on how we all make sense of our surroundings. This has greatly aided student-centered learning strategies (Lueddeke, 1999).

Constructivism supporters consider that learners actively seek connotation (Driscoll, 2000). In the learning procedure, students vigorously progress and expand their understanding through reflexion, consideration, investigation, innovation, and mainly social relations (Brooks, 1999). In addition, the teacher students are fortified to act as facilitators of pupil's learning in constructivist learning environments rather than providers of knowledge as in traditional learning environments. According to the researchers Dat-Tran (2007); Johnson and Johnson (2008), in a constructivist learning atmosphere, students can explore, review, discover, and analyze learning problems to get closer to important information points (Huang, 2006). Hence, CLT suggests that learning occurs as students build knowledge and meaning through active participation. This theory applies to a facilitating

learning environment where students are provided with equipment for active learning, engage in active learning, and facilitate collaboration.

Review of Relevant Studies

Suleman and Hussain (2014) examined physical environment and its effect on academic achievement in English. The 9th grade (n=40) students were selected. This study used experimental method research design. The MCQs type test was used for data collection before and after intervention. The result indicated a significant difference: the experimental group outperformed than the control group. In conclusion, classrooms should be well-organized, equipped and facilitated. Further, the study of Umar (2017), examined the impact of classroom environment on students' academic performance in English. The experimental approach was used to conduct the study. The experimental group students (n=122) were taught in three well renovated classrooms, while the control group students (n=135) were taught in non-renovated relatively poor classroom environments. Both the groups were taught English through same method. The results revealed significant differences concerning the achievements in English of the experimental and the control group. The favorable classroom condition significantly increased the results of experimental group.

Besides, the study of Mahmood and Gondal (2017) analyzed the effectiveness of school-based atmosphere on performance of pupils in English and Urdu medium classes. The results indicated that school environment has more positive impact on students' performance. Further, a study was conducted by Arshad et al (2018), to know the effect of school environment on students' outcomes at secondary level. The data collected through a self-developed questionnaire were analyzed. It was found that the school environment, discipline, and physical facilities of school have serious effects on students' performance. Moreover, the study of Wali, Abulfathi, and Mustapha (2019), investigated how the classroom environment affects students' academic performance in the English language. Data was collected through a self-developed questionnaire from 401 students and 183 teachers were analyzed. It was concluded that the classroom atmosphere has a significant influence on pupils'

academic achievement in English. Similarly, Yildiz (2020) extensively examined English as foreign language through a survey research design. The results showed that effective learning environment significantly contributed to the second language acquisition.

Furthermore, Baafi (2020) explored classroom environment on academic accomplishment of students in Ghana. The participants were selected using multi-stage sampling technique. A regression model was used to analyze the effect on dependent variable. Effective learning environment was found significant in improving students' achievements than non-conducive environment. In addition, a study was conducted by Qamar and Nawaz (2021) to study the impact of classroom environment on student learning. This study is descriptive in nature. A questionnaire was used to obtain the data. The results of the study showed that the lecture room environment, including placement, classroom redecoration, chair arrangement, communication with students and managing their feedback, setting up exercises, developing rules and communicating those rules to the students, played a significant role in their learning.

Besides, the main aim of Aneke (2022) research was to investigate the influence of learning environment on academic achievement of secondary school students in Makurdi metropolis of Benue State. A descriptive survey design was adopted for the study. A questionnaire was used for data collection. The results of the study revealed that adequate provision of infrastructures makes students learn with ease thus bringing about good academic achievement as compared to poor and inadequate physical facilities, obsolete teaching techniques.

2. MATERIAL AND METHODS

Research Design

To study classroom environment effect on students' performance, true experimental research design or pre-test post-test control group design was used. Two groups named experimental, and control were formed. The experimental and control group students were taught in the CCE, and the TCE respectively.

Population and Sample of the Study

All Govt girls' students at secondary school level of district Haripur were considered as the population of this study. The total population comprised of 1100 female students at grade 9 in District Haripur (EMIS, 2022). Seventy (70) female students of 9th grade of GGHS Bhera were selected as sample of the study. These students were randomly assigned into experimental (n = 35) and control group (n = 35) through pre-test of English via random sampling techniques.

Research Instrument

To conduct the research, English Academic Achievement Test (EAAT) were used to collect data. The researcher herself constructed the test from grade 9th English textbook, under the guidance of the supervisor and English subject experts keeping in view the table of specification and Bloom's taxonomy of cognitive domain. EAAT was consisted of 100 multiple choice questions with four possible options. The tool was further made valid through judgmental validation via panel of experts and educationists. To make the test more reliable, it was pilot tested among 20 students of grade 9th at Govt girls' high school Pania Haripur in March 2022. Reliability coefficient of EAAT was 0.829.

Experimental Procedure

To study classroom environment effect on students' achievement in English, true experimental research designed was used. The pre-test EAAT was used for the creation of the experimental and control groups consisted of 35 students each. The average scores of the students in the experimental and control groups on the pre-test EAAT were 42.15 and 42.03, respectively. To carry out the experiment, the researcher prepared two sets of lesson plans from English textbook of grade 9th taught in KP government schools. Topics for lessons were selected from the first six units of the English textbook namely, 1) Holy Prophet, 2) Iqbal Message, 3) Nassiruddin, 4) The Daffodils, 5) Quaid-e-Azam: A Great Leader, 6) Fantastic Shoemaker. During the experimentation, the same teaching methods were used for both groups of Conducive Classroom Environment (CCE), and

Traditional Classroom Environment (TCE). The CCE equip with teaching aids, multimedia, appropriate furniture, excellent lightning, enormous space for students, and different activities were conducted in intervention for increasing students' participation as compared to TCE. To minimize the experimenter effects in research as argued by (Lodico et al., 2010), the researcher selected two English subject teachers equated on their qualification and teaching experience for both groups, who were well-equipped with subject matter knowledge.

The experimental group were taught in CCE while the control group was taught in TCE respectively. The experiment continued for 10 weeks w.e.f., 15 March to 31st May for the academic year 2021-22. The researcher observed the whole experimental procedure by herself. During the experimentation, the volunteer teachers taught English to the experimental and control group. Forty (40) classes were imparted in each group for 30 lessons through an appropriate timetable. After the experimentation, data were collected through post-test EAAT from both the experimental and control groups. Throughout the research period, the school administrators, teaching personnel (including science and art instructors), and support staff gave their full cooperation and assistance.

Data Collection and Analysis

To study classroom environment effect on students' achievement in English, experimental and control groups were formed based on pretest EAAT. After experimentation, post-test EAAT was conducted to analyze the difference in the academic performance. The obtained data were analyzed using statistical techniques such as mean scores, standard deviations, and t-tests using SPSS. The findings were used to make conclusions, and suggestions were formulated in the light of conclusion.

3. RESULTS AND DISCUSSION

Results

Below are given the tables with their interpretation considering the objectives, and hypotheses of the study. The details are as under:

Table 1: Pre-test comparison of experimental and control groups on EAAT (N=35)

Cognitive Domains	Group	Mean	Std. D	Std. EM	t	p
Knowledge	Exp	15.200	2.805	0.474	0.359	0.721
	Cont	14.971	2.515	0.425		
Understanding	Exp	12.800	3.151	0.533	-0.300	0.765
	Cont	13.028	3.222	0.545		
Application	Exp	9.371	2.474	0.418	1.052	0.297
	Cont	8.742	2.525	0.427		
Analysis	Exp	11.228	3.631	0.614	-0.392	0.696
	Cont	11.571	3.689	0.623		
Synthesis	Exp	6.857	2.871	0.485	0.041	0.967
	Cont	6.828	2.945	0.498		
Evaluation	Exp	3.600	1.418	0.240	0.000	1.000
	Cont	3.600	1.612	0.273		
Total Cognitive Domains	Exp	59.057	12.762	2.157	0.107	0.915
	Cont	58.742	11.897	2.011		

The table 1 showed the comparison between experimental and control over EAAT before intervention. The corresponding mean scores and p-values of both groups over the level of Bloom Taxonomy of cognitive domain (Knowledge, Comprehension, Application, Analysis, Synthesis and Evaluation) are: ($M_E = 15.200$, $M_C = 14.971$, and $p\text{-value } 0.721 > 0.05$), ($M_E = 12.800$, $M_C = 13.028$, and $p\text{-value } 0.765 > 0.05$), ($M_E = 9.371$, $M_C = 8.742$, and $p\text{-value } 0.297 > 0.05$), ($M_E = 11.228$,

$M_C = 11.571$, and $p\text{-value } 0.696 > 0.05$), ($M_E = 6.857$, $M_C = 6.828$, and $p\text{-value } 0.967 > 0.05$), ($M_E = 3.600$, $M_C = 3.600$, and $p\text{-value } 1.000 > 0.05$), and ($M_E = 59.057$, $M_C = 58.742$, and $p\text{-value } 0.915 > 0.05$). The whole table showed the difference in mean values of treatment and control group in pre-test which was found non-significant. The null hypothesis H_{01} is accepted. Therefore, both groups were found statistically same in EAAT prior to the experiment.

Table 2: Post-test- comparison of experimental and control groups on EAAT for knowledge (N=35)

Group	Mean	Std. D	Std. EM	t	p
Exp	17.685	1.676	0.283	5.432	0.000
Cont	14.942	2.473	0.418		

The table 2 presented the comparison of EAAT knowledge score between experimental and control group after intervention. The ($M_E = 17.685$, $SD = 1.676$, $SE \text{ Mean} = 0.283$) performed better than control group ($M_C = 14.942$, $SD = 2.473$, $SE \text{ Mean}$

$= 0.418$) after intervention in academic achievement test as portrayed by t-value (5.432) and p-value ($0.000 < 0.05$). The null hypothesis H_{02} is therefore, rejected. Thus, the experimental group was found better than control group in EAAT for knowledge factor.

Table 3: Post-test-comparison of Experimental and Control Groups on EAAT for comprehension factor (N=35)

Group	Mean	Std. D	Std. EM	t	p
Exp	17.142	1.517	0.256	6.944	0.000
Cont	13.171	3.024	0.511		

The table 3 showed the comparison of EAAT comprehension scores between experimental and control group after intervention. The ($M_E = 17.142$, $SD = 1.517$, $SE\ Mean = 0.256$) performed better than control group ($M_C = 13.171$, $SD = 3.024$, $SE\ Mean = 0.511$) after intervention in academic

achievement test as portrayed by t-value (6.944) and p-value ($0.000 < 0.05$). The null hypothesis H_{02} is therefore, rejected. Hence, the experimental group was found better than control group in EAAT for comprehension factor.

Table 4: Post-test- comparison of Experimental and Control Groups on EAAT for application factor (N=35)

Group	Mean	Std. D	Std. EM	t	p
Exp	13.971	1.562	0.264	8.972	0.000
Cont	9.200	2.731	0.462		

The table 4 indicated the comparison of EAAT application score between experimental and control group after intervention. The ($M_E = 13.971$, $SD = 1.562$, $SE\ Mean = 0.264$) performed better than control group ($M_C = 9.200$, $SD = 2.731$, $SE\ Mean = 0.462$) after intervention in academic achievement

test as portrayed by t-value (8.972) and p-value ($0.000 < 0.05$). The null hypothesis H_{02} is therefore, rejected. Consequently, the experimental group was found better than control group in EAAT for application factor.

Table 5: Post-test- comparison of Experimental and Control Groups on EAAT for analysis factor (N=35)

Group	Mean	Std. D	Std. EM	t	p
Exp	17.485	1.837	0.311	8.371	0.000
Cont	12.028	3.391	0.573		

The table 5 exhibited the comparison of EAAT comprehension score between experimental and control group after intervention. The ($M_E = 17.485$, $SD = 1.837$, $SE\ Mean = 0.311$) performed better than control group ($M_C = 12.028$, $SD = 3.391$, $SE\ Mean = 0.573$) after intervention in academic

achievement test as depicted by t-value (8.371) and p-value ($0.000 < (0.05)$). The null hypothesis H_{02} is therefore, rejected. Thus, the experimental group was found better than control group in EAAT for analysis factor.

Table 6: Post-test- comparison of Experimental and Control Groups on EAAT for synthesis factor (N=35)

Group	Mean	Std. D	Std. EM	t	P
Exp	13.028	1.839	0.311	10.587	0.000
Cont	7.228	2.669	0.451		

The table 6 displayed the comparison of EAAT synthesis score between experimental and control group after intervention. The ($M_E = 13.028$, $SD =$

1.839, $SE\ Mean = 0.311$) performed better than control group ($M_C = 7.228$, $SD = 2.669$, $SE\ Mean = 0.451$) after intervention in academic achievement

test as showed by t-value (10.587) and p-value (0.000<0.05). The null hypothesis H_{02} is therefore, rejected. Hence, the experimental group was found

better than control group in EAAT for synthesis factor.

Table 7: Post-test- comparison of Experimental and Control Groups on EAAT for evaluation factor (N=35)

Group	Mean	Std. D	Std. EM	t	p
Exp	8.228	1.285	0.217	11.114	0.000
Cont	4.514	1.502	0.254		

The table 7 revealed the comparison of EAAT evaluation scores between experimental and control group after intervention. The ($M_E = 8.228$, $SD = 1.285$, $SE\ Mean = 0.217$) performed better than control group ($M_C = 4.514$, $SD = 1.502$, $SE\ Mean = 0.254$) after intervention in academic achievement

test as represented by t-value (11.114) and p-value (0.000<0.05). The null hypothesis H_{02} is therefore, rejected. So, the experimental group was found better than control group in EAAT for evaluation factor.

Table 8: Post-test- comparison of Experimental and Control Groups on EAAT for total cognitive domain (N=35)

Group	Mean	Std. D	Std. EM	t	p
Exp	87.542	6.688	1.130	11.873	0.000
Cont	61.085	11.361	1.920		

The table 8 revealed the comparison of EAAT scores over cognitive domain between experimental and control group after intervention. The ($M_E = 87.542$, $SD = 6.688$, $SE\ Mean = 1.130$) performed better than control group ($M_C = 61.085$, $SD = 11.361$, $SE\ Mean = 1.920$) after intervention in academic achievement test as represented by t-value (11.873) and p-value (0.000< (0.05). The null hypothesis H_{02} is therefore, rejected. Hence, the experimental group was found better than control group in EAAT for cognitive domain.

(2014), and Umar (2017) supported the evidence. In their studies, they also found that students from experimental group outperformed in academic achievement test taught in the CCE as compared to the control group TCE. Further, the outcomes of the non-experimental studies like Mahmood and Gondal (2017), Arshad et al (2018); Wali et al (2019); Yildiz (2020); Baafi (2020); Qamar and Nawaz (2021); and Aneke (2022) also favored and reported same results in their studies. These studies also claimed that effective classroom environment increased students' participation in the activities that led them to improve their academic performance.

Discussion

The current research investigated the effect of CCE on secondary school students' academic achievement in English. The analysis of data reported that after treatment to experimental group, the students' academic achievement was significantly increased as p-value (0.000<0.05) depicted the significant results. The students taught English in CCE found higher academic achievement than the students taught in TCE. The results of this study showed that experimental group students performed better in academic achievement than the control group. The studies of Suleman and Hussain

Conclusion

Based on the findings of the study, it was concluded that mean score of CCE and TCE in pre-test was found similar for EAAT. Subsequently, both the groups were found same in their academic achievement in English before the experiment. Further, the students taught in CCE, outperformed in EAAT scores (knowledge, comprehension, application, analysis, synthesis, and evaluation) as compared to the students taught in TCE after

treatment. Hence, the students who were taught English in CCE have high scores after treatment i.e., CCE significantly increased the academic achievement of students in English at secondary school level.

Recommendations

- As CCE is a modern approach for active learning, so it is recommended that the classrooms might be well-organised, equipped and facilitated with all the supportive materials (learning resources including A.V aids, and multimedia, and Physical resources like furniture) to increase students' motivation and active participation in activities that may lead them towards higher achievement in English. Further, as reported in current research, conventional classroom approach proved to be ineffective for teaching English and did not produce significant results. Consequently, it is suggested that teachers may avoid teaching in such non-conducive classroom that promotes passive learning and instead use CCE that enables the students to get higher achievements. Furthermore, it is suggested that school principals and administration might help teachers for creating CCE to improve students' academic performance. Remuneration may be given to such teachers who create CCE to motivate them to use such classroom environment in future for effective learning. It is suggested that curriculum developers may incorporate contents for English that promote CCE, and it may positively change students' attitude towards English. Moreover, the future researchers may study the impact of CCE on students' achievement in Mathematics at secondary school level. The future researchers may also study the effect of CCE on students learning keeping in view the Hands-on and Heart-on activities in mind at secondary and higher secondary level.

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