



RESEARCH PAPER

Effects of Classroom Environment on Students Learning at Elementary Level

¹Nafeesa Rani, ²Ghulam Dastgir* and ²Fakhar-Ul-Zaman

1. M. Phil Scholar, Department of Education, University of Narowal, Punjab, Pakistan
2. Lecturer Department of Education, University of Narowal, Punjab, Pakistan
3. Visiting Lecturer, Department of Education, University of Narowal, Punjab, Pakistan

*Corresponding Author: ghulam.dastgir@uon.edu.pk

ABSTRACT

The aim of this study is to explore Effects of Classroom Environment on Student Learning at Elementary Level. The present paper seeks to identify the effects of Classroom Environment on students' learning and to evaluate the effects of classroom management at elementary level students. Descriptive research method was used by the researcher. Narowal division selected as a population, and district Narowal selected for sample of the study. This study restricted the sample to elementary school students who responded that the Effects of Classroom Environment on Student Learning at Elementary Level. In the 1st phase through convenience sampling teaching for select district Narowal from division Gujranwala. In 2nd phase researcher used simple random technique to select schools, teachers. Simple random sampling technique was used to collection data. Questionnaire was used as data collection tool. In the current study, out of the total 1,043 school, 72 schools (urban, rural) selected through simple random sample technique for the purpose of data collection. In present study 530 female teacher's responses received. Frequency, percentage, mean score and standard Deviation tests were used to analyses the data collected through SPSS version 25.0. The responses paint a favorable view of the circumstances. Frequency, Percentage, mean score, religion, origins or gender is more prevalent.

KEYWORDS Classroom Environment (CE), Students, Learning, Elementary Level

Introduction

CE and its influence on students' learning processes are one of the enduring discussions among educators and pupils. The present paper researches the complicated correlation between CE and pupils at elementary level. By exploring such classroom characteristics as physical environment and class organization, and teachers' attributes and teaching methods, the article seeks to highlight the complex ways that the environment influences students' academic achievements and general development (Hussain & Abbas, 2020).

This paper is significant in the sense that it adds to the existing pool of knowledge on the scope of educational psychology and instructional designing. There may have been several studies on how classroom settings impact the learning process and student performance, but there was an identified research deficit in the use of the setting in the elementary level. As such, this paper is aimed at generating information that, if implemented, will go a long way in guiding the practices around education and formulating policies to better the elementary education process (Albadi & David, 2019).

In addition, the research is also driven by the fact that the researcher appreciates the significance of the classroom in influencing the students' educational experiences. Given the efforts applied by educators and other stakeholders to develop the best educational environments for young learners, it is critical to examine the specific factors that enhance teaching and learning. The essence of this inquiry is not only to expand the

knowledge of how the classroom functions, but also to enable the educators with proven mechanisms to create conducive CE (Wang et al., 2022).

Taking these considerations into account, the present paper seeks to identify the effects of CE on students' learning at elementary level furthermore the study aims to evaluate the effects of classroom management practices on students' learning.

Literature Review

The CE is the most important place that is responsible for the creation of the students' full learning experience. The purpose of the study is to identify the effects of CE on students' learning and also evaluate the effects of classroom management practices on student learning this is especially true for the elementary level, where the foundational skills of students are set. In this review, researcher was address the multiple factors within the CE that influence the students' learning outcomes and academic performance (Adewale et al., 2021).

Physical Environment: According to research, the physical setup of the classroom has an extensive impact on students' behavior and motivation. As such, student-related factors include seating, lighting, temperature, and the overall design's role in determining their attention span, comfort, and the entire learning environment. For instance, some studies revealed that students from well-lit and ventilated classrooms with flexible seating were generally more focused and participatory (Mostafa et al., 2023).

Classroom management: Classroom management is another essential determinant of a good learning environment. The discipline has a lot to do with what teachers expect, secure, and give students' predictability. Disciplinary measures ensure that all students comply with the set guidelines to promote discipline. Other measures include positive reinforcement, student-focused strategies, and cooperative learning (Rymanova & Vlasova, 2020).

Interaction with a Teacher: Teacher-student relationships also greatly affect students' academic performance and socio-emotional well-being. Based on the described works of literature, it is possible to conclude that relevant research points out the importance of a supportive and caring background defined by respect, empathy, and support. As a result, it is strongly connected to schooling setup and applied motivation and has to be covered in detail (Adewale et al., 2021).

Learning resources and technology: Adequate resources and technology should be provided to ensure effective instruction and engagement. Classrooms should be equipped with various instruction materials, educational resources, and digital learning materials. These are especially important as they meet the needs and preferences of different learners. Moreover, the use of technology in classroom instruction allows students to learn from interactive, enjoyable sessions. Therefore, students can have an engaging learning experience and learning different students at their own pace (Pierro, 2020).

Classroom culture and diversity: A culturally responsive and inclusive classroom setting is fundamental in striving towards equity and academic achievement. Valuing diversity, mutual respect, and celebration of cultural identity ensures students have love and acceptance. Teachers should take the responsibility for supporting cultural competence, addressing biasness and be able to see that they provide numerous chances for their students to do hands on and learn from one another (Wahidmurni, 2020).

The CE makes a substantial difference in elementary school students' learning experience and academic performance. Therefore, educators should consider the physical environment of the classroom, management issues, their interaction with students, the learning resources available, and classroom diversity before creating an environment that

fosters student's development and learning. More environmental factors and interventions need further research to ascertain how they can enhance students' academic performance while interacting with the CE (Ahmed et al., 2020)

Material and Methods

This study focused on a particular research design that looked to understand how the classroom setting influences the learning of students in elementary schools. Researchers in this chapter extensively covered the population of choice, the instruments utilized, the sample size, data collection process, the pilots, and pre-test before the main study and the methodology for analysis of the gathered materials (Obaki, 2020).

Research Design: The researchers who conducted this study selected 5 teachers from each of the 72 schools that participated, for a total of 530 Female teachers. A simple random sample procedure was used. The schools were selected based solely on a random drawing. Only pertinent information was gathered from the seventy educators who were chosen at random for the survey. For the purpose of gathering information, the researcher developed a questionnaire for participants to fill out (Hannah, 2020).

Research Population: The term "research population" refers to a well-defined collection of individuals or things known to share comparable features. In most cases, every person or thing that belongs to a particular community shares one essential quality or attribute. For example, the entirety of the teaching staff at a school is an excellent illustration of a population. It would include all of the educators that that school currently employs when the data was collected. Data are collected from each of these educators in a manner that is determined by the specification of the problem (Hill & Epps, 2020).

Table 1
Schools and Teachers (District)

District	Tehsil	School	Teacher
Narowal	03	1043	3920

Sample of the Study

A smaller and more manageable representative of a bigger group is what we refer to when we use the term "sample." A section or portion of a larger population that shares the same characteristics as the bigger population. The sample is an accurate reflection of the whole population. 'Simple random sample technique' used to gather information for this study (Rance et al., 2023).

Table 2
Schools and Teachers (Tehsil wise)

District	Tehsil	School	Teacher
Narowal	Zafarwal	28	250
Narowal	Narowal	32	200
Narowal	Shakargrah	12	80
Total	03	72	530

Research Tools

Information gathering, measurement, and analysis are all aspects of the research design. It must be well-planned to guarantee that the various study components work together to respond satisfactorily to the research question (Maxwell et al., 2020). Self-construction questions were used for data collection in this research study. A questionnaire was used for collecting data about the "Effects of CE on Student Learning at Elementary School Level" practices used by elementary teachers. A questionnaire is a set of prewritten questions that collect information from study subjects (Barrett et al., 2020).

Pilot Testing

To establish the validity of the exam, a pilot test was conducted on both the pre-and post- tests. Twenty women who had applied to teach at Allama Iqbal Open University were chosen for the pilot program. In order to collect data for the pilot study, the researcher went to Govt Girls High School Narowal, where Allama Iqbal Open University Islamabad had arranged a workshop. The research was not conducted on the students who participated in the pilot test(Pajarillo-Aquino, 2019).

Data Collection

The process of gathering and measuring information on variables of interest in an established systematic manner that enables one to answer stated research questions, test hypotheses, and evaluate outcomes is called data collection. Data collection is gathering and measuring information on variables of interest. Questions of several types are used for data collection. The participants in this study are teachers from secondary schools in the Narowal district. The 72 schools chosen for data collection were all public elementary schools for girls in the Narowal district(Adewale et al., 2021). In this study multistage sampling technique is used. In the 1st phase through convenience sampling technique selected district, Narowal from Gujranwala division. In 2nd phase simple random technique used to select schools, teachers. In the current study, out of the 1043 schools, 72 schools selected through simple random sampling for data collection. The sample schools located in both urban and rural areas. The present study involved the simple random sampling techniques, in 72 schools, and selected the 5 teachers from each school, 530 teachers selected through simple random sampling technique and schools also selected through this technique, 530 teachers randomly selected, and data gathered exclusively. A questionnaire was developed by the researcher for data collection. There were 56 questions in the first draught of the questionnaire, however following pilot testing, the easiest and most challenging questions were dropped. Consequently, the questionnaire had 36 items. It is impractical to visit every school for data collection; therefore, the researcher developed a questionnaire that can be filled out on paper to ensure that as many respondents as feasible reply(Marks & Fraley, 2020).

Data Analysis and Interpretation

Analyzing data entails using statistical and logical methods to describe, show, summarize, and assess the information gathered. The collected data is analyzed by using SPSS (static packages of social sciences). The first step in data analysis defines the sample using descriptive statistics(L. Haven & Van Grootel, 2019). Descriptive statistics provide detailed information above the sample to determine if the be ample will be generalizable to the population being studied. Means, median, and mode along with standard deviation will be calculated to further the scribe the sample. It is a correlational study Pearson correlation will be used. In order to get a detailed answer, the researcher used the teachers' responses, which were recorded using a five-point scale (likert, 1932). The questionnaire's statement was close- ended, and teachers were urged to respond as best they could. 36 statements about effects of CE were utilized in the study's self-constructed questionnaire (based on instructional strategies, learning, and CE). The responses ranged from "strong agree," "agree," "undecided," "disagree," to "strongly disagree." The researcher gave each response a numerical score between 5 and 1,5 denoting to strongly agree and 1 denoted to strongly disagree. There were 236 replies gathered from various school using paper forms. After collecting the replies, the data originally processed in Microsoft's Excel by assigning a unique code to each statement for the researcher's convenience. After data management in Microsoft Excel, SPSS25.0 was used to handle the data. There, several formulae were used to determine the frequency, percentage, mean and standard deviation of the data. Following data organization, table construction was the following stage in order to insert data for each statement in the questionnaire. After considering the values into consideration, the researcher was able to get findings (Simister & James, 2020).

Demographic Information

The 36 respondents who participated in the research study are all fully described in this section's demographic information. The researcher gathered data on the respondents' serial numbers represented Teachers, Locations represented those teachers belonging to urban or rural areas, qualification, described MPhil, Master, and Matric and groups described that respondents belong to Science or arts group (Albadi & David, 2019).

Table 3

Statement	Scale	Freq	Per%	Mean	SD
I encourage student to ask question both in and out of class room.	SDA	01	14	1.58	.731
	DA	07	3.0		
	UD	13	5.3		
	A	90	38.0		
	SA	126	53.2		
	Total	237	100.0		

Table 3 Indicates that the 91.2% responded agreed towards the statement "I encourage student to ask question both in and out of class room". Respondents 4.4% disagree with the statement "I encourage student to ask question both in and out of class room" and respondent 5.3% cannot decide the above-mentioned statement. Mean score of the above statement is 1.58 and the Standard Deviation score is .731. So, it shows that the majority of the respondents inclined agreed towards the "I encourage student to ask question both in and out of class room".

Table 4

Statement	Scale	Freq	Per%	Mean	SD
I have very friendly and helping attitude with student.	SDA	05	2.1	1.56	.831
	DA	07	3.0		
	UD	16	6.8		
	A	62	26.2		
	SA	146	61.6		
	Total	237	100.0		

Table 4. Indicates that the 87.8% responded agreed towards the statement "I have very friendly and helping attitude with student". Respondents 5.1% disagree with the statement "I have very friendly and helping attitude with student" and respondent 6.8% cannot decide the above-mentioned statement. Mean score of the above statement is 1.56 and the Standard Deviation score is .831. So, it shows that the majority of the respondents inclined agreed towards the "I have very friendly and helping attitude with student".

Table 5

Statement	Scale	Freq	Per%	Mean	SD
I have supportive attitude towards my students.	SDA	8	3.4	1.62	.918
	DA	4	1.7		
	UD	111	4.6		
	A	80	33.8		
	SA	132	55.7		
	Total	237	100.0		

Table 5 Indicates that the 89.5% responded agreed towards the statement "I have supportive attitude towards my students". Respondents 5.1% disagree with the statement "I have supportive attitude towards my students" and respondent 4.6% cannot decide the above-mentioned statement. Mean score of the above statement is 1.62 and the Standard Deviation score is .918. So, it shows that the majority of the respondents inclined agreed towards the "I have supportive attitude towards my students".

Table 6

Statement	Scale	Freq	Per%	Mean	SD
I discourage favoritism in my classroom.	SDA	2	.8	1.62	.770
	DA	2	.8		
	UD	24	10.1		
	A	85	35.9		
	SA	123	51.9		
Total		237	100.0		

Table 6 indicates that the 87.8% responded agreed towards the statement "I discourage favoritism in my classroom". Respondents 1.6% disagree with the statement "I discourage favoritism in my classroom" and respondent 10.1% cannot decide the above-mentioned statement. Mean score of the above statement is 1.62 and the Standard Deviation score is .770. So, it shows that the majority of the respondents inclined agreed towards the "I discourage favoritism in my classroom".

Table 7

Statement	Scale	Freq	Per%	Mean	SD
I provide feedback to the students on their performance.	SDA	2	.8	1.67	.809
	DA	7	3.0		
	UD	18	7.6		
	A	94	39.7		
	SA	115	48.5		
Total		237	100.0		

Table 7 indicates that the 88.2% responded agreed towards the statement "I provide feedback to the students on their performance". Respondents 3.8% disagree with the statement "I provide feedback to the students on their performance" and respondent 7.6% cannot decide the above-mentioned statement. Mean score of the above statement is 1.67 and the Standard Deviation score is .809. So, it shows that the majority of the respondents inclined agreed towards the "I provide feedback to the students on their performance".

Table 8

Statement	Scale	Freq	Per%	Mean	SD
I maintain the discipline in my classroom.	SDA	2	.8	1.58	.707
	DA	01	.4		
	UD	15	6.3		
	A	96	40.5		
	SA	112	51.5		
Total		237	100.0		

Table 8 indicates that the 92% responded agreed towards the statement "I maintain the discipline in my classroom". Respondents 1.2% disagree with the statement "I maintain the discipline in my classroom" and respondent 6.3% cannot decide the above-mentioned statement. Mean score of the above statement is 1.58 and the Standard Deviation score is 1.58. So, it shows that the majority of the respondents inclined agreed towards the "I maintain the discipline in my classroom".

Table 9

Statement	Scale	Freq	Per%	Mean	SD
I have control over class during my lecture.	SDA	2	.8	1.63	.700
	DA	2	.4		
	UD	12	6.3		
	A	110	40.5		
	SA	110	51.5		

Total	237	100.0
-------	-----	-------

Table 9 Indicates that the 92% responded agreed towards the statement “I have control over class during my lecture”. Respondents 1.2% disagree with the statement “I have control over class during my lecture” and respondent 6.3% cannot decide the above-mentioned statement. Mean score of the above statement is 1.63 and the Standard Deviation score is .700. So, it shows that the majority of the respondents inclined agreed towards the “I have control over class during my lecture”.

Table 10

Statement	Scale	Freq	Per%	Mean	SD
I try to adopt the teaching method per convenience of student.	SDA	8	3.4	1.83	.927
	DA	4	1.7		
	UD	24	10.1		
	A	103	43.5		
	SA	97s	40.9		
Total		237	100.0		

Table 10 Indicates that the 84.4% responded agreed towards the statement “I try to adopt the teaching method per convenience of student”. Respondents 5.1% disagree with the statement “I try to adopt the teaching method per convenience of student” and respondent 10.1% cannot decide the above-mentioned statement. Mean score of the above statement is 1.83 and the Standard Deviation score is .927. So, it shows that the majority of the respondents inclined agreed towards the “I try to adopt the teaching method per convenience of student”.

Table 11

Statement	Scale	Freq	Per%	Mean	SD
I motivate the students for learning in classroom.	SDA	2	.8	1.62	.781
	DA	6	2.5		
	UD	14	5.9		
	A	93	39.2		
	SA	121	51.1		
Total		237	100.0		

Table 11 Indicates that the 90.3% responded agreed towards the statement “I motivate the students for learning in classroom”. Respondents 3.3% disagree with the statement “I motivate the students for learning in classroom” and respondent 5.9% cannot decide the above-mentioned statement. Mean score of the above statement is 1.62 and the Standard Deviation score is .781. So, it shows that the majority of the respondents inclined agreed towards the “I motivate the students for learning in classroom”.

Findings

1. Table No.3 shows the findings show that 91.2% of respondents are in agreement with the statement “Encourage students to ask questions both in and out of the classroom”.
2. Table 4 illustrates the percentage of respondents that agreed with the statement “I have a very friendly and helping attitude with students”.
3. A little less than ninety percent of “I have a supportive attitude towards my students” reported having a favorable impression of their class. The information was shown in Table 5
4. As can be seen in Table No.6, a total of 87.8 percent of respondents agreed with “I discourage favoritism in my classroom”.
5. According to Table No.7, the fact that 88.2% of respondents agreed with the statement “I provide feedback to the students on their performance”.
6. The percentage of respondents who agreed with the statement that “I maintain

discipline in my classroom” is displayed in Table No.8.

7. The statement, “I have control over class during my lecture” received resounding approval from a whopping 92% of respondents. The table is described in table .9
8. As can be seen in Table no 10, a total of 84.4% of respondents concurred with the assertion that “I try to adopt the teaching method per the convenience of student”.
9. The responders to the study gave a rate of agreement for the statement “I motivate the students for learning in classroom” that ranged from 80% to 90%. The following is an inventory of Table 11

Conclusion

The purpose of the study was to gain a deeper understanding of the strategies utilized by mathematics educators while discussing probability. According to the findings of this research, the two instructors who participated in it take a method that can be characterized as instructional (direct). Individuals, after discussing the lessons they had taught, realized that they could have been more beneficial to their pupils by introducing fresh methods. The findings of the study demonstrated that both of the teachers who participated in the investigation relied significantly on a strategy involving chalk and board and actively discouraged student participation. Even though English is the major language used for instruction, children were not confused when their lecturers occasionally switched to Zulu. This suggests that educators are aware of the linguistic demands of their students. Learners should be encouraged to participate actively in the language being taught in the classroom and should be discouraged from code- switching to other languages. The findings of the research indicated that the teachers would spend the entirety of the session standing in front of the pupils. Those kids sitting at the front of the classroom would be the only ones paying attention; those sitting in the back of the classroom would not even be able to see the teacher roll the dice. Learners were each given their own individual assignments, but B did not circulate to check on their progress in completing them. After a few moments, he intended to have the students react by raising their hands if they knew the solution to the question.

The findings indicated that the CE of the experimental group was advantageous, as the students immediately formed bonds with one another and started working together; on the other hand, the classroom setting of the control group was shown to be less effective. The incapacity of those in the experimental group to actively learn led to a communication breakdown with those in the control group. Both the experimental group and the control group had their pre-test achievement scores evaluated, and the results showed that there was no statistically significant difference in their means. Before beginning therapy, both groups had comparable levels of success. When it came to the process of developing classes with defined objectives that took into account the variety of students, it was also found that there were no statistically significant disparities between the teachers and the students. The perspectives of teachers and students significantly diverged on a number of measures, including whether or not teachers should make an effort to speak clearly and audibly to the entire class, whether or not they should vary the intonation patterns of their speech to keep students engaged, whether or not they should make eye contact with students as they teach and learn, whether or not they should use students' names, and whether or not they should respond constructively to students' comments and questions. Homework was used to evaluate the prior knowledge of students, and it also assisted students who were progressing at a more leisurely rate.

Recommendations

The findings prompted the researcher to provide some specific recommendations.

- It has been proposed that teachers and professors should be rewarded for using technology in their classrooms. It has been suggested that the United States should move

its embassy to the U.S. The department of Education offers a variety of different technical education options.

- The practical themes that are going to be used should be united, and appropriate instructional strategies should be related to and tracked as they are put into action. It is also recommended that mathematics educators be actively involved in the
- Process of producing lessons and activities that will contribute to the results that are desired and those they are given support for doing so.
- It is important to conduct research on the considerable impact that the CE has on students' levels of academic achievement, including both low and high levels.
- At the elementary level, teachers should have a well-thought-out plan for the classroom as a whole, establish a routine for the beginning of class that is conducive to learning, create a detailed lesson plan for each lesson, carefully choose which activities within each lesson will help students learn the most important concepts, and stick to that plan no matter what.
- It is recommended that teachers guarantee students participate in class discussions, build their confidence, appreciate their achievements, provide positive reinforcement, and split up classroom chores among themselves.
- It has been suggested that principals may encourage teachers to make more effective use of the school's resources, including its library, technology, reading materials, and any other relevant resources.

References

- Adewale, B., Jegede, F., Okubote, F., & Olagbadegun, M. (2021). Impact of CEs' on the Academic Performance of Architecture Students in Covenant University. *IOP Conference Series: Earth and Environmental Science*, 665(1).
- Ahmed, G., Tayyub, M., & Ismail, R. (2020). Effects of CE for Improving Students' Learning at Secondary Level in Punjab Province, *Pakistan. Sci Academique*, 1(1), 2-15.
- Albadi, A., & David, S. A. (2019). Science Arena Publications Specialty Journal of Knowledge Management The Impact of Activity Based Learning on Students' Motivation and Academic Achievement: A study among 12 th Grade Science and Environment Students in A Public School in Oman www.sciarena.com
- Barrett, P., Davies, F., Zhang, Y., & Barrett, L. (2015). The impact of classroom design on pupils' learning: Final results of a holistic, multi-level analysis. *Building and Environment*, 89, 118-133. <https://doi.org/10.1016/j.buildenv.2015.02.013>
- Blended learning in english language teaching for geologists. International Multidisciplinary Scientific GeoConference Surveying Geology and Mining Ecology Management, *SGEM*, 3, 765-772.
- Simister, N., & James, D. (2020). *Quantitative and Research. Statistics*
- Hannah, R. (2013). *ScholarWorks at WMU The Effect of CE on Student Learning The Effect of CE on Student Learning* Ryan Hannah Lee Honors College Honors Thesis Thesis Chair : Dr .Dini Metro-Roland Committee Member : Prof . Kelly Killen. Western Michigan University.
- Hill, M., & Epps, K. K. (2010). The Impact of Physical Classroom Environment on Student Satisfaction and Student Evaluation. *Academy of Educational Leadership Journal*, 14(1), 15-20.
- Hussain Malik, R., & Abbas Rizvi, A. (2018). Effect of Classroom Learning Environment on Students' Academic Achievement in Mathematics at Secondary Level. *Bulletin of Education and Research*, 40(2), 207-218.
- Impact of CE on Childrens Social Behavior. *International Journal of Education and Practice*, 5(1), 1-7. <https://doi.org/10.18488/journal.61/2017.5.1/61.1.1.7>
- L. Haven, T., & Van Grootel, D. L. (2019). Preregistering qualitative research. *Accountability in Research*, 26(3), 229-244. <https://doi.org/10.1080/08989621.2019.1580147>
- Marks, M. J., & Fraley, R. C. (2007). The impact of social interaction on the sexual double standard. *Social Influence*, 2(1), 29-54.
- Maxwell, S., Reynolds, K. J., Lee, E., Subasic, E., & Bromhead, D. (2017). The impact of school climate and school identification on academic achievement: Multilevel modeling with student and teacher data. *Frontiers in Psychology*, 8(DEC), 1-21.
- Pajarillo-Aquino, I. (2019). The CE and its effects on the students academic performance of the college of teacher education. *International Journal of Advanced Research in Management and Social Sciences*, 8(3), 63-76
- Rance, G., Dowell, R. C., & Tomlin, D. (2023). The effect of CE on literacy development. *Npj Science of Learning*, 8(1), 1-10.

- Rymanova, I., & Vlasova, M. (2016). The impact of ASPECTSS-based design intervention in autism school design: a case study. *International Journal of Architectural Research: Archnet-IJAR*. <https://doi.org/10.1108/ARCH-11-2022-02580>
- Baki, S. O. (2017). The impact of CE on student learning Amy A. Turano Rowan University Follow. Qamar, S. (2021). The Impact of CE on Students' Learning. *Pakistan Languages and Humanities Review*, 5(II), 210–219. [https://doi.org/10.47205/plhr.2021\(5-ii\)2.17](https://doi.org/10.47205/plhr.2021(5-ii)2.17)
- Wahidmurni. (2017). Mpact Of Ce On Students' Performance In English *LANGUAGE*. 7(2), 2588–2593.
- Wang, J., Zhang, X., & Zhang, L. J. (2022). *Effects of Teacher Engagement on Students' Achievement in an Online English as a Foreign Language Classroom: The Mediating Role of Autonomous Motivation and Positive Emotions*. *Frontiers in Psychology*, 13(July). <https://doi.org/10.3389/fpsyg.2022.950652>