PAKISTAN ISLAMICUS
(An International Journal of Islamic and Social Sciences)
Volume:04, Issue:02, 2024, Pages:01-13
Journal Website: https://pakistanislamicus.com/index.php/home
Publisher Website: https://www.mircpk.net

EFFECT OF CLASSROOM SEATING ARRANGEMENTS ON THE STUDENTS' ACADEMIC ACHIEVEMENT AT SECONDARY SCHOOL LEVEL IN THE SOUTHERN DISTRICTS OF KHYBER PAKHTUNKHWA, PAKISTAN.

Nasir Ali[1], Li Sen[2], Yan Li[3], Abdul Basit Khan[4], Tanveer Ahmad[5].

[1] Doctoral Student, School of Education, Shaanxi Normal University, Xi'an, China.
[2] Dean of the School of Education, Shaanxi Normal University, Xi'an, China.
[3] Lecturer, School of Teacher Development, Shaanxi Normal University, Xi'an, China.
[4] Doctoral Student, School of Education, Shaanxi Normal University, Xi'an, China.
[5] Doctoral Student, School of Education, Shaanxi Normal University, Xi'an, China.

HEC "Y" Category
HJRS HEC Journal Recognition System

ARTICLE INFO

Article History:

Received: March 02, 2024
Revised: March 30, 2024
Accepted: April 01, 2024
Available Online: April 03, 2024

Keywords:

Classroom Seating Arrangement
Students' Academic Achievement
Secondary School Level
Southern Districts
Khyber Pakhtunkhwa Pakistan

Funding:

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

ABSTRACT

This research article aims to investigate the effect of classroom seating arrangements on students' academic achievement at Secondary School level in the Southern districts of Khyber Pakhtunkhwa, Pakistan. The seating arrangement in a classroom can significantly influence students' engagement, interaction, and overall learning experience. Without proper classroom seating arrangement, the teaching-learning process is incomplete. The study was descriptive in nature. The population of the study consisted of all 10th grade students of Govt. High Schools in Southern districts of Khyber Pakhtunkhwa. Seven hundred respondents were selected as sample from the selected Govt. High Schools in Southern Districts. Respondents were selected by using a simple random sampling technique. Only 10th grade students from 12 schools six male and six female Govt. High Schools in Southern districts—with 348 male and 352 female students were included in this study. The purpose of the study was to determine how classroom seating arrangements affect Secondary School students' academic achievement in Khyber Pakhtunkhwa's southern regions. To facilitate the collection of respondents' responses, a self-made questionnaire was used to collect data. SPSS was used to appropriately analyze the data. The sample size was determined using the formula proposed by John Curry in 1984. For data analysis, percentage, frequency, and linear regression were employed. The results clearly demonstrate that classroom seating arrangements have a significant impact on students' academic achievement.

Corresponding Author's Email: nasirmrl682@gmail.com

INTRODUCTION

The way the students are seated inside the classroom is referred to as the classroom arrangement. It became crucial for the teachers to consider the classroom seating arrangements that complemented the type of activities and their students' interaction they want to adapt when setting up their classrooms in

conventional rows and columns, circles, or U-shapes (Hastings & Schweiso, 1995). Modern methods are used to obtain education in today's environment of rapid development. Learning resources are arranged, dispersed, and employed as a program's intended mechanism; they support the process of learning. Students' capacity for thought and reasoning is enhanced through instruction using audio visual aid (Malik, 2012). Additionally, students' made use of the chairs and tables available in the classroom can positively enhance student academic achievement and also it used to store books and stationary (Kaya & Burgess, 2007).

The physical classroom environment has a great impact on students' learning. The arrangement of the chairs and desks is one important aspect of the classroom setting. The way students are grouped in a classroom can have an impact on a number of things, including their participation, academic success, and contribution. Thus, it becomes imperative to understand how seating arrangements affect students' learning results in a methodical way.

LITERATURE REVIEW

Numerous studies examining the impact of classroom seating arrangements on the academic achievement of Secondary School students' reveal a number of assumptions. For example, Tee (2019) found that cluster sitting led to the greatest improvement in reading routine. Conversely, Wannarka (2008) asserted that rows are more suited for some occasions. Combining the two issues, Will (2020) claimed that sitting farther away from the teacher and using a computer in class both had a detrimental impact on test results that got worse over time. Hussain (2011) emphasized the significance of classroom layout and the ways that seating arrangements may have an impact on it. In conclusion, based on the particulars of the task at hand and the suggested level of organization inside the classroom, the ideal configuration for seating may vary.

Michelini et al., (1976) conducted a study in which they found the social effects of seating configurations in non-traditional classroom settings. Their study focused on boys and girls seated on a college campus, highlighting the ways in which different seating arrangements could affect debate participation. The researchers made the statement that different seating arrangements would either increase or decrease the likelihood of dynamic involvement in a debate. Their study used three-person groups, and based on their observations, they determined that the person inhabiting the middle seat appeared to be the most engaged in the dialog.

In the same way, Michelini et.,al (1976) stated the importance and significance of seating in the middle of the class shown that proper classroom seating encourage student engagement and help in effective classroom discussion. With relation to seating task and sitting selection in Pederson (1994) investigated that front of the classroom is very crucial and it is a favorite place where good learning occur. His findings show that student sat in front of the classroom had better self-control. The most important aspect found in Pederson study was the relation between the personality characters and students' classroom seating arrangement.

Further he mentioned that various personality choices influence the selection of students sitting in classroom that pointed the direct contact between student behaviors and their personal trait. In this way the Pederson study revealed the tendencies of their behaviors, individual characters and sitting preferences in educational context. Taylor and Vlastos (2009) described that teachers can play a vital role in providing a good seating arrangement that help in fostering the understanding and establish a conducive learning environment. Their study mean that teachers are also the necessary element in arranging the classroom physical environment. Moreover, the impact of seating arrangements on students' performance was illustrated in a descriptive study by Fernandes et al., (2011) highlighting the role that the physical environment plays in defining the learning environment.

Although teaching methodologies and the classroom environment are closely linked, the teacher's goals and objectives determine the specific academic consequences of the physical classroom environment (Pace & Price, 2005). By recognizing this relation, it becomes easier for educators to modify the physical surroundings to meet their learning goals and create an atmosphere that supports the best possible learning opportunities. Drawing on the insights of renowned sociologist Freire (2000) the significance of dialogue and interaction in promoting the academic achievement of students is underscored. Furthermore, he backed problem-solving techniques that are dynamic and collaborative as the primary means of instruction. From this angle, it has been demonstrated that classroom cluster designs improve peer communication. As a result, he pointed that cluster and circular oriented classrooms encourage more learning achievement.

A study by Rosenthal et al., (1985) examining the effect of desk and chair arrangement on classroom dynamics provide evidences in the favor of that proper classroom setting that effect students' academic achievement. According to Vaner Schee (2011) the chair and desk arrangement has significant impact on students' achievement. Additionally he described that those students who sat near the teacher their interaction and focus was better than those who were sitting in the last row desk. Beside, their disruptive behavior also found more reduced. All these indicated that students' academic achievement effected by the selection of set in classroom. (Kaya & Burgess 2007) stressed that in the context of seating arrangement, both usability and functionality are the basic concepts. In order for classroom furniture to be considered usable, it must be realized by both teachers and students. The goal of classroom furniture, described by Cornell (2002) is to assist instructors and students in achieving their learning objectives by simplifying the teaching and learning process.

Moreover, when selecting seating arrangements, Rosenfield et al., (1985) emphasized the need of adaptable and comfortable tables and chairs. They noted that choosing how to arrange students' seats in a classroom could have an impact on how they act. A study conducted by Downer et al., (2007) found that different types of seating arrangements have an impact on how students behave in the classroom. These styles come in circles, clusters, and rows and columns.

Additionally, (Baron, 1992) and (Lotfy, 2012) suggested making classroom seating arrangements a high concern while planning the learning environment in order to increase student participation in class activities. Lewinski (2015) asserted that when utilized properly, seating arrangements can be a useful tool for promoting exceptional student achievement. In the context of combined learning, which combines in-person instruction with online learning, a well-organized classroom design is crucial for enhancing student engagement and learning experiences (Evans et al., 2020; Serrano et al., 2019).

Similarly, it is declared that suitable classroom arrangements not only play a crucial role in the improvement of students' performance, but also improve their behaviors (Haghighi, 2015).

According to Jones (2007) the seating arrangement has great impact on students' perceptions of the classroom since it usually reminds them of similar configurations they have seen in the past. Dykman and Reis (1979) investigated that if students have had unpleasant conditions or challenges involving specific seating arrangements in previous classrooms or curriculum areas, they may develop negative attitudes toward the subject being taught, the present classroom, and even the teacher. Burke (2008) stated that a student's first and last impressions are shaped by these preconceived notions and conclusions from the minute they enter the classroom. Peer support is a significant factor that should be considered in addition to how seating arrangements affect students' performance (Estell & Perdue, 2013). Stronger academic performance is positively linked with increased motivation, and peer interactions are fundamental in encouraging students to participate in school activities. (Juvonen, Espinoza, & Knifsend, 2012; Bullock, 2017). The social support that students receive from their peers therefore has a significant impact on their academic motivation. Stated differently, children's academic success is greatly influenced by their social bonds and interpersonal relationships (Ariani, 2017).Students who engage in supportive and pleasant peer connections are more likely to feel a part of the school community and be motivated to take part in a variety of extracurricular activities. Motivated students are more likely to have favorable peer connections, which enhances academic success, investigated by Juvonen, Espinoza, and Knifsend (2012). This emphasizes how important it is to create a welcoming social atmosphere in class where kids feel encouraged and welcomed by their peers, since this will eventually impact their drive and performance in the classroom.

The architectural layout of a classroom can influence students' attitudes and emotions by creating connections and recollections from previous educational experiences. Unpleasant seating arrangements can significantly affect students' perceptions of the classroom as a whole, which can affect their relationship with the teacher and their ability to share the content. Students may have a great deal of anxiety, as suggested by Dykman and Reis (1979) which could create a potentially difficult learning environment. Because classroom design has a significant impact on students' first impressions and attitudes toward learning, instructors need to be aware of the implications of their choices. For example (Van den Berg & Segens, 2012) described that students' disruptive behaviors were decreased when classes

were properly settled. Furthermore, they stated that classroom sizes, furniture placement, and seat spacing all had a good impact on students' achievement.

Researchers such as Downer et al., (2007) and (Canter & Canter, 1976; Curwin & Mendler, 1988; Badia-Martin, 2006) gave emphasis on the important role that classroom instruction plays in students' lives. They claimed that certain physical characteristics, such as the shape or size of the room, the furniture arrangement, and the spatial layout, are important in shaping and adjusting students in a particular environment. As a result, the classroom's physical layout has a significant impact on both learning objectives and student welfare (Atherton, 2005).

Another study conducted by (Becker et al., 1973) stated that students who sit close to the front and center of the classroom perform better academically and have a stronger relationship with the teacher than those who sit at the back or on the sides. Becker (1973) carried out his research near the end of the quarter, when students had settled into their seats, in three college classes (N=82) at the University of California, Davis. Inquiries regarding the students' grade and teacher satisfaction were made. Students who were seated in the front of the class reported higher grades and consistently expressed a stronger liking for the teacher than those who were seated in the back. This relationship between seating arrangement and reported grades in the course was significant (Stires, 1980).

Marx et al., (2000) looked into how the dynamics of question-asking in the classroom related to seating arrangements. They further added that semicircle seating in classroom lead to a high level of achievement and also helpful in students' mutual interaction with each other. According to the report presented by the Philippine Department of Education in (2018) a decrease in teacher student ratio moving from 1: 45 to 1:36 for junior high school and for elementary and Senior high school that considered seating arrangement based on the size of the class the reduction indicates increase in the numbers of students per a teacher and the availability of classroom space.

As per a study conducted by Fernandes et al., (2011) the choice of seating arrangement significantly influences student works in the class. Their findings revealed that row and column seating arrangements tend to draw attention to students' personal traits. Conversely, it has been observed that non-linear arrangements like the U-shape formation promote more classroom discussions. This suggests that the physical arrangement of chairs can impact students' behavior and interactions, there by influencing the overall learning environment.

Likewise, Harvey and Kenyon (2013) underscored the importance for educational institutions to reconsider the role and significance of seating arrangements in classrooms designed for the twenty-first century. Their statement emphasizes the importance of adjusting seating arrangements in light of the evolving demands of modern education. Assuming that the educational environment is changing, seating arrangements need to be carefully considered because research shows that these arrangements significantly influence the promotion of successful communication, teamwork, and individualized learning in modern classrooms. Furthermore, Susanti (2007) carried out an action research study in the

classroom to see if changing the seating arrangements would encourage students to speak more. The study's conclusions confirmed that thoughtful seating arrangements can improve students' speaking abilities and increase their level of participation in general.

Nomali et al., (2019) study looked at students' opinions of the seats they selected as well as the connection between seating preferences and self-assurance. The findings shown that students took into account proximity to the instructor, the board, or the projector when selecting their seats. Certain elements were predetermined to be essential, such the need for spectacles or hearing aids. Anderson (2007) claims that teachers typically design their classroom with a specific technique in mind, neglecting to adjust the arrangement to sort out some assignments that are beneficial for motivation.

Richards (2006) claimed that a student's performance may be affected by where they are seated in a classroom. A badly thought out seating arrangement can have a 50% negative impact on learning, particularly when students are seated 20 feet (6 meters) or more away from visual aids. Black (2007) emphasizes how crucial it is to take into account both teaching strategies and the physical setting when setting up seats in a classroom to maximize student participation and output. Within the discourse on education, there is a differentiated debate about the best arrangements of chairs in classroom. With the teacher's desk positioned at the head of the classroom, single desks are usually arranged in rows and columns facing a blackboard in a traditional teacher-centered environment. On the other hand, a student-centered strategy, which frequently need desk clustering, promotes collaborative work. Both the conventional one-desk arrangement and globally, teacher-centered strategies continue to be popular (Blackmore et al., 2011). But teacher’s preferences for clustered arrangements have been growing recently, which serves as a foundation for cooperative learning and other student-centered approaches (Gremmen et al., 2016; Norazman et al., 2019).

Therefore, careful planning for seating placements can result in students performing academically to the highest standards during class activities. This viewpoint is consistent with the claim stated by Daddi and Ul Haq (2014) who highlighted that seating arrangements has impact on students' academic achievement. A study conducted by (McCorskey & McVetta, 1978) clearly sought to examine how eighth-grade students at SMP Negeri 1 Banjar arranged their seats, with an emphasis on figuring out why the kids chose the places they did. The traditional sitting arrangement, which is defined by rows, was the focus of the study since it is the basic seating type that sets the precedent for others.

Effective management of classroom requires an understanding of how the physical layout of a classroom affects students' behavior. This knowledge makes it easier for teachers to get involved and report concerns before they become serious management difficulties. Some off-task behaviors were recognized by Bonus and Riordan (1998) including delay in responding to tasks, inappropriate talking, and unwelcome gestures (e.g., tapping pencils, rolling pencils on desks, turning through books, and doodling). Their investigation revealed that these actions were linked to students not getting enough teaching.

The seating arrangements of a classroom holds a significant influence over a student's behavior, either positively or negatively. Black (2007) asserted that inadequate seating arrangements can adversely affect student learning by as much as 50%. Consequently, it becomes imperative for teachers to carefully consider classroom arrangement to cultivate an optimal learning environment for all students. Implementing minor adjustments, such as rearranging desks, can have a substantial impact on behavior and learning outcomes. Similarly Denton in (1992) noted that different classroom seating arrangements encourages positive interactions among the classroom physical environment and make the teaching learning process more effective and conducive. The relationship between seating patterns and student participation supports the idea that carefully planning seating arrangements might promote a more productive and cooperative learning environment.

For learning to have a meaningful impact on a variety of areas, strategically arranged and positioned seating in a classroom is essential. In addition, poor or incorrect seating arrangements have a negative impact on teachers, students, and the classroom's overall learning environment.

An inadequate or inappropriate seating arrangement in the classroom can discourage students from coming to class and create obstacles for the learning environment. In order to address this, Hammang (2012) favored the adoption of diverse seating arrangements that significantly boost students' focus, enthusiasm, and active participation. This describe the position of considerate and dynamic seating to improve the learning experiences of both the students and teachers. Conducting effective communication environment in classroom, it need a good seating arrangement. The planned and strategic arrangement of classroom play important role in shaping a positive classroom environment, that serve as a key factor in influencing the overall performance.

Establishing effective communication in the classroom requires a deliberate approach to seating arrangements. The purposeful organization of seating stands as a vital element in nurturing a positive classroom environment, representing a pivotal factor that influences overall performance. Laterra Wilson in (2012) determined that arrangement of classroom furniture play an important role in promoting good and active teaching learning process. He also emphasized that well managed classroom physical environment can positively improve the communication and encourage students towards productive and active learning. This underline the nuanced and multifaceted nature of the relationship between seating arrangements and academic outcomes. Moreover, in traditional seating arrangements, students typically have autonomy in selecting their seats, often relying on personal feelings for their choices (Brown, 2000). This study recognized the significance of seating arrangements, considering their prevalence and potential impact on students' academic experiences.

RESEARCH METHODOLOGY

The Study Design

The nature of the present study was descriptive. The present study employs a quantitative research methodology. Researchers can gather information on a particular phenomenon or group by using

descriptive research design. This offers a precise representation of the traits and conduct of a certain individual or group (Salaria, N.2012).The researcher used self-made questionnaires translated to Native language in order to easily understand the statements.

The Population of the Study

The population constituted of all Secondary Schools' students in Southern districts of Khyber Pakhtunkhwa, Pakistan as shown in the table below:

Respondents		
District	**Students**	**Teachers**
District Bannu	8081	1290
District Lakki Marawat	9246	1002
District Karak	7591	1163
District DI Khan	10182	1557
District Tank	2081	440
District Kohat	9121	1005
Total	46302	6457
Grand Total: 52759 containing students and teachers		

Source: *KPK District Educational Management Information System 2015-1*

Table 2. Target Population of the Study

Respondents		
Districts	**Students**	**Teachers**
District Bannu	8081	1290
District Lakki Marwat	9246	1002
Total	17327	2292
Grand Total 19619 respondents in the form of students and teachers were selected from both of the districts		

Data Collection Tool

Data was collected using a self-developed questionnaire with Yes and No options having values of 2 and 1 from the sampled respondents.

Delimitation

The study's scope was restricted to Secondary Schools students in the tenth grade in the Southern districts of Bannu and Lakki Marwat.

Data Analysis

The data was entered into SPSS for statistical analysis, which determined how classroom seating arrangements affected academic achievement of Secondary School students by using statistics such as, regression, percentage and frequency. To ensure that the results are understandable to non-experts in the field, frequency and percentage were employed to verify the clarity of the findings. This method, which is popular in developed nations like the US, the UK, Norway, and France, facilitates understanding of the conclusions. A specific statistical analysis of the impact of classroom seating arrangements on the academic achievement of Secondary School students was conducted using regression analysis.

Pilot Testing

This process is referred to as the practicality research. To validate the research instrument, a pilot test also referred to as a pre-test was used. To obtain trustworthy suggestions for the data instruments that were

collected, a preliminary draft of the questionnaire was circulated among the specialists for a pilot testing. The feedback from the experts greatly improved the questionnaire's validity and refinement. The reliability of the validated questionnaire was then assessed by distributing it among the respondents. It was discovered what Chronbach Alpha was worth.893, which was employed to assess the study instrument's internal consistency.

Items in the questionnaire that had a correlation value of.25 or less were removed during the refining process after their importance to the final score was carefully considered. Through the special method of removing just the most relevant and reliable items from the final questionnaire, the instrument's accuracy was to be increased.

RESULTS OF THE STUDY

Table 4. Regression Model showing the effect of classroom seating arrangements on students' academic achievement at secondary school level

Dependent Variable	Academic Achievement	Respondents	R	R^2	DF	F	P	Beta	Sig
		Students	.105[2]	.011	1498	5.536	.019[a]	.105	.000
Independent Variable	Classroom Seating Arrangement	Respondents	R	R^2	DF	F	P	Beta	Sig
		Teachers	.225[2]	.051	1198	10.552	.001[a]	.225	.000

The results of the regression analysis with academic achievement as the dependent variable shown in the table above. With R value of 0.1052, the relationship for students seems to be somewhat decent. The R-squared score of 0.011 indicates that the independent variable only explains 1.1% of the variability in academic success. The F-test result of 5.536, with a p-value of 0.019a, suggests that there is a statistically significant relationship between the variables.

From an educational standpoint, the R value is at 0.2252, signifying a rather strong positive correlation. The independent variable can account for around 5.1% of the variation in academic achievement, according to the R-squared value of 0.051. With a corresponding p-value of 0.001, the F-test result of 10.552 indicates a statistically significant correlation. Examining the relationship's strength and direction, the beta coefficient of 0.225 provides insight, and the relationship's statistical significance is highlighted by the Sig value of 0.000. It is clear that the independent variable, "Classroom Seating Arrangement," has a great impact on students' academic achievement in both the teacher and student situations.

Table 5. Responses of the Respondents Regarding Effects of classroom seating arrangement on students' academic achievement at secondary School Level

Respondents	**Statistics**	**Yes**	**No**	**Total**
Students	Freq.	316	184	500
	%age	62%	38%	100%
Teachers	Freq.	155	45	200
	%age	76%	24%	100%

According to the results of the current study, students' academic achievement is significantly impacted by the seating arrangements in classes. Academic achievement of students' is positively impacted by well-organized seating arrangements, as confirmed by the agreement of teachers, students responses. But it's important to emphasize that more study is required to fully comprehend the breadth of impacts that various seating configurations may have on academic achievement. Education experts are encouraged by

these findings to explore different seating arrangements and modify them to meet the specific needs of their students and learning goals. Educators might potentially improve academic achievements and the learning environment by implementing this practical strategy.

DISCUSSION

For the present study, quantitative research method was used to investigate that how classroom seating arrangement affect students' academic achievement. In this study two self-made questionnaires were used to collect data from both teachers and students. The collected data was entered into the Statistical Software Package for Social Science (SPSS) for analysis. Martella, Nelson, and Marchand-Martella (2003) pointed out that a well-organized classroom fosters positive interactions between teachers and students. It is expected that this relationship may lessen disruptive behaviors in the classroom. Group desks facilitate social interactions in the near term, but they can be problematic for individual work performance, as demonstrated by a study on seating arrangements and student behavior conducted by Rosenfield, Lambert, and Black (1985).

Based on the results, both participants agreed that good classroom seating arrangements have a positive impact on students' academic performance. These results are consistent with a study by Asino and Pulay (2019), which was reported by (Dianala Bernard on Thursday, July 8, 2021) and which said that classroom structure is crucial for students' academic success. In order to make improvement in our understanding of the relationship between seating arrangement and academic accomplishment, more research may be required to demonstrate the commitment and to improve teaching methods and apply evidence-based practices at secondary and primary school level.

LIMITATIONS

The present study only focuses on the secondary school students in the southern districts of Khyber Pakhtunkhwa, Pakistan. The same study may give different results in the other regions and educational levels. In this study, although 700 respondents including students and teachers of 10^{th} grade were selected only from 12 government Secondary Schools that potentially limiting the broader representation of the population.

CONCLUSION

The present study concluded that students' academic performance is greatly impacted by how they are seated in the classroom. A consent between the respondents suggests that having appropriate seating arrangements in classrooms has a positive impact on students' academic achievement. The study has provided perceptions into the impact of classroom seating arrangements on students' academic achievement. Both The results and discussion revealed a significant impact of classroom seating arrangements on students' academic achievement at secondary school level. This positive impact not only contribute to the existing teaching learning environment but also convey practical implications for school administrations that suggest thoughtful considerations of seating arrangements can be a tactical involvement to improve the overall learning experiences and students' achievement. Further the study indicated that effective teaching learning process is remain incomplete without proper classroom seating arrangements.

REFERENCES

Abbey, T. (2016). Active learning through a constructivist lens: The effects of manipulative on-ontaskbehavior.Retrievedfromhttps://search.proquest.com/openview/b0938cf2258738059887a8b92de058e3/1?pqorigsiteolar&cbl=18750

Anderson, T. M. (2009). *The effects of seating arrangement on students' on-task behavior* (Doctoral dissertation, Capella University).

Ariani, D. W. (2017). Do Social Relationship Affects Motivation? Advances in Management and AppliedEconomics,7(3),63–91.Retrievedat https://www.researchgate.net/publication/318946151_Do_Social_Relationship_Affects_Motivation

Atherton, J. S. (2005). Teaching in learning: Physical layout. Retrieved December 20, 2007, from http://www.learningandteaching.info/teaching/layout.htm

Becker, F. D., Sommer, R., Bee, J., & Oxley, B. (1973). College classroom ecology. *Sociometry*, 514-525.

Black, S. (2007). Achievement by design. *American School Board Journal*, *194*(10), 39-41.

Blackmore, J., Bateman, D., Loughlin, J., O'Mara, J., & Aranda, G. (2011). Research into the connection between built learning spaces and student outcomes.

Bolden III, E. C., Oestreich, T. M., Kenney, M. J., & Yuhnke Jr, B. T. (2019). Location, location, location: A comparison of student experience in a lecture hall to a small classroom using similar techniques. *Active Learning in Higher Education*, *20*(2), 139-152. https://doi.org/10.1177/1469787417742018

Bonus, M., & Riordan, L. (1998). Increasing student on-task behavior through the use of specific seating arrangements (Master's Theses). Xavier University, Cincinnati, OH.

Burke, J. (2008). The English teacher's companion: A complete guide to classroom, curriculum, and the profession. Portsmouth, NH: Heinemann.

Canter, L., & Canter, M. (1976). Assertive discipline: A take charge approach for today's educator. Los Angeles: Lee Canter and Associates.

Cornell, P. (2002). The impact of changes in teaching and learning on furniture and the learning environment. Journal of New Directions for Teaching and Learning, 9, 33-42.

Curwin, R. L., & Mendler, A. N. (1988). Packaged discipline programs: Let the buyer beware. Educational Leadership, 46(2), 68 71. Designing spaces that inspire learning. (2007, August 23). Retrieved October 10, 2007, from http://www.schoolfacilities.com/cd_2924.aspx

Daddies, H., & Ul Haq, M. Z. (2014). Lecturer's strategies in English speaking class. Exposure : Jurnal Pendidikan Bahasa Dan Sastra Inggris, 3(1), 54

Denton, P. (1992). Seating Arrangements for Better Classroom Management. Adventist Education, 29-32.

Dep. ED. (2007) Educational Facilities Manual (Revised edition of the 2007 Handbook on Educational Facilities - Integrating Disaster Risk Reduction in School Construction).

Dianala Bernard, (Thursday, 8 July 2021). *Using Your Physical Space. Announcement, Unit 4. EDUC 5240-Creating Positive classroom environment*. Accessed on July14,2021 at https://my.uopeople.edu/mod/forum/discuss.php?d=558389

Downer, J. T., Rimm-Kaufman, S. E., & Pianta, R. C. (2007). How do classroom conditions and children's risk for school problems contribute to children's behavioral engagement in learning? School Psychology Review, 6(3), 413–432

Downer, J. T., Rimm-Kaufman, S. E. &Pianta, R. C. (2007). How do classroom conditions and children's risk for school problems contribute to children's behavioral engagement in learning? School Psychology Review, 36 (3), 413-432.

Dykman, B. M. & Reis, H. T. (1978). Personality correlates of classroom seating position. Journal of Educational Psychology, 71(3), 346-354. DOI:10.1037/0022-0663.71.3

Estell, D. B., and Perdue, N. H. (2013).Social Support and Behavioral and Affective School Engagement: The Effects of Peers, Parents, And Teachers. Psychol. Schs., 50: 325–339. doi:10.1002/pits.21681.

Fernandes, A., Huang, J. & Rinaldo, V. (2011). Does where a student sits really matter? – The

Freire, P. (2000) Pedagogy of the Oppressed. New York: Continuum.

Gifford, R. (2002). Environmental psychology: Principles & practice. Colville, WA: Optimal Books.home/2018/03/29/1801232/teacher-student-ratio-improves-public-schools impact of seating locations on student classroom learning. Niagara University.

Greenberg, J. (1976). The role of seating position in group interaction: A review, with applications for group trainers. ABI/INFORM Global.

Gremmen, M. C., van den Berg, Y. H., Segers, E., & Cillessen, A. H. (2016). Considerations for classroom seating arrangements and the role of teacher characteristics and beliefs. Social Psychology of Education, 19(4), 749–774. https://doi.org/10.1007/s11218-016-9353-y.

Haghighi, M.M., & Jusan, M.M. (2015). The impact of classroom settings on students' seat-selection and academic performance. Indoor and Built Environment, 24, 280 - 288.

Hammang, A. J. (2012). *The Effect of Seating Assignments on Student Achievement in the Biology Classroom*. Montana State University.

Harvey, E. J., & Kenyon, M. C. (2013). Classroom Seating Considerations for 21st Century Students and Faculty. Journal of Learning Spaces, 2(1), 1–13.

Hastings, N. & Schweiso, J. (1995). Tasks and tables: the effects of seating arrangements on task engagements in primary classrooms. Journal of Educational Research, 37(3), 279-291.

Heng, K. (2013). The relationships between student engagement and the academic achievement of first-year university students in Cambodia. De La Salle University.

Hussain, L., Jamil, A., Ameen, I., & Bakhsh, K. (2011). The Effects of Classroom Interaction on Students' Academic Achievement at Secondary School Level. Mediterranean journal of social sciences, 2, 492-492.

James, W. Z. (2016). The Flipped Classroom, A Review of the Literature. *Emerald Group Publishing Limited, 48*(2), 97–103. doi10. 1108/ICT- 05-2015-0039.

Jones, L. (2007). The student-centered classroom. New York, NY: Cambridge University Press.

Juvonen, J., Espinoza, G., & Knifsend, C. (2012). The Role of Peer Relationships in Student Academic and Extracurricular Engagement. In Handbook of Research on Student Engagement (pp. 387–401). Boston, MA: Springer US. https://doi.org/10.1007/978-1-4614-2018-7_18.

Kaya, N. & Burgess, B. (2007). Territoriality: seating preferences in different types of classroom arrangements. Journal of Environment and Behavior, 39, 859-876.

Laterra Wilson, D. W. (2012). *Positive Classroom Environments – Positive Academic Results*. Alcorn State University, 5.

Lotfy, N. (2012). Seating Arrangement and Cooperative Learning Activities: Students' On-task / Off-task Participation in EFL Classrooms Seating Arrangement and Cooperative Learning Activities: Students' On-task/ Off-task Participation in EFL Classrooms. American University in Cairo.

Malik, K. S. (2012). Teaching of Pakistan studies at secondary level -a review. National University of Modern Languages (NUML); *Journal of Elixir Social Studies*, 43, 6738-6745.

Martella, R.C., Nelson, J.R., & Marchand-Martella, N.E. (2003). *Managing disruptive behavior in the schools*. Boston, MA: Allyn & Bacon.

Martin, M. D. M. B. (2006). Disruptive behavior in schools. *Education Journal*, *92*, 33-35.

Marx, A., Furher, U. and Hartig, T. (2000) Effects of classroom seating arrangements on children's question-asking. Learning Environment Research, 2, 249–263.

Mateo, J. (2018). Teacher-student ratio improves in public schools. Manila, Philippines: The

McCorskey, J. C., & McVetta, R. W. (1978). Classroom seating arrangements: Instructional communication theory versus student preferences. Communication Education, 27(2), 99–111.

Michelini, R. L., Passalacqua, R., & Cusimano, J. (1976). Effects of seating arrangement on group participation. The Journal of Social Psychology. 99(2), 179-18.

Nomali, M., Sanagoo, A., Sarayloo, F., & Jouybari, L. M. (2019). Classroom seat selection from the perspective of Iranian Medical Sciences ` Students and its relationship with self-esteem : A cross sectional study, 5(1), 26–30.

Norazman, N., Ismail, A. H., Ja'afar, N. H., Khoiry, M. A., & Ani, A. I. C. (2019). A review of seating arrangements towards the 21st century classroom approach in schools. Malaysian Journal of Sustainable Environment, 6(2), 21–46. https://doi.org/10.24191/myse.v6i2.8684.

Pace, D., & Price, M. (2005). Instructional techniques to facilitate inclusive education. In D. Schwartz (Ed.), Including children with special needs: A handbook for educators and parents (pp.115-131). Westport, CT: Greenwood Press.

Pedersen, D. M. (1994). Personality and classroom seating. Perceptual and Motor Skills, 78(33), 1355-1360.

Philippine Star. Retrieved from: https://www.philstar.com/other-sections/education-and-

Richards, J. (2006). Setting the stage for student engagement. Kappa Delta Pi Record, 42(2), 92–94.

Rosen-field, P, Lambert, N. L. & Black, A. (1985). Desk arrangement effects on pupil classroom behavior.

Rosenthal, P., Lambert, N. M., & Black, A. (1985). Desk arrangement effects on pupil classroom behavior. Journal of Educational Psychology. 77(1), 101-108.

Salaria, N. (2012). MEANING OF THE TERM- DESCRIPTIVE SURVEY RESEARCH METHOD.

Stevens, R. J., & Slavin, R. E. (1995). Effects of a cooperative learning approach in reading and writing on academically handicapped and no handicapped students. The Elementary School Journal, 95(3), 241–262. Journal of Educational Psychology, 77(1), 101-108.

Stires, L.S. (1980). Classroom seating location, student grades, and attitudes: Environment or self-selection? Environment and Behavior, 12(2), 241-254.task behavior. Atlanta, GA: Proquest.

Susanti, A. (2017). Applying seating arrangement and teachers ' role in English language teaching to Increase students ' speaking ability. IQRA' (Jurnal Kajian Ilmu Pendidikan),2(2), 366–384

Taylor, A., & Vlastos, G. (2009). Linking architecture and education: Sustainable design for learning environments. Albuquerque: University of New Mexico Press.

Tee, X.T. (2019). Effectiveness of classroom seating arrangement on students' reading achievement.

Vander Schee, B. A. (2011). Marketing classroom spaces: Is it really better at the front? Marketing Education Review. 21(3), 201-210.

Wannarka, R., & Ruhl, K.L. (2008). Seating arrangements that promote positive academic and behavioral outcomes: a review of empirical research. Support for Learning, 23, 89-93.

Will, P., Bischof, W.F., & King Stone, A. (2020). The impact of classroom seating location and computer use on student academic performance. PLoS ONE, 15.