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The Effect of Parenting Style and Classroom Environment on the Mathematics Performance of the College Students

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ABSTRACT

This paper aimed to investigate the relationship of parenting style and classroom environment on the mathematics performance of the students. The data was collected in 300 college students in Bukidnon State University. These students were already taken up Mathematics. The students were grouped by colleges and randomly selected. An adopted 5-point scale questionnaire was used in gathering information about the parenting style and attitude towards classroom environment. Their mathematics grade was also asked to measure their mathematics performance. It was found out that parents are dominantly using authoritative parenting; they enforce rules but also welcome and open in the opinion and feelings of their children. However, in some situation they have to strictly imposed rules. Permissive parenting has no direct effect on math performance but has an indirect effect through authoritative parenting. Parents don't just neglect their children and let them do whatever they want. Parents who are guiding their parents, implementing rules but giving them freedom to choose motivate the students to perform better in the class. Student raised by authoritative parents and taught with an effective teaching style motivate the student to participate in classroom activities, thus, improve his/her academic performance.

KEYWORD: *Parenting style, classroom environment, mathematics performance*

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1. INTRODUCTION

Mathematics Educators have exerting efforts and strive to allocate sufficient time for math instruction to ensure that students reach high levels of achievement. Students who experience difficulty mastering math concepts receive immediate intervention and additional instructional time.

Verial (2010) states that there are students that is exceptionally good in their work, while some are extremely bad. This variation can be traced from family background. Parents' influence on children is very important. Parenting style has been found to predict child well-being in the domains of social competence, academic performance, psychosocial development, and problem behavior. Specific parenting practices influence the children's motivational orientations (Fleming et al., 1998).

These motivational orientations influence children's academic achievement and school-related competence (Boggiano, 1998). Child's personality affects his/her attitude in the class. Classroom environment also predicts the academic performance of the students. Cheng (1994) posited that physical classroom environment and psychological environment are both important and highly correlated with students' performance. Students' academic coping and burnout experiences varied with different classroom environment (Shih, 2015).

Education is the best legacy parents can give to their children. The development of the nation starts from the family. It is therefore important to examine the contributions and influence of these factors so that suggestions could be made. The findings of this study offer support for the alleviation of Mathematics performance of the college students.

This study aimed to investigate the relationship of parenting style and classroom environment on the mathematics performance of the students.

2. Materials and methods

This study used a descriptive-correlational design in its attempt to determine, describe and analyze relationships between parenting style and classroom environment on the mathematics performance of the students. It also tries to find out the best predictor of the variables.

The 300 participants of the study were the college students of Bukidnon State University, Malaybalay City, Bukidnon that were enrolled in Mathematics in the school year 2019 – 2020. The data were gathered using the stratified sampling. Students were grouped by college and took sample from each college proportional to its population. Respondents were informed through a letter that they were chosen to take part in the study.

For categorical data, frequency count was used and mean for determining different levels. Correlation was used to measure the relationship of the variables. In predicting the best predictor, regression analysis was used.

3. Results & Discussion

It can be shown in table 1 that most of the parents rarely used permissive parenting. Sometimes they tend to apply authoritarian way. But dominantly, parents tend to utilize authoritative parenting.

Table 1 Distribution of students according to parenting style

	Mean	Description
Authoritative	3.70	Often
Authoritarian	2.73	Sometimes
Permissive	2.23	Rarely

Parents are more responsive to the feelings and needs of their children. They always respect their children's opinion and rarely yell them or spank them when they disapprove their children's behavior. Parents still enforce rules to their children but also listen to their opinion and feelings. The impact of academic self-concept on academic achievement is found to be greater for the authoritative than the authoritarian parenting style (Ishak et al., 2012).

Table 2 Distribution of students according to classroom environment

	Mean	Description
Physical environment	3.86	Agree
Social environment	4.13	Agree
Academic environment	3.91	Agree

The respondents agreed that a favorable classroom environment can motivate and improve the mathematics performance of the students. Ikeda (2010) asserts that orderly classrooms – regardless of the school's overall socio-economic profile are related to better performance. Guardino et al. (2010) posited that classroom environment can increase academic engagement and decrease disruptive behavior of the students.

Family income has significant positive relationship with the social and academic environment which can be shown in table 3. It implies that socio-economically disadvantaged students are less likely to participate in classroom activities. Those students also have less expectation and understanding of the task given to them by their teacher.

Physical environment has a significant positive relationship with social and academic environment. It means that the physical appearance of the classroom and using of technology in instruction can motivate the students to participate in class and can also develop positive response to their teachers. Social environment can have a significant positive relationship with authoritative parenting style. Students brought up by parents who are open-minded and imposing discipline in a caring atmosphere, have a higher expectation on their teachers' effectiveness.

It can be seen in table 4, that a more favorable classroom environment can have an increase in the mathematics performance. Family income and age of the students have the same effect with the performance of the students. The higher the income of the family, the better is the performance of the students. However, these effects are not significant (p-value>0.05).

The equation suggests that the inherent grade of the respondent is 3.50. In every one unit of permissive parenting, 0.115 increase in the math grade of the student. One unit increase of authoritarian parenting can have a decrease of 0.197 in the math grade of the students. One unit increase in authoritative parenting can have 0.114 increases in the grade of the student. One unit increase in the Academic environment can have a decrease of 0.01 in the grade of the student. One unit increase in social environment can have an increase of 0.09 math grade of the student and one unit increase in physical environment can have a decrease of 0.20 math grade of the student.

Table 3 Relationship of classroom environment, family income, parenting style and mathematics performance

		Correlation coefficient	p-value
GRADE	Classroom Environment		
	Physical	-.108	.285
	Social	.058	.568
	Academic	.045	.658
	parenting style		
	Authoritative	.153	.128
	Authoritarian	-.159	.114
	Permissive	-.039	.703
	Income	.140	.166
INCOME	Classroom Environment		
	Physical	.164	.104
	Social	.233*	.019
	Academic	.225*	.024
	parenting style		
	Authoritative	.132	.190
	Authoritarian	-.078	.439
	Permissive	-.044	.662
Physical	Social	.553**	.000
	Academic	.498**	.000
	Authoritative	.125	.214
	Authoritarian	.130	.198
	Permissive	.141	.161
Social	Academic	.575**	.000
	Authoritative	.327**	.001
	Authoritarian	.022	.825
	Permissive	.084	.404

The equation (1) suggests that in every one unit of permissive parenting, an increase in the math grade of the student. One unit increase of authoritarian parenting can have a decrease of 0.197 in the math grade of the students. One unit increase in authoritative parenting can have 0.114 increases in the grade of the student. One unit increase in the Academic environment can have a decrease of 0.01 in the grade of the student. One unit increase in social environment can have an increase of 0.09 math grade of the student and one unit increase in physical environment can have a decrease of 0.20 math grade of the student.

$$\text{Performance} = 3.5 + 0.115\text{Permissive} - 0.197\text{Authoritarian} + 0.114\text{Authoritative} - 0.01\text{Academic} + 0.09\text{Social} - 0.20\text{Physical} \quad (1)$$

Table 4 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	3.502	.739		4.741	.000
	Permissive	.115	.103	.164	1.116	.267
	Authoritarian	-.197	.113	-.260	-1.744	.085
	Authoritative	.114	.085	.156	1.339	.184
	Academic	-.010	.131	-.011	-.080	.937
	Social	.090	.138	.089	.654	.515
	Physical	-.200	.142	-.182	-1.412	.161

However, the significant values suggest that there is no significant predictor between classroom environment and parenting style on the mathematics performance of the students.

4. Conclusions

Students believe that a well-ordered classroom, an effective and fair teacher and an active participation in the class activities can be the factors that improve their mathematics performance. The physical appearance of the classroom and using of technology in instruction can motivate the students to participate in class and can also develop positive response to their teachers.

Social environment can have a significant positive relationship with authoritative parenting style. Students brought up by parents who are open-minded and imposing discipline in a caring atmosphere, have a higher expectation on their teachers' effectiveness.

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