# Teacher's Constructivist Classroom Management Approach And Learner's Motivation: A Logistic Regression Analysis

Mary Joy M. Tindoy

Abstract. The study aimed to look into the influence of teachers' constructivist classrooms on the learners' motivation. In this study, the researcher selected the 200 elementary school teachers in Cluster 4 Schools in Davao City as the respondents of the study. A stratified random sampling technique was utilized in the selection of the respondents. A non-experimental quantitative research design using- a correlational method was employed. The data collected were subjected to the following statistical tools: Mean, Pearson Moment Product Correlation, and Logistic Regression Analysis. Findings revealed that teachers' constructivist classroom management approach acquired a moderately extensive rating. The learners' motivation in Cluster 4 Schools in Davao City was extensive. Further, correlation analysis demonstrated a significant relationship between teachers' constructivist classroom management approach and learners' motivation in Cluster 4 Schools in Davao City. Evidently, regression analysis proved that teachers' constructivist classroom management in terms of communication and interaction, relation establishment, and skills development were significant predictors of learners' motivation in Cluster 4 Schools in Davao City. In other words, teachers' constructivist classroom management influences the process of learners' motivation in Cluster 4 Schools in Davao City.

## **KEY WORDS**

1. education management 2. learners' motivation 3. teachers' constructivist Date Received: September 05, 2024 — Date Reviewed: September 10, 2024 — Date Published: October 10, 2024

### Introduction 1.

room management approach and its effects on learner motivation is crucial for enhancing educational practices, promoting effective learn- practice, supporting the development of more ing, and providing a solid foundation for stu- student-centered, engaging, and effective edudent's academic and personal growth. Under- cational environments. Meanwhile, previous standing how a teacher's management approach reports indicated that poor learners' motivation aligns with constructivist principles helps create remains an increasing problem worldwide. Naga conducive learning environment. In a con- pal (2022) reported that when students lack structivist classroom, students actively learn, motivation, they are less likely to engage acmake connections, and construct their knowl- tively in learning, participate in class, and com-

Studying a teacher's constructivist class- edge. A teacher's management style can either support or hinder this process. This research helps bridge the gap between theory and

demic performance, which affects school and district-wide achievement metrics. Similarly, in a survey with 3,000 school-aged students across the United Kingdom, Elevate Education (2020) found that learner's motivation levels plummeted during the national school closures from March to July 2020 up to the present, with 81

As decades of psychological research suggest, motivation is developmentally interlocked with academic achievement throughout an individual's education. Simamora (2020) also noted that a lack of motivation can increase student dropout rates. If learners do not see the value in education or do not feel engaged, they may be more likely to leave school prematurely, which can have long-term consequences for their future opportunities. On the contrary, Firman and Rahayu (2020) affirmed that motivated learners are likelier to engage in learning actively. They participate in class discussions, complete assignments, and seek opportunities for deeper understanding. This heightened engagement can lead to a more dynamic and interactive classroom environment. Moreover, Pakpahan and Fitriani (2020) noted that motivated students tend to perform better academically. They are more likely to set and achieve academic goals, excel in assessments, and maintain a consistent focus on their studies. High motivation levels can boost students' persistence in the face of challenges. Motivated learners are more likely to persevere through complex tasks, setbacks, or obstacles, which can lead to increased learning over time. On one hand, Yıldırım (2014) defined teacher's constructivist classroom management approach as a student-centered environment where learners generally support each other's learning and construct knowledge by using information resources and various tools to solve a problem or to reach their learning goals. In such a classroom, Tunca (2015) described that teachers provide experience with the knowledge- learner's motivation in relation to the teacher's

plete assignments. This can result in lower aca- constructing process, meaning that learners gain experience constructing knowledge.

> On the other hand, previous studies indicated a significant relationship between the constructivist classroom management approach and learner motivation. However, most of them were conducted in foreign settings. For example, Cetin-Dindar (2016) found that the constructivist classroom management approach enhances students' motivation towards learning through student-centered approaches. Accordingly, constructivist learning environment enhances learners to interact with knowledge and each other using various tools and emphasizes on the learning environment where learning occurs rather than instruction itself. Also, Jorde and Dillon (2012) noted that in a constructivist learning environment, the teacher is a facilitator and guides learners in achieving learning goals. Through constructivist teaching approaches, learners freely voice their thoughts and share their opinions (Cetin-Dindar, 2012). Existing research on constructivist teaching and classroom management has primarily focused on its impact on academic outcomes and engagement. Still, there needs to be a significant gap in understanding the specific factors within a teacher's constructivist approach that influence a student's motivation. A logistic regression analysis can help identify which components of constructivist classroom management, such as student autonomy, feedback mechanisms, or collaborative learning opportunities, have the most significant impact on student motivation, enabling educators to tailor their approaches effectively. Thus, the researcher felt the need to fill in the research gap by conducting a study using a quantitative approach in the Philippine setting, particularly in the Davao del Norte Division. Specifically, the researcher used a predictive correlational design utilizing logistic regression.

Analysis is used to better understand the

constructivist classroom management approach, founding factors. It works very well for a binary which is found to be scarce. Logistic regression is the tool used in this study because it allows multiple explanatory variables to be analyzed simultaneously while reducing the effect of con-

dichotomous variable, with predictor variables and various variables, and has been widely used in education studies.

### Methodology 2.

This section contains the research design, research respondents, research instrument, data gathering procedure, and data analysis.

2.1. Research Design-In this study, the researcher utilized predictive correlation with an analysis using the regression technique of research to gather data ideas, facts, and information related to the study. Bhandari (2020) described quantitative research as a research strategy that focuses on quantifying the collection and analysis of data. It was formed from a deductive approach that emphasizes theory testing, shaped by empiricist and positivist philosophies. At the same time, non-experimental research lacked the manipulation of an independent variable. Rather than manipulating an independent variable, researchers conducting nonexperimental research simply measure variables as they naturally occur in the real world. Meanwhile, a predictive correlational design, according to Creswell (2013), is a research design that aims to predict the association, not causality, between variables. In this study, the researcher was able to look into the teacher's constructivist classroom management approach and learner's motivation in Cluster 4 schools in Davao City. Logistic regression is the tool used in this study because it allows multiple explanatory variables to be analyzed simultaneously meanwhile

It was reducing the effect of confounding factors. In summary, logistic regression was used because it works very well for a binary dichotomous variable, works with predictor variables, works with multiple variables, reduces confounding effects, and has been widely used in education studies.

Research Respondents-The respon-2.2. dents of the study were the elementary school teachers in Cluster 4 schools in Davao City. In this study, the 200 respondents were selected through a stratified random sampling technique. Stratified random sampling is a method of sampling that involves the division of a population into smaller sub-groups known as strata. According to Shi (2015), in stratified random sampling, or stratification, the strata are formed based on members' shared attributes or characteristics, such as income or educational attainment. Stratified random sampling is appropriate in this study because there is heterogeneity in a population that can be classified with ancillary information. In this study, specific inclusion criteria were implemented to determine the respondents. The primary consideration of this study was to choose respondents who could provide information to achieve the purpose of this study. Hence, only regular-permanent teachers in Cluster 4 schools in Davao City, those not subjected to any administrative or criminal cases, and those who voluntarily signed the ICF were given the survey questionnaires. Moreover, the study was delimited only to the nature of the problem based on the research questions, and thus, it did not consider the socioeconomic status and gender of the teachers.

2.3. Research Instrument—The study employed questionnaires that were researchermade and modified to fit the context of the respondents of this study. The instrument was

divided into three parts. The scaling was done by having one-half of the value of 5 as an average cut-off point or the fair level, with a uniform interval of 0.80. Before the administration of the instrument, it was subject to validation by three experts and was revised according to their expert comments. The first part was about the teacher's constructivist classroom management approach in Cluster 4 schools in Davao City, which was adopted from the study of Yildirim (2014) and indicated communication and interaction, relation establishment, skills development, time usage and assessment, and learning and teaching. The Cronbach coefficient value for this instrument is 0.942, which is excel-

lent, indicating high reliability and consistency among the items. More so, this questionnaire was subjected to content validity by a panel of experts to test its validity. The researcher modified the questionnaire by grouping all the items in each dimension under each domain. In answering the questionnaire, the respondents' items used the 5-Likert scale, which was as follows: 5–Very Extensive, 4–Extensive 3–Moderately Extensive, 2–Less Extensive, 1–Not Extensive. As a guide in determining the extent of a teacher's constructivist classroom management approach, the researcher made use of the range of means, descriptions, and interpretations as presented below:

Range of Mean	<b>Descriptive Level</b>	Interpretation
4.20 - 5.00	Very Extensive	Teacher's constructivist classroom management approach is always observed.
3.40 - 4.19	Extensive	Teacher's constructivist classroom management approach is oftentimes observed.
2.60 - 3.39	Moderately Extensive	Teacher's constructivist classroom management approach is sometimes observed.
1.80 – 2.59	Less Extensive	Teacher's constructivist classroom management approach is seldom observed.
1.00 – 1.79	Not Extensive	Teacher's constructivist classroom management approach is never observed.

Range of Mean and Descriptive Levels of Teachers' Constructivist Classroom Management Approach

The instrument's second part concerns the learner's motivation in Cluster 4 schools in Davao City. This questionnaire was adopted from the study of Tuan et al. (2005) and measured in terms of self-efficacy, learning values, performance goals, and learning environment simulation. The reliability of the original scale was obtained with a Cronbach's alpha value of 0.950. More so, this questionnaire was subjected to content validity by a panel of experts to test its validity. The researcher modified the questionnaire by grouping all the items under each dimension and domain. In answering the questionnaire, the respondents used the 5-Likert scale: Very Extensive, 4–Extensive, 3–Moderately Extensive, 2–Less Extensive, 1–Not Extensive.

The researcher used the range of means, descriptions, and interpretations presented below to determine the extent of the learner's motivation.

## 2.4. Data Gathering Procedure—

Range of Mean	Descriptive Level	Interpretation
4.20 - 5.00	Very Extensive	Learner's motivation is always manifested.
3.40 - 4.19	Extensive	Learner's motivation is oftentimes manifested.
2.60 - 3.39	Moderately Extensive	Learner's motivation is sometimes manifested.
1.80 - 2.59	Less Extensive	Learner's motivation is seldom manifested.
1.00 – 1.79	Not Extensive	Learner's motivation is never manifested.

## **Range of Mean and Descriptive Levels of Learners' Motivation**

Steps were undergone by the researcher in conducting the study after the validation of the research questionnaire. Permission to Conduct the Study. The researcher secured the permission to conduct the study. The researcher secured the endorsement from the Dean of the Graduate School in Rizal Memorial Colleges, Inc., Davao City. The Dean of the Graduate School in Rizal Memorial Colleges, Inc., Davao City's endorsement letter was attached to the permission letters to be endorsed to the school principals of the selected public schools in Cluster 4 Davao City. The researchers personally brought the letters to the principals of the schools where the study was conducted. The researcher first appeared at the

Office of the principals in the second week of January 2022. However, the researcher was not able to receive approval from the respective office due to the principals' busy schedules. So, the researcher came back in the second week of February 2022. The approval from the respective offices was then granted. After this,

2.5. Data Analysis—The following were the statistical tools utilized by the researcher in processing the gathered data: Mean was useful in characterizing the teacher's constructivist classroom management approach and learner motivation. This information was used to supply the answers for objectives 1 and 2. Pearson Product Moment Correlation was used in this study to assess the significant relationship the researcher proceeded to the distribution and retrieval of the survey questionnaires. Distribution and Retrieval of the Questionnaire. The researcher proceeded to distribute the research instrument to the respondents after the approval to conduct the study. Upon distributing the questionnaires, the benefits of the survey were briefly discussed and explained to the identified respondents of the study. For the administration of the questionnaire, the researcher adhered to comply on Health protocols issued by both local and national authorities. The questionnaires were distributed following health protocols such as wearing face masks and face shields and following social distancing. The study respondents were given enough testing time to finish the questionnaires. After this, the data collected were subjected to quantitative analysis. Collation and Statistical Treatment of Data. After the questionnaire was retrieved, the scores of each respondent were tallied to organize the data per indicator. Then, each score was subjected to descriptive and inferential analysis using SPSS.

between independent (teacher's constructivist classroom management approach) and dependent (learner's motivation) variables. It was a statistical measure of the strength of a linear relationship between paired data. In a sample, it is usually denoted by r. Logistic Regression was applied to evaluate the significance on the influence of independent (teacher's constructivist classroom management approach) on the dependent variable (learner's motivation).

# 3. Results and Discussion

This chapter presents the results generated from the data gathered. It is sequenced based on the objectives of the study, as presented in the first chapter. Thus, it presents the extent of teachers' constructivist classroom management approach and learners' motivation; the significant relationship between teachers' constructivist classroom management approach and learners' motivation in Cluster 4 Schools in Davao City; and the influence of teachers' constructivist classroom management approach on the learners' motivation in Cluster 4 Schools in Davao City;

Table 1 shows the summary of the extent of teachers' constructivist instructional approach. As shown in the table, teachers' constructivist classroom management approach obtained an overall mean score of 3.29, descriptively rated as moderately extensive, interpreted as sometimes observed. Moreover, the result on the table shows that teachers' constructivist classroom management approach in terms of learning and teaching acquired the highest mean score of 3.42 described as extensive, interpreted as oftentimes observed. Meanwhile, teachers' constructivist classroom management approach in terms of learning and teaching acquired the lowest mean score of 3.13 described as moderately extensive, interpreted as sometimes observed. The result denotes that the respondents

were able to set of skills that creates a studentcentered environment where learners generally support each

other's learning and construct knowledge by using information resources and various tools to solve a problem or to reach their learning goals. The finding supports the view of Tunca (2015) that in such a classroom, teachers provide experience with the knowledge-constructing process, which means making the learners gain experiences on how to construct knowledge. Also, Anagün (2018) pointed out that since this is a classroom setting which are technology-based in which learners are engaged in meaningful interactions, students could able to hypothesize, predict, manipulate objects, pose questions, research, investigate, imagine, and invent.

Indicators	Mean	Descriptive Equivalent
Communication and Interaction	3.13	Moderately Extensive
Relation Establishment	3.33	Moderately Extensive
Skills Development	3.36	Moderately Extensive
Time Usage and Assessment	3.30	Moderately Extensive
Learning and Teaching	3.42	Extensive
Learning Environment Organi-	3.30	Moderately Extensive
zations		
Overall Mean	3.29	Moderately Extensive

Table 1. Summary of Teachers' Constructivist Classroom Management Approach in Cluster 4 Public Schools in Davao City

As shown in the Table 2 is the summary on the extent of learners' motivation in Cluster 4 Public Schools in Davao City. As shown in the table, the overall mean of learners' motivation is 3.46 which is described as extensive. It means that the internal condition that stimulates, directs, and maintains an attitude of learning is oftentimes manifested. Moreover, the result in the learning value acquired the highest mean score of 3.56 extensive, interpreted as domain oftentimes manifested. Meanwhile, learners' motivation in terms of performance acquired the lowest mean score of 3.33 described as moderately extensive, interpreted as domain sometimes manifested. The extensive rating in this domain is because learners have high efficiency in using cognitive and metacognitive strategies. This finding aligns with the view of Albalate et al. (2018). Likewise, the finding supports the view of Hubert (2017) that highly motivated learners can control various mental strategies for better cognitive performance, enhanced abil-

table shows that learners' motivation in terms of ity to attend to things in a selective and focused way, can concentrate over a while, easily learn new information and skills, can determine strategies for actions, easily comprehend scientific language and can retain information and manipulate it to solve complex scientific problems. Moreover, the finding indicates that learners express effort in attaining a goal, show persistence, attend to the tasks that are necessary to achieve the goals, have a strong desire to attain their goal, enjoy the activities necessary to achieve

> their goal, are aroused in seeking their goals, have expectancy about their successes and failures. This finding supports the view of Guido (2013).

Indicators	Mean	<b>Descriptive Equivalent</b>
Self-Efficacy	3.48	Extensive
Active Learning Activities	3.53	Extensive
Learning Value	3.56	Extensive
Performance Goal	3.33	Moderately Extensive
Learning Environment	3.37	Moderately Extensive
<b>Overall Mean</b>	3.46	Extensive

Table 2. Summary of Learners' Motivation in Cluster 4 Public Schools in **Davao City** 

Relationship Between Teachers' Constructivist Classroom Management Approach and Learners' Motivation in Cluster 4 Schools in Davao City

The results of the analysis of the relationship between teachers' constructivist classroom management approach and learners' motivation in Cluster 4 Schools in Davao City are presented. Bivariate correlation analysis using Pearson product-moment correlation was utilized to determine the relationship between the variables mentioned. Table 3 shows that teachers' constructivist classroom management approach has a significant positive relationship with the learners' motivation in Cluster 4 Schools in Davao City with a p-value of .000 that is less than

.05 level of significance (two-tailed) (r = 0.572, p < 0.05). It means that as the extent of the teachers' constructivist classroom management approach changes, learners' motivation in Cluster 4 Schools in Davao City also changes significantly. Moreover, the table also shows the teachers' constructivist classroom management approach in terms of communication and interaction, relation establishment, skills.

development, time usage and assessment, learning and teaching, and learning environment organization are significantly correlated with learners' motivation as evident on the correlation coefficient values of 0.652, 0.443, 0.719, 0.516, 0.405, and 0.602. This leads to the rejection of the null hypothesis of no significant relationship between teachers' constructivist class- Cluster 4 Schools in Davao City. room management and learner's motivation in

Teachers' Constructivist Class- room Management Approach	r-value	p-value	Interpretation/ Decision
Communication and Interaction	0.652*	0.000	Reject H0
Relation Establishment	0.443*	0.001	Reject H0
Skills Development	0.719*	0.024	Reject H0
Time Usage and Assessment	0.516*	0.000	Reject H0
Learning and Teaching	0.405*	0.002	Reject H0
Learning Environment Organiza-	0.602*	0.000	Reject H0
tion			
Overall Teachers' Constructivist	0.572*	0.000	Reject H0
Classroom Management			
Relation Establishment Skills Development Time Usage and Assessment Learning and Teaching Learning Environment Organiza- tion Overall Teachers' Constructivist Classroom Management	0.443* 0.719* 0.516* 0.405* 0.602* 0.572*	0.001 0.024 0.000 0.002 0.000 0.000	Reject H0 Reject H0 Reject H0 Reject H0 Reject H0

 Table 3. Relationship Between Teachers' Constructivist Classroom Management Approach and Learners' Motivation in Cluster 4 Schools in Davao City

\*Significant at p <0.05

The findings agree with the proposition of Basheer (2014) that constructivist classrooms emphasize active learning, where students are encouraged to participate, explore, and discover knowledge for themselves. This engagement makes learning more interesting and motivating. The approach often involves inquiry-based projects and activities. Learners are motivated to explore topics they are curious about, which leads to a sense of ownership and enthusiasm for their learning. Also, this agrees with Fox and Schirrmacher (2012) that constructivist classrooms provide students with choices and autonomy over their learning. When students have a say in what they study and how they study it, they are more

Motivated to take ownership of their education. In addition, the finding agrees with Ozerem and Akkoyunlu (2015) that constructivist learning often focuses on real-world relevance. When students see the practical applications of their learning, they are more motivated to engage with the material.

Logistic Regression Analysis on Domains

of Teachers' Constructivist Classroom Management Approach Predicting Learners' Motivation in Cluster 4 Public Schools in Davao City

Analysis of the influence of domains of teachers' constructivist classroom management approach, namely communication and interaction, relation establishment, skills development, time usage and assessment, learning and teaching, and learning environment organization on learners' motivation (extensively motivated or moderately motivated) was analyzed using Binary Logistic Regression Analysis. As shown in Table 4, when the domains of teachers' constructivist classroom management approach, namely communication and interaction, relation establishment, skills development, time usage and assessment, learning and teaching, and learning environment organization, are considered, the model is significant, as evidenced on 2 =232.610, df 6,p= 0.05 In terms of classification, the table's result indicates that 97.90 percent of the extensively motivated respondents were correctly predicted to be 100.00 percent of interested respondents. Meanwhile, the computed

domains of teachers' constructivist classroom management approach, namely communication and interaction, relation establishment, skills development, time

usage and assessment, learning and teaching, and learning environment organization, have contributed significantly in the variability of learners' motivation (extensive or moderately extensive) by 68.30 from the total variability. Therefore, the difference of 31.70 was recognized to other factors not covered in this study. This table also indicates that only communication and interaction, relation establishment, and skills development are significant when the predictors are considered. This means that the ex- ing environment enhances learners interaction tent of learners' motivation increases by 0.896, with knowledge and each other using various 0.245, and 0.508 for each unit increase in teach- tools and emphasizes the learning environment ers' constructivist classroom management, re- where learning occurs rather than instruction spectively. Affirming that learners' motivation itself.

Cox Snell R2 value of 0.683 indicates that the is a function of teachers' constructivist classroom management in Cluster 4 Public Schools in Davao City, the finding agrees with the view of Milner et al. (2012) that constructivist classrooms often create a sense of community among learners. This social connection can be highly motivating, as students feel part of something larger than themselves. Students are encouraged to reflect on their experiences, analyze realworld issues, learn how to investigate, develop their collaborative learning and inquiry skills, build communication skills, and improve their learning strategies skills. Lastly, the findings are in agreement with the anchored proposition by Cetin-Dindar (2016) that a constructivist learn-

#### **Conclusions and Recommendations** 4.

This part of the paper presents the researcher's conclusions and recommendations. The discussion was supported by the literature presented in the first chapters, and the conclusion is in accordance with statements of the problem presented in this study.

4.1. *Findings*—The primary objective of this study was to determine which domains of teachers' constructivist instructional approach significantly influence the learners' motivation utilizing a non-experimental quantitative design using a correlation technique. In this study, the researcher used logistic regression analysis since the study used binary dichotomous variables. The researcher selected the 200 public elementary school teachers in Cluster 4 Public Schools in Davao City as the respondents through a random sampling method. The researcher used modified and enhanced adapted survey questionnaires, which were pilot-tested in a nearby school to ensure high reliability and internal consistency of the items in the instrument. The current study found that the extent of teachers' constructivist classroom management approach in Cluster 4 Schools in Davao City approach has an overall mean of 3.29 with a descriptive rating of moderately.

Extensive. Teachers' constructivist classroom management approach in terms of communication and interaction, relation establishment, skills development, time usage and assessment, learning and teaching, and learning environment obtained mean scores of 3.13, 3.33, 3.36, 3.30, 3.42, and 3.30, respectively. Descriptive analysis also showed that the extent of learners' motivation in Cluster 4 Schools in Davao City has an overall mean of 3.46 with a descriptive rating of extensive. Also, learners' motivation in terms of self-efficacy, active learning activities, learning value, performance goal, and learning environ-

	В	S.E.	Wald	df	Sig.	Exp(B)
Communication and Interaction	0.896**	9.310E5	.000	1	.000	1.770E12
Relation Establishment	0.245**	9.310E5	.000	1	.000	4.390E12
Skills Development	0.508**	9.310E5	.000	1	.042	2.403E12
Time Usage and Assessment	-0.574	9.310E5	.000	1	.120	3.476E11
Learning and Teaching	-1.811	4.376	.171	1	.201	.163
Learning Environment Organization	-158.465	3.724E6	.000	1	.124	.000
Constant	161.924	34.680	21.801	1	.000	2.102E70

Table 4. Logistic Regression Analysis on Domains of Teachers' Constructivist **Classroom Management Approach Predicting Learners' Motivation in Clus**ter 4 Public Secondary Schools in Davao City

Classification	Extensive	Moderately Extensive	%
Extensively Motivated	92	2	97.9
Moderately Motivated	0	106	100.0
Overall			99.0

Holistic	Analysis
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Cox & Snell R <sup>2</sup>	0.683
$\chi^2$	232.610
Df	6
p-value	0.000

ment obtained mean scores of 3.48, 3.53, 3.56, variability of learners' motivation in Cluster 4 3.33, and 3.37, respectively. Moreover, inferential statistics showed that the result showed that teachers' constructivist classroom management approach has a significant positive relationship with the learners' motivation in Cluster 4 Public Secondary Schools in Davao City with a p-value of .000 which is less than .05 level of significance (two-tailed) (r = .572, p<0.05). Teachers' constructivist classroom management approach significantly influenced learners' motivation in Cluster 4 Schools in Davao City, as evidenced by the Chi-Square (X2) of 232.610 and p<0.05. The Cox Snell R2 value of 0.683 indicates that teachers' constructivist classroom management approach domains, namely communication and interaction, relation establishment, and skills development, have contributed significantly to the

Schools in Davao City (extensive or moderately extensive) by 68.30

4.2. *Conclusions*—Based on the findings of this study and within the limitations and restrictions (such as the survey questionnaire and number of participants), several conclusions are generated: Teachers' constructivist classroom management approach in Cluster 4 Schools in Davao City was rated as moderately extensive. Meanwhile, the extent of teachers' constructivist classroom management approach in terms of communication and interaction, relation establishment, skills development, time usage and assessment, and learning environment acquired a moderately extensive rating. In contrast, teachers' constructivist classroom management approach in terms of learning and teaching acquired an extensive rating. Learners' motivation in Cluster 4 Schools in Davao City was rated as extensive. Meanwhile, the extent of learners' motivation in terms of self-efficacy, active learning activities, and learning value acquired extensive ratings. Moreover, learners' motivation in performance goals and learning environment was rated moderately extensive. Third, the result showed that teachers' constructivist classroom management approach has a significant positive relationship with the learners' motivation in Cluster 4 Schools in Davao City. As the extent of the teachers' constructivist classroom management approach changes, learners' motivation in Cluster 4 Schools in Davao City also significantly changes.

Lastly, the extent of teachers' constructivist classroom management approach domains, namely communication and interaction, relation establishment, and skills development significantly predicted the learners' motivation in Cluster 4 Schools in Davao City.

4.3. Recommendations—The researcher may recommend that school administrators consider giving great importance to changing the room's physical layout, which may make the classroom more attractive for learning. Increasing the attractiveness of the classroom environment reduces stress within the school and facilitates learning because the room should be

arranged to ensure that all students can see well, there are no obstructions, the lighting is adequate, and when students move around, they do not interfere with other students. This increases the desire for knowledge and heightens creativity among students. Moreover, it was also recommended that school administrators may provide time and structures for collaborative learning teams to meet. Effective teams are relatively small, interdisciplinary groups comprised of grade-level general education teachers and-when needed-administrators, special educators, or other specialists who meet weekly or bi-weekly. An action-oriented agenda and facilitation by team leaders who skillfully guide the discussions without assuming an authoritative role promote productive meetings. More so, the researcher may recommend that teachers draw on professional relationships and learners' families for continued guidance and support in finding ways to address individual learners' academic motivation.

And consider parents, school personnel, and behavioral experts as allies who can provide new insights, strategies, and support. Lastly, researchers may conduct further analysis on the factors that influence satisfaction with school clinic services since health service quality factors only contributed 68.30 percent of the total variability.

# 5. References

- Agbabi, C. O., Onyeike, V. C., & Wali, W. I. (2013). *Classroom management: A practical approach*. University of Port Harcourt Press.
- Agsalog, M. (2019). Experiential learning approach: Its effects on the academic performance and motivation to learn physics of grade 10 students. *International Journal of Scientific and Research Publications*, 9(9), 844–850. http://www.ijsrp.org/research-paper-0919/ijsrpp93113.pdf
- Ahmad, C. N. C., Ching, W. C., Yahaya, A., & Abdullah, M. F. N. L. (2015). Relationship between constructivist learning environments and educational facility in science classrooms. *Procedia - Social and Behavioral Sciences*, 191, 1952–1957. https://doi.org/10.1016/j. sbspro.2015.04.672

- Akomolafe, C., & Adesua, V. (2015). The classroom environment: A major motivating factor towards high academic performance of senior secondary school students in south west nigeria. *Journal of Education and Practice*, 6(34), 17–21. https://files.eric.ed.gov/fulltext/ EJ1086098.pdf
- Albalate, A., Larcia, H., & Jaen, J. (2018). Students' motivation towards science learning of stem students of university of batangas, lipa city. https://www.grdspublishing.org/index.php/ people/article/view/1045/910
- Alkin, S. (2013). Evaluation of elementary school teachers' behaviors of supporting critical thinking [Doctoral dissertation, Ankara University Institute of Education Sciences] [Unpublished doctoral thesis].
- Alsaleh, N. (2020). Teaching critical thinking skills: Literature review. *The Turkish Online Journal* of Educational Technology, 19(1), 21–39. https://files.eric.ed.gov/fulltext/EJ1239945.pdf
- Alt, D. (2014). Contemporary constructivist practices in higher education settings and academic motivational factors. *Australian Journal of Adult Learning*, 56(3), 374–400. https://files. eric.ed.gov/fulltext/EJ1120641.pdf
- Altındağ, M., & Senemoğlu, N. (2013). Metacognitive skills scale. *Hacettepe University Journal* of Education, 28(1), 15–26. https://www.researchgate.net/publication/296839320\_ METACOGNITIVE\_SKILLS\_SCALE
- Alzahrani, I., & Woollard, J. (2013). The role of the constructivist learning theory and collaborative learning environment on wiki classroom, and the relationship between them. https://files.eric.ed.gov/fulltext/ED539416.pdf
- Andressa, H., Mavrikaki, E., & Dermitzaki, I. (2015). Adaptation of the students' motivation towards science learning questionnaire to measure greek students' motivation towards biology learning. *International Journal of Biology Education*, 4(2), 12–21. https://doi.org/ 10.20876/ijobed.56334
- Aregu, B. (2013). A study of self-regulated learning strategies as predictors of critical reading. http://www.academicjournals.org/journal/ERR/article-full-text-pdf/0C9999D41499
- Aurah, C. (2017). Investigating the relationship between science self-efficacy beliefs, gender, and academic achievement, among high school students in kenya. *Journal of Education and Practice*, 8(8), 146–153. https://files.eric.ed.gov/fulltext/EJ1139069.pdf
- Bas, G. (2013). Students' views on the constructivist learning environment in elementary schools: A qualitative inquiry. *Cukurova University Faculty of Education Journal*, 42(2), 64– 86. https://arastirmax.com/en/publication/cukurova-universitesi-egitim-fakultesidergisi/42/2/students-views-constructivist-learning-environment-elementary-schoolsqualitative-inquiry/arid/166e54c8-7b6b-4069
- Basheer, A. N. A. (2014). Teachers' perceptions about constructivist learning in afghan schools. mathematics teachers' perceptions and usage of question-answer, individual and group work methods considering constructivism. https://www.diva-portal.org/smash/get/diva2: 812318/FULLTEXT01.pdf
- Bawa, N., & Zubairu, S. (2015). Constructivism and classroom interaction. *International Journal* of Modern Social Sciences, 4(2), 71–81.
- Bay, E., Bagceci, B., & Cetin, B. (2013). The effects of social constructivist approach on the learners' problem solving and metacognitive levels. *Journal of Social Sciences*, 8(3), 343–349. https://core.ac.uk/download/pdf/25850948.pdf

- Blazar, D. (2016). Teacher and teaching effects on students' academic performance, attitudes, and behaviors [Doctoral dissertation, Harvard University]. https://dash.harvard.edu/bitstream/ handle/1/27112692/BLAZAR-DISSERTATION-2016.pdf?sequence=1
- Bramucci, A. (2013). Self-regulated learning. theories and potential applications in didactics. http://intelligent-tutor.eu/files/2012/06/I-TUTOR\_supportmaterial\_self-regulated\_ learning\_EN.pdf
- Brown, B. (2014). *The impact of self-efficacy and motivation characteristics on the academic achievement of upward bound participants* [Doctoral dissertation, University of Southern Mississippi]. https://aquila.usm.edu/cgi/viewcontent.cgi?article=1429&context=dissertations
- Brown, P., McCord, R., Matusovich, H., & Kajfez, R. (2014). The use of motivation theory in engineering education research: A systematic review of literature. *European Journal of Engineering Education*, 40(2), 186–205. https://doi.org/10.1080/03043797.2014.941340
- Cavas, P. (2012). Factor affecting the motivation of turkish primary students for science learning. *Science Education International*, 22(1), 31–42. https://eric.ed.gov/?id=EJ941653
- Chan, Y. L., & Norlizah, C. H. (2017). Students' motivation towards science learning and students' science achievement. *International Journal of Academic Research in Progressive Education and Development*, 6(4), 174–189. https://pdfs.semanticscholar.org/0598/ 7fd7aec616c39e2eb21403f19e4231d283a8.pdf
- Chow, S. J., & Yong, B. C. S. (2013). Secondary school students' motivation and achievement in combined science. US-China Education Review, 3(4), 213–228. https://files.eric.ed.gov/ fulltext/ED542966.pdf
- Chumbley, S. B., Haynes, C., & Stofer, K. A. (2015). A measure of students' motivation to learn science through agricultural stem emphasis. *Journal of Agricultural Education*, *56*(4), 107–122. https://files.eric.ed.gov/fulltext/EJ1122894.pdf
- Cirik, I., Colak, E., & Kaya, D. (2013). Constructivist learning environment: The teachers and students perspectives. *International Journal on New Trends in Education and Their Implications*, 6(2), 30–44. http://www.ijonte.org/FileUpload/ks63207/File/03.cirik.pdf
- Clark, T. D. (2014). *How to manage stress in college. volume one*. TDC Enterprise. https: //www.free-ebooks.net/self-improvement/How-to-Manage-Stress-In-College-Study-Skills-and-Still-Have-Loads-Of-Fun-Vol-1/pdf?dl&preview
- Clinkenbeard, P. R. (2012). Motivation and gifted students: Implications of theory and research. *Psychology in the Schools*, 49(7), 622–630. https://onlinelibrary.wiley.com/doi/abs/10. 1002/pits.21628
- Cooper, K., & White, R. (2012). Qualitative research in the post-modern era: Contexts of qualitative research. Springer. https://www.springer.com/gp/book/9789400723382
- Cunningham, K. R. (2013). The effect of motivation on student success in a first-year experience course. http://digitalcommons.wku.edu/cgi/viewcontent.cgi?article=1040&context=dis
- Evans, C. (2014). Exploring the use of a deep approach to learning with students in the process of learning to teach. https://eprints.soton.ac.uk/374302/
- Fenning, B., & May, L. (2013). Where there is a will, there is an a: Examining the roles of self-efficacy and self-concept in college students' current educational attainment and career planning. Social Psychology of Education, 16(4), 21–30. https://eric.ed.gov/?id= EJ1039406

- Fox, J., & Schirrmacher, R. (2012). Art and creative development for young children. Cengage. https://www.cengage.com/c/art-and-creative-development-for-young-children-8efox/9781285432380
- Gee, J. (2013). Importance of prior knowledge to learning. https://news.illinoisstate.edu/2012/01/ importance-of-prior-knowledge-to-learning/
- Gibbens, B. (2019). Measuring student motivation in an introductory biology class. *The American Biology Teacher*, 81(1), 20–29. https://online.ucpress.edu/abt/article/81/1/20/91855/ Measuring-Student-Motivation-in-an-Introductory
- Glynn, S. M., Brickman, P., Armstrong, N., & Taasoobshirazi, G. (2013). Science motivation questionnaire ii: Validation with science majors and nonscience majors. *Journal of Research in Science Teaching*, 48(10), 1159–1176. https://doi.org/10.1002/tea.20442
- Granito, M., & Chernobilsky, E. (2012). The effect of technology on a student's motivation and knowledge retention. https://opencommons.uconn.edu/cgi/viewcontent.cgi?article= 1016&context=nera\_2012
- Guido, R., & Dela Cruz, R. (2011). Factors affecting academic performance of bs astronomy technology students. *RTU-Academic Journal*, *4*, 205–238.
- Gurses, A., Demiray, S., & Dogar, C. (2015). A design practice for interactive-direct teaching based on constructivist learning (idtbcl): Dissolution and solutions. *Procedia - Social and Behavioral Sciences*, 191, 44–49. https://doi.org/10.1016/j.sbspro.2015.04.244
- Harding, S. M. (2019). Self-regulated learning as a predictor of mathematics and reading performance: A picture of students in grades 5 to 8. https://journals.sagepub.com/doi/full/10. 1177/0004944119830153
- Hubert, B. (2017). Cognitive self-regulation and social functioning among french children: A longitudinal study from kindergarten to first grade. https://onlinelibrary.wiley.com/doi/full/10.1002/pchj.160
- Hurst, B., Wallace, R., & Nixon, S. (2013). The impact of social interaction on student learning. *Reading Horizons: A Journal of Literacy and Language Arts*, 52(4), 375–398. https:// scholarworks.wmich.edu/cgi/viewcontent.cgi?article=3105&context=reading\_horizons
- Kubischta, F. (2014). Engagement and motivation: Questioning students on study motivation, engagement and study strategies. http://www.theseus.fi/bitstream/handle/10024/78341/ Kubischta%20Frauke%20Final.pdf;sequence=1
- Kwan, Y. W., & Wong, A. F. L. (2014). The constructivist classroom learning environment and its associations with critical thinking ability of secondary school students in liberal studies. *Learning Environments Research*, 17, 191–207. https://link.springer.com/article/10.1007/ s10984-014-9158-x
- Laal, M., & Laal, M. (2012). Collaborative learning: What is it? *Procedia-Social and Behavioral Sciences*, 31, 491–495. https://www.sciencedirect.com/science/article/pii/ S1877042811030217
- Laurillard, D. (2012). *Teaching as a design science. building pedagogical patterns for learning and technology* [E-book]. Routledge.
- Lawson, M. A., & Lawson, H. A. (2013). New conceptual frameworks for student engagement research, policy, and practice. *Educational Policy*. https://journals.sagepub.com/doi/10. 3102/0034654313480891

- Lemley, J. B., Schumacher, G., & Vesey, W. (2014). What learning environments best address 21st-century students' perceived needs at the secondary level of instruction? *NASSP Bulletin*, *98*(2), 101–125.
- Linnenbrink-Garcia, L., Patall, E., & Pekrun, R. (2016). Adaptive motivation and emotion in education: Research and principles for instructional design. *Behavioral and Brain Sciences*, 3(2), 228–236. https://selfdeterminationtheory.org/wp-content/uploads/2019/11/ 2016\_Linnenbrink-GarciaPatallPekrun\_ClimateMotiveEmo.pdf
- Llego, J. (2017). Classroom management approach of ste science teachers in region 1 philippines. *Imperial Journal of Interdisciplinary Research (IJIR)*. https://www.onlinejournal.in/ IJIRV3I3/314.pdf
- Lund, A., & Hauge, T. E. (2012). Changing objects in knowledge-creation practices. In *Knowledge creation in education*. https://www.taylorfrancis.com/books/e/9780203847817/chapters/ 10.4324/9780203847817-19
- Mbatha, S. (2015). The relationship between self-efficacy, motivation, and academic performance among students from various gender and generational groups. http://scholar.ufs.ac.za: 8080/xmlui/bitstream/handle/11660/4592/MbathaS.pdf?sequence=1
- McDougall, J. (2015). The quest for authenticity: A study of an online discussion forum and the needs of adult learners. *Australian Journal of Adult Learning*, 55(1), 94–113. https://www.learntechlib.org/p/159576
- Michaelis, J. (2015). The role of interest and motivation in science investigation and engineering design instruction. https://sites.nationalacademies.org/cs/groups/dbassesite/documents/ webpage/dbasse\_182819.pdf
- Milner, A. R., Templin, M. A., & Czerniak, C. M. (2012). Elementary science students' motivation and learning strategy use: Constructivist classroom contextual factors in a life science laboratory and a traditional classroom. *Journal of Science Teacher Education*, 22(2), 151–170. https://eric.ed.gov/?id=EJ913429
- Mohammed, Y. (2012). The dynamics of student participation in classroom: Observation on level and forms of participation. https://www.semanticscholar.org/paper/The-Dynamics-of-Student-Participation-%20in-Classroom%3A-Abdullah-Bakar
- Mubeen, S., & Reid, N. (2014). The measurement of motivation with science students. *European Journal of Educational Research*, 3(3), 129–144. https://files.eric.ed.gov/fulltext/EJ1086038.pdf
- Mutlu, G., & Güler, C. (2017). Authentic instruction: Efl teachers' perspectives. *Proceedings* of the European Conference on Educational Research (ECER 2017). http://www.eera-ecer.de/ecer-programmes/conference/22/contribution/41901/
- Nasiriyan, A., Azar, H. K., Noruzy, A., & Dalvand, M. R. (2012). A model of self-efficacy, task value, achievement goals, effort and mathematics achievement. *International Journal of Academic Research*, *3*(2), 612–618.
- Ndon, U. (2012). *Hybrid-context instructional model: The internet and the classrooms: The way teachers experience it.* Information Age Publishing Inc.
- Nevid, J. (2011). Teaching millennials. *Observer*. https://www.psychologicalscience.org/observer/ teachingthe-millennials#.WNEoi2997IW

- Obijiaku, U. J. (2015). Effective time management for haaga-helia uas international students porvoo campus. https://www.theseus.fi/bitstream/handle/10024/101926/Uchenna\_Obijiaku.pdf?sequence=1&isAllowed=y
- Ozerem, A., & Akkoyunlu, B. (2015). Learning environments designed according to learning styles and its effects on mathematics achievement. *Eurasian Journal of Educational Research*, 61, 61–80. http://dx.doi.org/10.14689/ejer.2015.61.4
- Panadero, E. (2017). A review of self-regulated learning: Six models and how they can be implemented in the classroom. *Education Research International*, 2017, 1–12. https://www.hindawi.com/journals/edri/2017/1219820/
- Rosenberg, M. J., & Schmidt, A. (2017). Instructional strategies that enhance motivation and engagement of students in the classroom. *Educational Psychology Review*, 29, 489–511. https://doi.org/10.1007/s10648-016-9390-2
- Seah, W., Wong, A. F. L., & Quek, C. L. (2015). Enhancing student learning in mathematics: The role of teaching and learning environment. *International Journal of Educational Management*, 29(3), 226–240. https://doi.org/10.1108/IJEM-07-2014-0082
- Shah, A. A., & Osama, M. (2012). Role of perceived social support, self-efficacy, and academic motivation in academic performance of university students. *International Journal of Educational Psychology*, 1(2), 167–182.
- Sotiriou, S., & Mavridis, M. (2012). Factors affecting student engagement in learning: An analysis of the results from the project teachers' perspectives. In *Rethinking class*room teaching and learning (pp. 45–56). http://www.semanticscholar.org/paper/ Factors-affecting-student-engagement-in-learning%3A-An-Of-Sotiriou-Mavridis/ 98e681a2f8bb92c01706187c1b30e39e25fc9f1b
- Steger, M. F., Frazier, P. A., Oishi, S., & Kaler, M. (2014). The meaning in life questionnaire: Assessing the presence and search for meaning in life. *Journal of Counseling Psychology*, 61(1), 57–68. https://psycnet.apa.org/doiLanding?doi=10.1037%2Fa0035759
- Van, B., Lemburg, R., & Schmid, R. (2016). Rethinking student engagement: A closer look at learning environments. *Proceedings of the 11th International Conference on Education and New Learning Technologies*, 45–51. https://library.iated.org/view/ VAN2016RETHINKING
- Yazdanpanah, L., & Arjmandi, R. (2017). Designing a model for predicting academic performance based on self-regulated learning, motivation, and learning styles of university students. *International Journal of Learning and Teaching*, 9(3), 289–298. https: //www.sciencedpublishinggroup.com/journal/paperinfo?journalid=677&doi=10.11648/ j.ijlt.20170903.16