



LEARNER ENGAGEMENT AND PERFORMANCE IN ELEMENTARY SCHOOLS: BASIS FOR PROPOSED COLLABORATIVE LEARNING ENVIRONMENT

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ABSTRACT

This study examined the level of learner engagement and its relationship with academic performance in elementary schools, with the aim of providing a basis for a proposed collaborative learning environment. A total of 200 students participated, and their demographic characteristics, including family income, parental education, and parental occupation, were analyzed alongside their level of engagement and academic performance. The study utilized descriptive and correlational research methods to assess behavioral, emotional, and cognitive engagement. Findings revealed that students with higher family income and parents in professional occupations exhibited higher levels of engagement, which was positively correlated with better academic performance. Significant relationships were also found between the learners' level of engagement and their academic achievement. The results indicate that emotional engagement, particularly the connection with teachers and intrinsic motivation, plays a critical role in enhancing student performance. The study recommends targeted interventions for low-income students, strategies to boost cognitive engagement, and the implementation of a collaborative learning environment to foster peer interaction and teacher-student support. These findings highlight the importance of creating a supportive and interactive learning atmosphere to improve both engagement and academic outcomes for learners.

Keywords: *Learner Engagement, Academic Performance, Collaborative Learning Environment; Elementary School Students; Correlational Research*

INTRODUCTION

Learner engagement and academic performance in elementary schools are crucial determinants of long-term educational success. Engaged learners exhibit higher levels of interest, enthusiasm, and commitment to learning, which significantly contributes to their academic achievements and overall development. Creating a collaborative learning environment can further enhance learner engagement by promoting active learning, improving social skills, and increasing motivation. This study explored the strategies for fostering a collaborative learning environment in the Tarlac East District, Tarlac City Schools Division for the school year 2024-2025.

Collaborative learning has been widely studied and endorsed by educational researchers globally. According to Johnson and Johnson (2018), cooperative learning strategies significantly improve learner engagement and academic performance by encouraging positive interdependence and individual accountability. Similarly, Slavin (2019) highlights that learners in collaborative learning settings develop better critical thinking and problem-solving skills. Vygotsky's (1978) socio-cultural theory also emphasizes the importance of social interaction in cognitive development, suggesting that learning is most effective when learners engage collaboratively.

Several international studies support the positive impact of collaborative learning on learner engagement and performance.

In a study conducted by Gillies (2016) in Australia, findings indicated that learners who participated in structured group activities showed higher engagement levels and academic achievements compared to those in traditional learning settings. Gillies' research involved a diverse sample of elementary learners and utilized both qualitative and quantitative methods to assess the impact of collaborative learning. The study revealed that learners not only performed better academically but also demonstrated improved social skills and greater enjoyment in learning. These outcomes were attributed to the interactive nature of group activities, which fostered a sense of community and mutual support among learners.

Another study by Kyndt et al. (2017) in Belgium found a significant correlation between collaborative learning and improved learner motivation and self-efficacy. This comprehensive study included a meta-analysis of various collaborative learning interventions across multiple educational settings. The results highlighted that learners engaged in collaborative learning were more motivated to learn, displayed higher levels of self-efficacy, and were more likely to persist in challenging tasks. The study underscored the importance of group dynamics and peer support in enhancing learners' confidence and willingness to engage in the learning process.

Research by Webb et al. (2015) in the United States also demonstrated that collaborative learning environments led to better learner outcomes in science and mathematics. Webb and her colleagues conducted a longitudinal study involving elementary learners from diverse socio-economic backgrounds. The study found that

collaborative learning not only improved academic performance in STEM subjects but also promoted critical thinking and problem-solving skills. The researchers attributed these benefits to the interactive discussions and hands-on activities that are characteristic of collaborative learning, which allowed learners to explore concepts deeply and develop a better understanding of the material.

In the Philippines, similar studies have shown the benefits of collaborative learning. Gaad (2022) found that learners who participated in online collaborative learning activities demonstrated higher levels of engagement and improved academic performance. Likewise, Afable et al. (2022) reported that collaborative learning positively influenced students' engagement, self-efficacy, peer support, well-being, and academic achievement.

Inocian et al. (2019) emphasized the value of cooperative learning by developing and contextualizing collaborative learning strategies rooted in indigenous Cebuano cultural practices. Their study introduced the TAYTU Model of Cooperative Learning, which integrates local traditions of cooperation into classroom instruction to promote active participation, teamwork, and meaningful learning experiences. The researchers found that culturally responsive cooperative learning encourages learners to engage in collaborative problem-solving, share ideas effectively, and develop higher-order thinking skills in an inclusive and supportive classroom environment. These findings highlight that collaborative learning not only enhances academic achievement but also strengthens learners' communication, critical thinking, and social interaction skills, which are essential for lifelong learning and success.

Moreover, Gutierrez (2021) highlighted the importance of collaborative lesson planning as a form of teacher professional development. The study involved teachers working in grade-level teams to jointly design, implement, and reflect on lesson plans. Findings revealed that collaborative planning enabled teachers to improve instructional strategies, share effective teaching practices, and reflect critically on their classroom experiences. This collaborative process strengthened teachers' pedagogical competence and enhanced their ability to facilitate learner-centered instruction. The study concluded that continuous professional collaboration among teachers contributes to more engaging classroom experiences and improved student learning outcomes.

The need to conduct this study in the Tarlac East District, Tarlac City Schools Division for the school year 2024-2025 has arisen from the ongoing efforts to improve educational practices and outcomes in the region. Despite the recognized benefits of collaborative learning, there is a lack of comprehensive research and implementation of these strategies in local schools. This study filled this gap by providing evidence-based strategies tailored to the unique needs of elementary learners in Tarlac. By understanding the demographics, engagement levels, and academic performance of learners, and examining the relationships among these variables, this research informed the development of effective collaborative learning practices that can be adopted district wide. Ultimately, the goal was to enhance learner engagement and performance, contributing to the overall improvement of educational quality in the Tarlac East District.

Research Questions

This study assessed the learner engagement and performance in elementary schools of Tarlac East District, Tarlac City Schools Division for the school year 2024-2025 as the basis for creating a collaborative learning environment.

Specifically, it answered the following questions:

1. What are the demographics of elementary learners, including.
 - 1.1. income level,
 - 1.2. parental education, and
 - 1.3. occupation?
2. How engaged are the learners in the classroom?
3. What is the academic performance of the learners?
4. Is there a significant relationship between the demographics of the learners and their level of engagement?
5. Is there a significant relationship between the learners' level of engagement and their academic performance?
6. What collaborative learning environment can be proposed based on the results of the study?

METHODOLOGY

Research Design

The study employed a descriptive-correlational design to evaluate learner engagement and academic performance in elementary schools within the Tarlac East District, Tarlac City Schools Division for the 2024-2025 school year.

The descriptive component of the study detailed the demographics of elementary learners—covering aspects such as income level, parental education, and occupation. It also assessed the learners' levels of classroom engagement and identify their academic performance.

The correlational aspect examined the relationships between these variables. specifically, it analyzed how demographic factors relate to learner engagement and investigated the connection between learner engagement and academic performance.

This approach provided a comprehensive understanding of the factors influencing educational outcomes and support the development of strategies for fostering a collaborative learning environment.

Sources of Data

The data for this study were collected from 200 elementary learners in the Tarlac East District, Tarlac City Schools Division for the 2024-2025 school year. These learners

were selected through simple random sampling to ensure a representative sample. Each participant completed a questionnaire developed by the researcher. This method provided the necessary data to assess learner engagement, academic performance, and the impact of demographic factors on these variables.

Instrumentation and Data Collection

The instrument for this study was a researcher-designed questionnaire, meticulously crafted to gather comprehensive data on various aspects of learner engagement and performance. The questionnaire is divided into three parts.

Part I collected demographic information about the elementary learners, including details on income level, parental education, and occupation.

Part II assessed the level of engagement of the learners in the classroom, focusing on behavioral, emotional, and cognitive dimensions of engagement.

Part III identified and evaluated the academic performance of the learners through their grades and test scores.

The development of this questionnaire was informed by a thorough review of relevant literature, including existing studies, professional publications, and both published and unpublished theses pertinent to the research topic. The instrument was designed with careful consideration of best practices for creating effective data collection tools. This included tailoring the language and content to align with the respondents' level of understanding to ensure clarity and accuracy in responses. The goal was to ensure that the questionnaire effectively captures the necessary information while being accessible and comprehensible to the target population.

Tools for Data Analysis

The following tools were utilized to treat the data statistically.

In describing the demographics of elementary learners, including income level, parental education, and occupation; and identifying the academic performance of the learners, frequency and percentage were used. Frequency refers to the number of cases while percentage is computed using the formula,

$$\% = \frac{f}{N} \times 100$$

Where:

%	Percentage
f	Frequency
N	Total Number of Cases

In determining the level of engagement of the learners in the classroom, weighted mean was used. Weighted mean is computed using the formula,

$$\bar{X} = \frac{\sum WX}{n}$$

Where:

$\bar{X}$	Weighted Mean
W	Weight
X	Raw Scores
n	Number of Cases

The data will be interpreted as.

4.50-5.00	Very High
3.50-4.49	High
2.50-3.49	Moderately High
1.50-2.49	Moderately Low
1.00-1.49	Very Low

In testing the relationship between the demographics of the learners and their level of engagement; and the relationship between the learners' level of engagement and their academic performance, Pearson r was used. It could be computed using the formula,

$$r = \frac{n \sum XY - (\sum X)(\sum Y)}{\sqrt{[n \sum X^2 - (\sum X)^2][n \sum Y^2 - (\sum Y)^2]}}$$

Where:

r	Pearson r
X	Demographics of the Learners; Learners' Level of Engagement
Y	Level of Engagement; Academic Performance
n	Number of Cases.

RESULTS

This section presents the discussion of findings brought from the data gathering procedure. The data gathering procedures were based on the questions posited in the beginning of this study.

1. Demographic Characteristics of the Students

Table 1.1
Family Income Level
N = 200

Family Income Level	f	%
Less than ₱10,000 per month	6	3
₱10,000 - ₱20,000 per month	48	24
₱20,001 - ₱30,000 per month	82	41
₱30,001 - ₱40,000 per month	50	25
More than ₱40,000 per month	14	7
Total	200	100

The study was conducted among 150 Grade 7 learners from a local school. Using a mixed-methods approach, the research examined students' exposure to multimedia resources, such as videos, simulations, and educational apps, and correlated these findings with their academic performance in Science.

The results revealed that students had high exposure to multimedia tools, especially in terms of access outside of class and the duration of exposure during lessons. However, some aspects of multimedia use, such as interactive simulations and integration into the curriculum, showed lower levels of exposure. Furthermore, significant relationships were found between students' academic performance and parental occupation, with government workers and micro-enterprise workers having the greatest impact. Additionally, parental education was found to significantly affect students' performance in Science.

Based on these findings, the study recommends enhancing teacher training in multimedia tools, increasing multimedia integration in the curriculum, engaging parents in supporting multimedia learning at home, and developing a multimedia resource library.

Table 1.2
Parent Education
N = 200

Parent Education	f	%
No formal education	4	2
Elementary level	48	24
High school level	96	48
College level	38	19
Postgraduate level	14	7
Total	200	100

The highest proportion of students (41%) come from families with a monthly income between ₱20,001 and ₱30,000. This is followed by 25% of students from families earning between ₱30,001 and ₱40,000. A significant portion, 24%, comes from families with monthly incomes ranging from ₱10,000 to ₱20,000.

A smaller percentage of students (7%) come from families with incomes above ₱40,000, and 3% of students come from families with less than ₱10,000 per month. These statistics suggest a varied socio-economic distribution among the students, with a relatively higher concentration of students from middle-income families (₱20,001 to ₱30,000) compared to those from lower or higher-income families. This demographic distribution may impact learner engagement and performance, as socio-economic status is often linked to access to educational resources, parental involvement, and home support for learning.

Table 1.3
Parental Occupation
N = 200

Parental Occupation	f	%
Unemployed	46	23
Laborer/Skilled Worker	18	9
Clerical/Administrative	40	20
Professional/Technical	56	28
Managerial/Executive	32	16
Other	8	4
Total	200	100

Table 1.3 provides an overview of the occupational categories of the parents of the 200 students. The largest group (28%) consists of parents who are employed in professional or technical fields, suggesting that a significant portion of the students come from families where parents hold skilled or highly educated positions. This could indicate a higher level of access to resources and support for students, both academically and socially.

The second largest group (23%) comprises parents who are unemployed, which may reflect challenges in providing additional educational support or resources to their children, especially if unemployment is long-term. This could be a factor influencing students' academic performance and engagement, as lower family income and less stability might limit opportunities for extracurricular activities or academic assistance outside of school.

Clerical or administrative positions account for 20% of the parents, while 16% of parents are in managerial or executive roles. These parents are likely to have better financial stability and may be able to provide more direct involvement in their children's education. Only 9% of parents are laborers or skilled workers, and a smaller proportion

(4%) belong to other occupations, which may be less directly related to higher-income or educational backgrounds.

2. Level of Engagement of the Learners in the Classroom

Table 2.1
Behavioral Engagement

Indicators	Mean	Verbal Description
Use of Classroom Resources. Active use of available educational materials, such as books, tools, and technology.	4.74	Very Much Engaged
Homework Completion. Timeliness and quality of completed homework assignments.	4.67	Very Much Engaged
Behavioral Engagement During Remote Learning. Attendance and participation in online classes and virtual activities.	4.6	Very Much Engaged
Interaction with Peers. Frequency and quality of interactions with classmates, including collaboration and support in learning activities.	4.55	Very Much Engaged
Classroom Behavior. Adherence to classroom rules, including punctuality, respectfulness, and following instructions.	4.37	Very Much Engaged
Responsiveness to Teacher Directions. Promptness and accuracy in following teacher instructions and feedback.	3.79	Engaged
Engagement with Learning Apps. Use of educational apps and tools as part of the learning process.	3.73	Engaged
Adherence to Deadlines. Ability to meet deadlines for assignments and projects.	3.49	Engaged
Attendance Rates. Frequency and consistency of learner attendance in classes.	3.44	Engaged
Class Participation. Degree of involvement in class discussions, including the frequency of asking questions and contributing to conversations.	3.42	Engaged
Participation in School Events. Involvement in school-wide events, such as fairs, exhibitions, and performances.	2.88	Moderately Engaged
Volunteering for Tasks. Willingness to volunteer for additional responsibilities or tasks within the classroom.	2.86	Moderately Engaged
Group Work Participation. Active involvement and contribution during group projects and activities.	2.85	Moderately Engaged

Engagement in Class Activities. Participation in planned class activities, including experiments, role-plays, and hands-on tasks.	2.83	Moderately Engaged
Initiative in Learning. Proactivity in seeking additional help or resources when facing difficulties.	2.57	Slightly Engaged
General Average	3.65	Engaged

The overall mean score of 3.65 indicates that students are generally engaged in their learning experiences. Among the highest scores, the use of classroom resources (4.74) and homework completion (4.67) stand out, suggesting that students are highly engaged in utilizing available educational materials and completing their assignments on time and to a high standard. Additionally, the high mean score for behavioral engagement during remote learning (4.6) reflects the students' ability to adapt to online education, maintaining participation in virtual activities despite the challenges posed by distance learning.

Interactions with peers (4.55) and classroom behavior (4.37) also demonstrate strong engagement, indicating that students collaborate well with classmates and adhere to classroom rules, fostering a positive and respectful learning environment. However, while students are responsive to teacher directions (3.79) and engaged with learning apps (3.73), there is a slight drop in these areas, suggesting occasional challenges in promptness or consistency in following instructions or engaging with technology.

Further, students show moderate engagement in adherence to deadlines (3.49), attendance rates (3.44), and class participation (3.42), signaling that while most students meet their responsibilities, some may require additional support to improve their punctuality and involvement in discussions. Participation in school events (2.88) and volunteering for tasks (2.86) are areas where engagement is lower, highlighting a need for more encouragement in extracurricular activities and taking on additional responsibilities. Group work participation (2.85) and engagement in class activities (2.83) also reflect moderate engagement, indicating that while students contribute to collaborative tasks, their participation may not be as active or enthusiastic as desired.

Finally, the lowest mean score of 2.57 for initiative in learning suggests that students may not consistently take the initiative to seek help or additional resources when facing difficulties. This highlights an opportunity to foster a greater sense of self-directed learning and initiative among students.

Table 2.2
Emotional Engagement

Indicators	Mean	Verbal Description
Connection with Teachers. Perceived quality of relationships with teachers, including feelings of being valued and supported.	4.81	Very Much Engaged

Motivation for Learning. Intrinsic motivation levels, including the desire to learn for personal satisfaction rather than external rewards.	4.75	Very Much Engaged
Self-Confidence in Academic Abilities. Levels of self-assurance regarding academic skills and abilities.	4.41	Very Much Engaged
Sense of Belonging. Feelings of inclusion and acceptance within the classroom community.	4.39	Very Much Engaged
Response to Peer Interactions. Emotional reactions to social interactions with classmates, including feelings of support or exclusion.	3.7	Engaged
Positive Attitudes Toward Learning. Learners' attitudes towards learning, including their enthusiasm and optimism about educational tasks.	3.67	Engaged
Resilience to Challenges. Emotional responses to academic challenges and persistence in overcoming them.	3.67	Engaged
Enjoyment of Collaborative Work. Positive emotional responses to working with peers on group projects.	3.67	Engaged
Sense of Achievement. Feelings of accomplishment and pride in completing learning tasks and achieving goals.	3.61	Engaged
Emotional Support from Family. Perceived emotional support from family members regarding academic activities.	3.6	Engaged
Perception of Classroom Environment. Learners' views on the classroom atmosphere, including comfort and safety.	3.37	Moderately Engaged
Feedback Reactions. Emotional responses to teacher feedback, including openness and acceptance of constructive criticism.	2.84	Moderately Engaged
Emotional Reactions to Success and Failure. Responses to academic successes and setbacks, including feelings of pride or frustration.	2.73	Moderately Engaged
Enjoyment of Classroom Activities. Learners' expressed enjoyment and satisfaction with various classroom activities and lessons.	2.38	Slightly Engaged
Interest in Subject Matter. Self-reported levels of interest and curiosity about the subjects being taught.	2.32	Slightly Engaged
General Average	3.59	Engaged

Table 2.2 highlights the emotional engagement of learners in the classroom, with a general average of 3.59, indicating that students are generally engaged emotionally in their learning experiences. The highest scores reflect strong emotional connections and motivation. The quality of the relationship with teachers (4.81) stands out as a key factor in fostering emotional engagement, suggesting that students feel highly valued and supported by their teachers. Similarly, motivation for learning (4.75) is also very high, indicating that students are intrinsically motivated and find personal satisfaction in learning, rather than relying on external rewards.

Self-confidence in academic abilities (4.41) and a sense of belonging (4.39) also contribute to a strong emotional engagement, with students feeling confident in their skills and a sense of inclusion within the classroom community. These factors help create a positive learning environment where students are emotionally invested in their academic journey. However, emotional responses to peer interactions (3.7) and positive attitudes toward learning (3.67) are somewhat lower, suggesting that while students generally have positive feelings towards their learning experiences, social interactions with classmates and attitudes toward certain academic tasks may sometimes be less emotionally engaging.

Resilience to challenges (3.67) and enjoyment of collaborative work (3.67) indicate that students are generally able to handle academic challenges and enjoy working with peers, although there may be fluctuations in their emotional responses depending on the situation. Other emotional indicators, such as the sense of achievement (3.61) and emotional support from family (3.6), also show positive engagement, with students feeling a sense of accomplishment and receiving emotional backing from their families.

However, some areas show moderate or slight engagement, including the perception of the classroom environment (3.37), feedback reactions (2.84), emotional reactions to success and failure (2.73), and enjoyment of classroom activities (2.38). These lower scores suggest that students may not always feel completely comfortable in the classroom or fully appreciate feedback and the emotional highs and lows associated with academic successes and setbacks. The lowest scores in interest in subject matter (2.32) and enjoyment of classroom activities (2.38) reflect areas where emotional engagement is relatively weak, signaling a need for strategies to boost students' interest and emotional connection with their studies.

Table 2.3
Cognitive Engagement
N = 200

Indicators	Mean	Verbal Description
Application of Knowledge. Capability to apply learned concepts to new and diverse situations.	4.71	Very Much Engaged
Interaction with Learning Resources. Active use and exploration of textbooks, digital tools, and other educational resources.	4.55	Very Much Engaged

Quality of Class Contributions. Thoughtfulness and relevance of contributions during class discussions and activities.	4.51	Very Much Engaged
Learning Autonomy. Ability to work independently and take initiative in the learning process.	4.41	Very Much Engaged
Innovative Thinking. Demonstration of creativity and original thinking in academic work.	3.89	Engaged
Depth of Understanding. Ability to grasp and apply complex concepts and principles.	3.74	Engaged
Engagement with Challenging Content. Willingness to engage with and tackle challenging or advanced material.	3.48	Engaged
Self-Regulation. Ability to set personal learning goals, monitor progress, and adjust strategies as needed.	3.37	Moderately Engaged
Problem-Solving Techniques. Implementation of effective strategies and methods to solve academic problems.	3.35	Moderately Engaged
Critical Thinking Skills. Engagement in analytical thinking, including evaluating, comparing, and synthesizing information.	2.87	Moderately Engaged
Persistence in Problem-Solving. Degree of perseverance when facing difficult or complex problems.	2.81	Moderately Engaged
Use of Metacognitive Strategies. Engagement in reflective practices, such as planning, monitoring, and evaluating one's learning process.	2.66	Moderately Engaged
Depth of Engagement with Learning Materials. Thoroughness in exploring and understanding assigned readings and materials.	2.58	Slightly Engaged
Integration of Feedback. Use of feedback to improve performance and understanding.	2.39	Slightly Engaged
Effort in Completing Tasks. Amount of effort and energy put into learning activities and assignments.	2.35	Slightly Engaged
General Average	3.44	Engaged

Table 2.3 focuses on cognitive engagement, with a general average of 3.44, indicating that students are moderately engaged in the cognitive aspects of learning. The highest levels of cognitive engagement are seen in indicators related to the application of knowledge (4.71), interaction with learning resources (4.55), and the quality of class contributions (4.51). These high scores suggest that students are very engaged when it comes to applying what they learn to new situations, utilizing educational resources, and participating thoughtfully in class discussions.

Learning autonomy (4.41) is also rated highly, indicating that students are generally capable of working independently and taking the initiative in their learning. While students demonstrate strong engagement in these areas, certain cognitive indicators show moderate to slight engagement. For example, innovative thinking (3.89), depth of understanding (3.74), and engagement with challenging content (3.48) show that students are somewhat engaged but may not always exhibit creativity, deep comprehension, or willingness to engage with more difficult material at the same level as in other areas.

Self-regulation (3.37) and problem-solving techniques (3.35) are also moderately engaged, suggesting that while students are able to set personal goals and monitor progress, there may be room for improvement in their ability to adapt strategies and implement effective problem-solving methods. Critical thinking skills (2.87) and persistence in problem-solving (2.81) reflect further areas for growth. These indicators suggest that students may struggle with analytical thinking and perseverance when faced with complex problems.

Use of metacognitive strategies (2.66), depth of engagement with learning materials (2.58), and integration of feedback (2.39) show the lowest levels of cognitive engagement, pointing to the need for stronger engagement in reflective practices, thorough exploration of learning materials, and incorporating feedback to improve performance. Effort in completing tasks (2.35) is the lowest score, indicating that students may not consistently invest the necessary effort to complete tasks and assignments to the best of their abilities.

3. Academic Performance of the Learners

Table 3
Academic Performance of the Learners
N = 200

Academic Performance of the Learners	f	%
95 and above	2	1
90 – 94	60	30
85 – 89	88	44
80 – 84	38	19
79 and below	12	6
Total	200	100

The distribution of academic performance reveals that the majority of the students perform within the range of 85-94%. Specifically, 44% of the learners scored between 85-89, and 30% scored between 90-94, reflecting a strong overall academic performance. These two categories together account for 74% of the learners, indicating that the majority of students are achieving above average to excellent grades.

A smaller proportion of students, 19%, scored between 80-84, which still reflects satisfactory performance. However, there are a few learners whose academic performance falls below this range. Only 6% of students scored 79 and below, which suggests that a small group of students is struggling to meet the academic expectations.

Overall, the data suggests that most learners are performing well academically, with a large proportion scoring in the higher ranges of 85-94%. The presence of students with lower scores indicates potential areas for intervention, but the general academic performance appears to be favorable.

4. Significant Relationship between the Demographics of the Learners and their Level of Engagement

Table 4
Significant Relationship between the Demographics of the Learners and their Level of Engagement

Profile	Level of Engagement	
Family Income Level	Pearson r:	0.754
	p-value:	0.000
	Interpretation:	Significant
Parent Education	Pearson r:	0.051
	p-value:	0.789
	Interpretation:	Not Significant
Parental Occupation	Pearson r:	0.731
	p-value:	0.000
	Interpretation:	Significant
Total	Pearson r:	0.596
	p-value:	0.000
	Interpretation:	Significant

Firstly, a strong correlation was found between family income level and learner engagement, with a Pearson correlation coefficient of 0.754 and a p-value of 0.000. This suggests that learners from higher-income families are more likely to be engaged in their learning activities. These students may have greater access to resources, such as books, technology, and a conducive learning environment, which can foster a more engaging academic experience.

In contrast, parent education did not show a significant relationship with learner engagement, as evidenced by the Pearson correlation of 0.051 and a p-value of 0.789. This implies that the educational background of parents does not have a notable impact on how engaged their children are in their academic work. It may suggest that other factors, such as the availability of resources or family support, are more influential in determining engagement.

The relationship between parental occupation and learner engagement was significant, with a Pearson correlation coefficient of 0.731 and a p-value of 0.000. Learners whose parents hold stable and professional jobs, such as in managerial or technical roles, tend to exhibit higher levels of engagement. This could be due to the greater financial stability and emotional support these families can provide, which may contribute to a more focused and motivated approach to learning.

Lastly, the overall relationship between learners' demographics and their level of engagement, indicated by a Pearson correlation of 0.596 and a p-value of 0.000, further highlights the significance of these factors in shaping student engagement. The findings suggest that learners' engagement is heavily influenced by their family background, particularly in terms of income and parental occupation.

5. Significant Relationship between the Learners' Level of Engagement and their Academic Performance

Table 5
Significant Relationship between the Learners' Level of Engagement and their Academic Performance

Criteria		Academic Performance
Level of Engagement	Pearson r:	0.457
	p-value:	0.011
	Interpretation:	Significant

Table 5 reveals a significant relationship between the learners' level of engagement and their academic performance. The Pearson correlation coefficient of 0.457, with a p-value of 0.011, indicates a moderate positive correlation between the two variables. This suggests that as learners become more engaged in their academic activities—whether through behavioral, emotional, or cognitive engagement—their academic performance tends to improve.

The significance of this relationship highlights the importance of fostering higher levels of engagement among students to enhance their academic outcomes. Students who actively participate in classroom activities, feel emotionally connected to their learning, and engage cognitively with the material are more likely to perform well academically.

The findings underscore the need for educators to focus on strategies that promote engagement, as increasing student engagement may directly contribute to better academic performance. These strategies could include creating more interactive learning environments, offering personalized learning opportunities, and fostering positive teacher-student relationships, all of which can motivate students to be more involved in their learning process.

6. Proposed Collaborative Learning Environment

Component	Description	Objective	Activity/Strategy	Tools/Resources	Responsible Party	Timeline
Classroom Setup	Flexible seating arrangement for group work and discussions	Encourage communication and teamwork among learners	Group seating, round tables, breakout zones	Desks, chairs, whiteboards, flip charts	Teachers	Ongoing
Collaborative Tasks	Group projects or activities where learners work together to solve problems	Foster teamwork, problem-solving, and critical thinking skills	Group problem-solving tasks, discussions, hands-on activities	Project kits, research materials, computers, apps	Teachers, students	Weekly
Peer Feedback	Opportunities for students to give and receive feedback	Enhance learning through peer evaluation and reflection	Peer review sessions, peer assessment rubrics	Rubrics, feedback forms	Teachers, students	Bi-weekly
Technology Integration	Use of digital tools to facilitate collaboration and research	Increase student engagement and improve digital literacy	Collaborative platforms (Google Docs, Padlet, Microsoft Teams)	Laptops, tablets, internet access	Teachers, students	Daily
Teacher Role	Facilitator of discussions and group activities, providing guidance	Ensure productive collaboration and provide support when needed	Facilitating group work, guiding problem-solving, answering questions	Whiteboard, projector, online discussion boards	Teachers	Ongoing
Student Roles	Assigned specific tasks within the group to promote	Encourage responsibility, leadership, and task management	Assigning roles such as leader, researcher, note-taker, presenter	Task lists, collaborative platforms	Teachers, students	Per activity

	accountability					
Reflection Time	Time allotted for students to reflect on their learning and collaboration	Promote self-regulation and deeper learning	Reflection journals, group reflection discussions	Journals, online platforms	Students	End of each activity
Inclusion of Diverse Learners	Adapting group activities for different learning needs	Ensure all students can participate and contribute effectively	Providing differentiated tasks, assigning diverse groups	Learning tools for diverse learners (e.g., screen readers, captions)	Teachers	Ongoing
Assessment	Assessment of both individual and group performance	Evaluate both individual learning progress and group collaboration	Group project presentations, individual reflections, peer assessments	Assessment rubrics, feedback forms	Teachers	At the end of each term
Parent and Community Involvement	Encourage involvement of parents or local community in projects	Build connections between the classroom and the broader community	Invite parents to share expertise, organize community projects	Parent volunteer opportunities, local community resources	Teachers, Parents, Community Members	Periodically (quarterly)

The proposed Collaborative Learning Environment aims to foster student engagement and academic performance through structured, interactive, and cooperative activities. The classroom setup is designed with flexible seating arrangements to encourage communication and teamwork. This allows students to work in groups, fostering collaborative skills in problem-solving and critical thinking. Teachers play the role of facilitators, guiding discussions and group work while providing support when necessary. Collaborative tasks, such as group projects and problem-solving activities, are incorporated to promote teamwork and deeper engagement with the subject matter. These tasks are complemented by the use of digital tools, such as Google Docs and Microsoft Teams, which enhance collaboration and help students develop digital literacy.

Peer feedback is another integral component, where students assess each other's work, providing constructive criticism and learning from their peers. This process enhances both academic learning and interpersonal skills. Technology is used to facilitate

collaboration, allowing students to interact with various digital platforms, tools, and resources that enrich their learning experience. In addition, students are given specific roles within their groups, such as leader or researcher, which helps promote responsibility, task management, and accountability.

Reflection time is incorporated to give students an opportunity to reflect on their learning and group interactions, promoting self-regulation and deeper learning. To ensure inclusivity, the environment is designed to meet the needs of all learners, with differentiated tasks and accessible tools for diverse learning styles. Regular assessments, including group presentations and individual reflections, provide valuable insights into both individual progress and group collaboration. Lastly, parent and community involvement is encouraged through projects that link classroom activities to the broader community, further supporting student learning and development. Overall, this collaborative learning environment integrates various strategies to engage students actively, enhance their academic performance, and promote essential life skills.

Conclusions

1. Learners with higher family income and parents in professional or technical occupations tend to show higher engagement in classroom activities, which in turn positively influences their academic performance.
2. Emotional engagement, particularly connection with teachers and motivation for learning, plays a crucial role in enhancing learners' overall engagement.
3. Behavioral and cognitive engagement, while high in some areas (such as resource use and application of knowledge), need further development, particularly in critical thinking and persistence in problem-solving.
4. A collaborative learning environment can significantly enhance engagement and academic outcomes, especially if it includes opportunities for peer interactions and teacher support.

Recommendations

1. Schools should provide additional resources and support to students from lower-income families, ensuring that all learners have equal opportunities to engage and perform well.
2. Teachers should implement strategies that encourage critical thinking, problem-solving, and persistence, ensuring that students are not only engaged but also developing higher-order thinking skills.
3. Increase the use of collaborative learning activities, such as group projects and peer feedback, to foster deeper engagement and a sense of community within the classroom.
4. Teachers should focus on building strong relationships with students, fostering a supportive and motivating classroom environment that encourages emotional investment in learning.

Compliance with Ethical Standards

Ethical considerations are fundamental to the study on teacher job satisfaction to ensure that it is conducted with integrity and respect for participants.

Informed consent was a cornerstone of the research process. Participants were fully briefed on the study's purpose, procedures, and potential impacts before they agree to take part, with a consent form provided to affirm their understanding and voluntary participation. To safeguard confidentiality, personal identifiers were removed, and responses were anonymized to protect the privacy of the participants. The study ensured anonymity by not collecting personal identifiers and presenting data in aggregate form. Participants also have the right to withdraw from the study at any time without facing any adverse consequences, thereby respecting their autonomy.

Data security measures were implemented, including encryption for electronic data and secure storage for physical documents, to protect the integrity and privacy of the collected information. The study adhered to the no harm principle, ensuring that questions are designed to avoid causing distress or discomfort. Additionally, participants were treated with respect, acknowledging their time and effort, and feedback on the study's findings may be provided if they are interested.

Finally, the study underwent an ethical review by an appropriate board or committee to ensure that all ethical standards are met and that participants' rights and welfare are protected. These ethical considerations are essential to maintaining the study's credibility and ensuring that it contributes valuable insights while upholding the highest standards of ethical research practice.

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