

Sense of Belonging and Autonomous Learning Ability as Determinants to Students' Engagement

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ABSTRACT

The research studied how sense of belonging and autonomous learning ability impact student engagement at Lorenzo S. Sarmiento Sr. National High School. The study measured engagement through the two factors which predict engagement through sense of belonging and autonomous learning ability. The research included 134 students who were studied through a quantitative-correlational design. The researchers used mean values together with Pearson r and multiple regression analysis to conduct their study. The results demonstrated that students established their strongest sense of belonging through three social connections which included peer connections and teacher support and school community experiences. Students demonstrated their ability to learn independently through their capacity to establish goals and which tasks to concentrate on and how to measure their progress. Students showed high engagement through their active participation and emotional involvement and mental concentration. The study showed strong positive relationships between sense of belonging and engagement and between autonomous learning ability and engagement which resulted in the null hypotheses being rejected. Students believed that all elements of sense of belonging and autonomous learning ability which they possessed were important elements which determined their level of engagement with others. Educators need to develop students' skills in belonging and autonomous learning to generate active participation which will lead to better results.

Keywords: Caregiving, Sense of Belonging, Autonomous Learning Ability, Students' Engagement, Philippines

INTRODUCTION

Student engagement was defined as the extent to which students were actively involved in learning through their behavioral participation, cognitive effort, and emotional connection to academic activities and the learning environment (Fredricks, 2020). Student engagement continued to decline worldwide, with students showing reduced behavioral, cognitive, and emotional involvement in learning activities (Fredricks et al., 2021). In Australia, public school students exhibited low participation, minimal classroom involvement, and poor attentiveness (Tomaszewski et al., 2023). In China, Chen et al. (2023) reported that many university students demonstrated only average or moderately low overall academic engagement. In England, students demonstrated lower participation in academic tasks, diminished presence in learning activities, and an overall decline in engagement across all dimensions (Quinlan et al., 2021).

A sense of belonging played a crucial role in students' lives, nurturing feelings of connection, acceptance, and inclusion within the school community. Students from a Catholic institution in Antique who considered the school as their home reported a stronger sense of belonging, reflecting the importance of feeling at home in the school environment (Suan & Magallanes, 2020). In Cebu, positive and supportive peer relationships gradually helped students develop a stronger sense of belonging, while peer rejection led some students to feel less secure (Montecillo et al., 2024).

Autonomous learning ability was an important skill for students, as it enabled them to take charge of their own learning by setting goals, monitoring progress, and clarifying the purpose of their studies (Cabrejas & Mendoza, 2023). Students who developed this ability became more self-directed, confident, and capable of managing their learning effectively. In Manila, high school students who actively planned and evaluated their learning process demonstrated greater persistence and motivation in online learning environments (Valdez & Gomes, 2024). Similarly, in Cebu, senior high school students who defined the purpose of their learning and employed self-regulated strategies reported higher learning satisfaction and commitment to academic tasks (Esperon et al., 2023). Additionally, students in Luzon who applied autonomous learning skills such as goal setting and self-monitoring showed increased engagement behaviorally, cognitively, and emotionally (Briones et al., 2023).

Schools in Davao City reported that students showed low participation and declining interest in learning activities (Cebelleros, 2024). In Davao del Sur, students continued to show low engagement in schools (Cabarle & Alburo, 2023). At the University of Mindanao, student engagement was consistently low among learners across different programs (Cullantes et al., 2024). Furthermore, in Davao de Oro, many students exhibited persistently low engagement in classroom activities and academic tasks (Sarona-Pedro & Villanueva, 2025).

However, despite the numerous studies that were conducted on students' engagement and related educational factors, no study had yet been conducted locally, particularly in the secondary schools of Mawab District, Davao de Oro, regarding students' sense of belonging, autonomous learning ability, and level of students' engagement. Hence, the researchers aimed to fill this gap by exploring the level of students' sense of belonging, the level of autonomous learning ability, and the level of students' engagement. The relationship among the variables was also determined in order to identify how students' sense of belonging and autonomous learning ability influenced their engagement, which contributed to meaningful and successful learning experiences. Additionally, this study intended to raise awareness among educators and school administrators and serve as a basis for the planning and implementation of student-centered programs and interventions that promoted inclusive learning environments, strengthened emotional connection, and enhanced independent learning.

Research Objectives

1. To determine the level of caregiving students' sense of belonging in terms of :
 - 1.1 perceived peer support
 - 1.2 perceived classroom comfort
 - 1.3 perceived isolation
 - 1.4 perceived faculty support
2. To determine the level of autonomous self-learning ability in terms of:
 - 2.1 clarifying the purpose of learning
 - 2.2 setting the learning goals
 - 2.3 evaluating the learning process
3. To determine the level of students' engagement in terms of:
 - 3.1 cognitive engagement
 - 3.2 affective engagement
 - 3.3 behavioral engagement

4. To determine the significant relationship between sense of belonging and students' engagement of caregiving student.
5. To determine the significant relationship between autonomous self-learning ability and students' engagement of caregiving student.
6. To determine which of the domains in sense of belonging would significantly influence student engagement of caregiving student.
7. To determine which of the domains in autonomous self-learning ability would significantly influence student engagement of caregiving students.

METHODOLOGY

This study utilized a quantitative, non-experimental research design that applied descriptive correlational techniques to describe the hypothetical existence of a relationship between sense of belonging, autonomous self-learning ability, and student engagement among secondary school students. Since the purpose of the study was to identify whether a significant relationship existed between independent and dependent variables, the descriptive correlational method was considered the most appropriate. A correlational research design investigated the relationship between these variables without manipulating or controlling them (Creswell & Creswell, 2018).

The correlation reflected both the strength and direction of the relationship between sense of belonging, autonomous self-learning ability, and student engagement. In correlational research, data collection was conducted to examine the degree to which the variables were related and to determine their predictive influence (Gay et al., 2006). This survey design generated quantitative data on the phenomenon. The quantitative approach was suitable because it allowed standardized responses from the target participants using structured questionnaires. The process of data gathering relied on the administration of survey questionnaires that were validated by experts to ensure reliability and accuracy. The primary focus of this study was to determine the influence of sense of belonging and autonomous self-learning ability on the level of student engagement.

Population and Sample

Stratified simple random sampling was employed in selecting the respondents for this study. The subjects included 134 Caregiving students from Lorenzo S. Sarmiento Sr. National High School, located at Poblacion, Mawab, Davao de Oro. These students were considered ideal respondents due to their direct involvement in academic activities, aligning with the study's focus on students' engagement.

According to Kline (2005), a sample size of 100–200 respondents was considered medium, ensuring that every subgroup of students was properly represented in the findings. Shown in Table 1 were the respondents of the study, which comprised the students of Lorenzo S. Sarmiento Sr. National High School, Poblacion, Mawab, Davao de Oro, for the school year 2025–2026.

The distribution of the respondents, which is presented in Table 1, is done according to the classes of the respondents within the caregiving strand. 134 caregiving students were involved in this study, and they came from different class sections of Lorenzo S. Sarmiento Sr. National High School. This method guaranteed equal representation of students from all over the caregiving strand and at the same time kept the confidentiality and anonymity of all the participants.

Statistical Tool

The following statistical tools were utilized for the data analysis and interpretation.

Mean. This statistical tool was used to determine the level of students' sense of belonging, autonomous self-learning ability, and engagement among Mawab District Secondary Schools.

Pearson (r). This statistical tool was used to determine the significance of the relationship between sense of belonging and autonomous self-learning ability and students’ engagement among Mawab District Secondary Schools.

Multiple Regression Analysis. This statistical tool was used to determine the influence of sense of belonging and autonomous self-learning ability on students’ engagement among Mawab District Secondary Schools

RESULTS

Level of Sense of Belonging

Table 1 shows the perceived peer support, perceived classroom comfort, perceived isolation, perceived faculty support. The overall mean is 3.56 which is described as high, with a standard deviation of 0.47. The high level could be attributed to the high ratings the respondents gave in all indicators. This entails that the respondents' responses to the level of teaching competence are positive in terms of content knowledge learning environment.

The cited overall mean score was the result obtained from the following computed mean scores from highest to lowest: 4.01 or high for perceived peer support with a standard deviation of 0.66; 4.00 or high for perceived classroom comfort with a standard deviation of 0.71; 4.00 or high for perceived faculty support with a standard deviation of 0.69; and 2.69 or moderate for perceived isolation with a standard deviation of 0.98.

Table 1. Level of Sense of Belonging

Indicators	Mean	SD	Descriptive Equivalent
Perceived Peer Support	4.01	0.66	High
Perceived Classroom Comfort	4.00	0.71	High
Perceived Isolation	2.69	0.98	Moderate
Perceived Faculty Support	4.00	0.69	High
Overall	3.56	0.47	High

Level of Autonomous Learning Ability

Presented in Table 2 are the mean scores for the indicators of adversity quotient, with an overall mean score of 4.23, which is described as very high with a standard deviation of 0.52. The high level could be attributed to the high rating given by the respondents on most indicators in the items of clarifying the purpose of learning, setting learning goals and evaluating the learning process.

The cited overall mean score was the result obtained from the following computed mean scores from highest to lowest: 4.33 or very high for clarifying the purpose of learning with a standard deviation of 0.57; 4.20 or very high for evaluating the learning process with a standard deviation of 0.62 and 4.16 or high for setting learning goals with a standard deviation of 0.55.

Table 2. Level of Autonomous Learning Ability

Indicators	Mean	SD	Descriptive Equivalent
Setting Learning Goals	4.16	0.55	High
Evaluating The Learning Process	4.20	0.62	Very High
Clarifying the Purpose of learning	4.33	0.57	Very High
Overall	4.23	0.52	Very High

Level of Students' Engagement

Table 3 shows the level of students' learning engagement in terms of behavioral, emotional, and cognitive engagement. The overall mean is 4.21 described as very high, with a standard deviation of 0.61. The very high level could be attributed to the high ratings the respondents gave in all indicators. This entails that the respondents' responses to the level of students' engagement are much positive in terms of cognitive engagement behavioral engagement, affective engagement and behavioral engagement.

The cited overall mean score was the result obtained from the following computed mean scores from highest to lowest: 4.23 or very high for affective engagement with a standard deviation of 0.64, 4.21 or very high for behavioral engagement with a standard deviation of 0.69, and 4.17 or high for cognitive engagement with a standard deviation of 0.65.

Table 3. Level of Students' Engagement

Indicators	Mean	SD	Descriptive Equivalent
Cognitive Engagement	4.17	0.65	High
Affective Engagement	4.23	0.64	Very High
Behavioral Engagement	4.21	0.69	Very High
Overall	4.21	0.61	Very High

Significance on the Relationship between Sense of Belonging and Students' Engagement

One crucial purpose of this study is to determine whether or sense of belonging has a significant relationship with students' engagement. The Shapiro-Wilk Test for Bivariate Normality has a p-value of 0.587, indicating that the distribution is normal. Hence, a parametric test, Pearson's correlation, is suited for this distribution.

Table 4 shows that sense of belonging and students' engagement have a Pearson's r of 0.484, indicating a moderate positive relationship. Moreover, the p-value was <.001, which is less than the 0.05 significance level, indicating that the relationship is statistically significant. Therefore, the null hypothesis, which states that there is no significant relationship between sense of belonging and students' engagement, is rejected. This implies that higher levels of sense of belonging are associated with higher levels of students' engagement.

Table 4. Significance on the Relationship Between Sense of Belonging and Students' Engagement

	Pearson's r	p-value
Sense of Belonging- Students' Engagement	0.484	<.001

Significance of the Relationship Between Autonomous Learning Ability and Students' Engagement

Another crucial purpose of this study is to determine whether or not autonomous learning ability has a significant relationship with students' engagement. The Shapiro-Wilk Test for Bivariate Normality has a p-value of 0.210, indicating that the distribution is normal. Hence, a parametric test, Pearson's correlation, is suited for this distribution.

Table 5 shows that Autonomous learning ability and students' learning engagement have a Pearson's r-value of 0.880, indicating a strong positive relationship. Moreover, a p-value of <.001, less than the 0.05 p-value, means a significant relationship between Autonomous learning ability and students' engagement. Thus, the null hypothesis, which states no significant relationship between Autonomous learning ability and students' engagement, is rejected. This further implies that students' learning engagement tends to be observed when the Autonomous learning ability observed.

Table 5. Significance of the Relationships Between Teaching Approaches to Students’ Motivation

	Pearson’s r	p
Autonomous Learning Ability-Students’ Engagement	0.880	<.001

Significance on the Influence of the Domian of Sense of Belonging on Students’ Engagement

Presented in Table 6 is the regression analysis on the influence of the domains of sense of belonging on students’ engagement. The results show a computed F-value of 27.82 with a p-value of < .001, indicating that the overall regression model is statistically significant; thus, the null hypothesis is rejected at the 0.05 level of significance. The correlation coefficient (R) of 0.681 signifies a moderate positive relationship between sense of belonging and students’ engagement, while the coefficient of determination (R²) of 0.463 reveals that 46.3% of the variance in students’ engagement is explained by the domains of sense of belonging, with the remaining 53.7% attributed to other variables not included in the study. Among the predictors, perceived faculty support and perceived classroom comfort significantly influence students’ engagement, leading to the rejection of the null hypothesis, whereas perceived peer support and perceived isolation do not show significant influence, resulting in the non-rejection of the null hypothesis for these domains.

Table 6. Significance on the Influence of the Domain of Sense of Belonging on Students’ Engagement

Sense of Belonging	Coefficients	t	p	Decision $\alpha=0.05$
Perceived peer support	0.036	0.402	0.688	H ₀ is not rejected
Perceived Classroom Comfort	0.251*	2.818	0.006	H ₀ is rejected
Perceived Isolation	0.072	1.718	0.088	H ₀ is not rejected
Perceived Faculty Support	0.395*	5.154	< .001	H ₀ is rejected
Dependent Variable: Students’ Engagement				

* $p < 0.05$ $R = 0.681$ $R^2 = 0.463$ $F\text{-value} = 27.82$ $p < .001$

Significance on the Influence of the domain of Autonomous Learning Ability on Students’ Engagement

Presented in Table 7 is the regression analysis on the influence of the domains of autonomous learning ability on students’ engagement. The results show a computed F-value of 154.0 with a p-value of < .001, indicating that the overall regression model is statistically significant and that the null hypothesis is rejected at the 0.05 level of significance. The correlation coefficient (R) of 0.883 signifies a very strong positive relationship between autonomous learning ability and students’ engagement, while the coefficient of determination (R²) of 0.780 reveals that 78.0% of the variance in students’ engagement is explained by the domains of autonomous learning ability, namely setting the learning goal, evaluating the learning process, and clarifying the purpose of learning, with the remaining 22.0% attributed to other variables not included in the study. All domains significantly influence students’ engagement ($p < .001$), with evaluating the learning process emerging as the strongest predictor, followed by clarifying the purpose of learning and setting the learning goal.

Table 7. Significance on the Influence of the domain of Autonomous Learning Ability on Students’ Engagement

Autonomous Learning ability	Coefficients	t	p	Decision $\alpha=0.05$
Setting the learning goal	0.242	3.397	<.001	H ₀ is rejected

Evaluating the learning process	0.441	6.855	<.001	H ₀ is rejected
Clarifying the purpose of learning	0.342	5.463	<.001	H ₀ is rejected
Dependent Variable: Students' engagement				

* $P < 0.05$ $R = 0.883$ $R^2 = 0.780$ $f\text{-value} = 154.0$ $p < .001$

DISCUSSIONS

Level of Sense of Belonging

The findings regarding the sense of belonging of student revealed that the level of student, sense of belonging was reported as high, suggesting a significant presence of different factors that are present in student at Lorenzo S. Sarmiento Sr. National High School. It is greatly highlighted in the result of the study that students' engagement is highly affected by autonomous learning ability. Additionally, higher education contexts report that students who perceive a strong sense of belonging and connection with their academic community tend to show greater academic engagement. Reinforcing the idea that educational environments that support autonomy and foster belongingness promote more meaningful and sustained student engagement.

Perceived classroom experience is how perceived classroom comfort influences learners' academic engagement and overall success. Contemporary research on classroom environments underscores that when students perceive their physical and psychological comfort in the classroom such as adequate air circulation, quietness, supportive facilities, and a welcoming learning space this comfort acts as a foundational resource that enhances their motivation to participate and invest effort in learning tasks (Widiastuti et al., 2020), contributing to positive emotional, social, and cognitive engagement. Moreover, perceptions of a supportive and comfortable classroom environment have been linked to higher student engagement and better adjustment to academic demands, which in turn promote meaningful learning outcomes.

Level of Autonomous Learning Ability

The study reported the level of autonomous learning ability of student among Mawab District Secondary Schools. It revealed that autonomous learning ability was described as very high. Two out of the three indicators for this variable were also described as very high, and one was described as high suggesting a significantly strong presence of this quality within the educators. The respondents' level of autonomous learning ability indicates positive perceptions and high capabilities in dealing with challenges related to control, ownership, reach, and endurance. This positive level of autonomous learning ability is reflective of a conducive environment for Commented overcoming obstacles and fostering a culture of adaptability within the educational community

The indicator evaluating the learning process received a mean in the very high category, indicating teachers' strong recognition of the importance of regularly assessing how learning unfolds within their classrooms. Essentially, this metric examines educators' beliefs in the value of systematically reviewing instructional effectiveness student understanding, and learning outcomes, reflecting a proactive stance toward instructional improvement.

Moreover, a relatively high means in this dimension suggests that teachers not only engage consistently in reflective practices but also integrate assessment feedback to refine instructional approaches, ultimately supporting more meaningful student learning experiences. It underscores the significance of this dimension, highlighting how continuous evaluation of the learning process enhances both teaching effectiveness and student achievement (Alonso-Tapia & Chico, 2021).

Level of Students' Engagement

The findings presented in Table 3 indicates that students demonstrated a high overall level of learning engagement. This suggests that respondents were actively involved in their academic tasks and consistently

participated across multiple dimensions of engagement. The elevated level of engagement reflects a learning environment in which students were meaningfully connected to classroom activities and instructional processes. These findings are consistent with Bond (2021), who emphasized that engagement plays a crucial role in promoting academic success and positive learning outcomes. The high ratings across indicators further suggest that students experienced meaningful learning tasks, supportive teaching strategies, and collaborative opportunities that strengthened their persistence and motivation (Kahu & Nelson, 2022)

When examined by dimension, affective, behavioral, and cognitive engagement were all rated at high levels, reflecting balanced and comprehensive participation in the learning process. Affective engagement emerged as the strongest dimension, indicating that students experienced positive emotions, interest, and enjoyment in their academic activities. This aligns with Bråten et al. (2022), who highlighted the importance of emotional investment in sustaining students' commitment to learning.

Behavioral engagement was likewise high, demonstrating students' consistent participation, responsible task completion, and active involvement in classroom routines, consistent with Ge et al. (2025), who emphasized observable participation as a key indicator of student commitment. Cognitive engagement also reflected a high level of deep processing, critical thinking, and strategic learning behaviors. This finding corroborates Shi et al. (2021), who underscored the importance of cognitive involvement in fostering academic resilience and facilitating meaningful knowledge transfer.

Significance of the Relationship Between Sense of Belonging Attitude and Students' Engagement

The study's results unveiled a significant relationship between the students' sense of belonging and their learning engagement. The statistical analysis indicated a correlation between these two variables, suggesting that as the sense of belonging within the school community increases, there is a corresponding increase in students' learning engagement.

This correlation aligns to the research of Villarreal (2021), which emphasizes the impactful role of social integration on the students' learning processes. Effective peer and teacher interactions foster a sense of cohesion, contributing to enhanced engagement in both academic and social learning activities. Allen (2022) corroborates this by highlighting the importance students place on feeling accepted as a verified predictor of student persistence and long-term engagement.

Supporting the study conducted by Widodo et al. (2022), this study reveals that a high level of social belonging significantly enhances students' academic performance and work productivity. The notion of a supportive environment, as described by Baumeister (2021), encompasses characteristics that reflect a student's readiness and ability to participate in professional and academic activities responsibly within the evolving school setting.

Significance of the Relationship Autonomous Learning Ability and Student Engagement

The study's results unveiled a significant relationship between the students' autonomous learning ability and their learning engagement. The statistical analysis indicated a correlation between these two variables, suggesting that as the autonomous learning ability of students increases, there is a corresponding increase in students' learning engagement.

Supporting the study conducted by Widodo et al. (2022), this study reveals that autonomous learning significantly enhances students' academic performance, work productivity, and work effectiveness. The notion of autonomous learning ability, as described by Little (2021), encompasses characteristics that reflect readiness and ability to carry out academic activities responsibly in a constantly evolving educational environment

In addition, clarifying the purpose of learning emerges as a key factor with the greatest impact on student engagement, as highlighted by Nguyen and Yang (2023). This collective evidence underscores the multifaceted role of self-directed learners in creating a positive and active learning experience. Withal, this is gleaned from Self-Determination Theory, which aligns to the idea that students

Significance of the Influence of Domains of the Sense of Belonging Attitude on Students' Engagement

The regression analysis revealed that not all domains of sense of belonging significantly influence students' engagement. Based on the results, perceived classroom comfort and perceived faculty support showed a significant positive influence on students' engagement, while perceived peer support and perceived isolation did not demonstrate a significant effect. These findings suggest that certain relational and environmental components of belonging are more influential in promoting active academic involvement than others.

The significant influence of perceived classroom comfort underscores the importance of a learning environment where students feel safe, respected, and emotionally secure. When learners experience psychological ease within the classroom, they are more inclined to participate actively and engage meaningfully in academic activities. This aligns with the study of Villarreal (2021), which emphasized that social connection within educational institutions fosters emotional safety that supports student involvement. A comfortable classroom atmosphere encourages openness, collaboration, and academic risk-taking, thereby enhancing engagement. In contrast, perceived peer support did not significantly predict students' engagement. Although this aligns with the study of Allen (2022), which described peer support as an essential element of a supportive social structure that promotes participation, the present findings suggest that peer relationships alone may not directly drive engagement when other institutional factors are taken into account.

Moreover, perceived faculty support emerged as the strongest significant predictor of students' engagement, highlighting the crucial role of teachers in sustaining students' motivation and academic commitment. This aligns with the study of García (2023), which emphasized that students have diverse social needs and that feeling supported by faculty is fundamental to maintaining long-term engagement in learning. Similarly, this aligns with the study of Miller (2022), which noted that when students perceive genuine care and concern from their teachers, they exhibit higher levels of motivation and engagement in problem-solving tasks. Meanwhile, perceived isolation did not significantly influence engagement, indicating that feelings of isolation may not directly reduce students' involvement when supportive classroom environments and strong faculty relationships are present. Overall, the findings emphasize that structured classroom comfort and strong faculty support are more critical determinants of students' engagement than peer dynamics or perceived isolation alone.

Significance of the Influence of the Domains of Autonomous Learning Ability on Student Engagement

The findings of the study reveal that students' autonomous learning ability significantly influences their engagement, as all domains like setting learning goals, evaluating the learning process, and clarifying the purpose of learning were found to have a significant effect. This indicates that engagement is strengthened when students actively plan, monitor, and understand their learning experiences. Autonomous learning, therefore, contributes meaningfully to students' active participation, as it involves both proactive and reflective processes that sustain academic involvement.

The significant influence of setting learning goals emphasizes the importance of clear objectives in guiding students' academic efforts. When learners establish specific goals, they are more likely to organize their tasks, regulate their progress, and remain focused on achievement. This aligns with the study of Locke and Latham (2021), which highlights that intentional goal setting promotes proactive engagement in learning activities. Similarly, this aligns with the study of Pintrich (2022), which underscores that clear learning objectives provide direction and enhance students' motivation to participate meaningfully in academic tasks. Establishing goals enables students to maintain persistence and structure in their learning journey.

Furthermore, the significant influence of evaluating the learning process and clarifying the purpose of learning underscores the importance of reflection and meaning in sustaining engagement. When students assess their understanding and monitor their progress, they become more aware of their development, which supports continued involvement in learning. This aligns with the study of Pintrich (2022), which emphasizes the role of self-regulation in maintaining motivation and engagement. At the same time, understanding the purpose behind learning tasks strengthens students' perception of relevance and value. This aligns with the study of Dörnyei and Ushioda (2021), which notes that recognizing the significance of learning activities enhances motivation, and also aligns with the study of Xaypanya et al. (2017), which suggests that a lack of perceived relevance may

reduce engagement. Overall, the findings demonstrate that planning, reflection, and purpose collectively reinforce students' engagement.

CONCLUSION

The study concludes that the level of students' autonomous learning ability was very high, as were its indicators, namely, clarifying the purpose of learning, setting learning goals, and evaluating the learning process. Furthermore, the study also concludes that the level of students' sense of belonging was high, along with its indicators, namely, perceived peer support, perceived classroom comfort, and perceived faculty support, while perceived isolation was reported at a low level. Moreover, the overall level of students' engagement was very high, encompassing the three domains: affective engagement, behavioral engagement, and cognitive engagement. The findings contradict the theoretical assumption of no significant relationship between students' autonomous learning ability and sense of belonging on students' engagement. Analysis through Pearson's r product-moment correlation revealed that students' autonomous learning ability has a significant relationship with students' engagement, while students' sense of belonging also shows a significant relationship with students' engagement.

Contrary to the initial assumption, the study concludes that students' autonomous learning ability and sense of belonging have significant relationships with and influence on students' engagement. Regarding the specific influence of the domains, setting learning goals and clarifying the purpose of learning were identified as significant predictors of students' engagement. Additionally, the domains of perceived peer support, perceived classroom comfort, and perceived faculty support significantly influenced students' engagement. However, evaluating the learning process and perceived isolation did not significantly influence the level of students' engagement in this context. Ultimately, the results suggest that the integration of self-directed learning skills and a supportive school environment is vital in maintaining a very high level of students' engagement.

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