

What Drives Active Learning Engagement in School Education: A Self-Determination Theory Perspective

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ABSTRACT

This study examined school-based contextual factors associated with junior high school students' active learning engagement in a critical-thinking-oriented international school. Using a cross-sectional quantitative case study design, data were collected from 83 junior high school students through purposive sampling. The 33-item questionnaire demonstrated acceptable internal consistency ($\alpha = .784$). Descriptive statistics, Pearson correlations, and multiple regression analyses were conducted. The findings showed that relatedness-related conditions had the strongest associations with active learning engagement. Teacher-to-student relationships were the only statistically significant unique contributor in the regression model, while inclusive classroom climate was significantly correlated with engagement. Competence-related and autonomy-related factors showed weaker or nonsignificant associations. These findings suggest that relationally supportive, inclusive, and language-accessible classroom conditions may be important for promoting students' participation in critical-thinking-oriented learning.

Keywords: active learning engagement, critical thinking, instructional leadership, junior high school, self-determination theory

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INTRODUCTION

Student engagement is essential to high-quality learning, academic persistence, and student well-being in secondary education. It is particularly important in language-rich and inquiry-based classrooms, where students are expected to interpret complex content, use academic discourse, collaborate with peers, and express their ideas through questioning, explanation, and presentation (Fredricks et al., 2004). In such contexts, engagement is not limited to visible participation. It also includes sustained cognitive effort, emotional investment, behavioral involvement, and social participation in classroom learning (Chi & Wylie, 2014; Fredricks et al., 2004). Prior research has shown that active engagement is associated with stronger academic achievement, critical thinking, and deeper learning outcomes (McKellar & Wang, 2023; Oga-Baldwin, 2019).

For school leaders, student engagement is not only a classroom-level concern but also an instructional leadership issue. Leaders shape the curricular, pedagogical, and relational conditions through which teachers support students' motivation, participation, and sense of belonging (Ninković & Knežević Florić, 2024). This issue is especially relevant in international and English-medium school programs, where students may encounter diverse linguistic, cultural, and academic demands. In these settings, students' active participation depends not only on individual motivation but also on how schools organize instruction, support teachers, develop inclusive learning environments, and respond to students' developmental needs. In the context of this study, the school's international program has introduced English-medium instruction, enhanced learning facilities, and a curriculum that emphasizes critical thinking. These institutional developments constitute the local context of the study. More broadly, research suggests that student engagement in English-medium and language-rich learning environments is influenced by the linguistic and instructional support available to students (Hiver et al., 2024; Ng, 2024).

Problem Statement

In this study, junior high school students' active learning engagement refers to their sustained cognitive investment and observable participation in classroom activities. It encompasses cognitive, emotional, behavioral, and social dimensions of engagement (Chi & Wylie, 2014; Fredricks et al., 2004). Although student engagement has been widely examined within the framework of self-determination theory, less is known about how multiple contextual factors operate together in international school settings. Within the study context, limited classroom participation may be associated with anxiety, hesitation to speak, low confidence, or reluctance to present ideas in front of peers. These patterns suggest that linguistic, psychological, relational, and instructional conditions may interact in ways that strengthen or constrain students' active learning engagement (Kuromiya et al., 2022; McKellar & Wang, 2023). However, the school currently lacks sufficient empirical evidence regarding which contextual factors are most strongly associated with students' day-to-day classroom participation.

This problem is also relevant to school leadership. Leaders seeking to improve student engagement through curriculum refinement, teacher support, and inclusive classroom development require evidence about which factors are most important within their institutional context. Without such evidence, professional development, instructional planning, and student support initiatives may remain broad rather than targeted. Therefore, this study examines the contextual factors associated with junior high school students' active learning engagement to inform instructional practice, curriculum improvement, and school-level decision-making.

Knowledge Gap and Contribution

Research has identified contextual factors associated with student engagement. In EFL and English-medium contexts, academic English scaffolding and a growth-oriented language mindset have been linked

to cognitive effort and confidence (Fan et al., 2024; Ng, 2024). Academic pressure may affect engagement by contributing to anxiety, withdrawal, or reduced participation (Kuromiya et al., 2022; Steare et al., 2023). Supportive teacher-to-student relationships, constructive feedback, inclusive classrooms, and positive peer relationships may strengthen belonging and participation (Abacioglu et al., 2023; Endedijk et al., 2022; Meyer et al., 2025; Schachner et al., 2024). Co-curricular and extracurricular activities may support school connectedness, although their relationship with classroom engagement may vary (McKellar & Wang, 2023; Sulz et al., 2023).

Despite these contributions, gaps remain. Studies have often examined linguistic, academic, psychosocial, and environmental factors separately, leaving limited evidence about how they operate together within an international school context (Hiver et al., 2024; Wang & Eccles, 2013). Junior high school students require closer attention because their engagement is shaped by autonomy, peer sensitivity, identity development, and dependence on teacher support. Moreover, limited research has identified which contextual conditions are most associated with active learning engagement in classrooms. This gap restricts schools' ability to design targeted instructional support, teacher development, and curriculum practices. This study addresses these gaps by examining associations between contextual factors and junior high school students' active learning engagement in an international school program. It is grounded in a Self-Determination Theory perspective, which explains how autonomy, competence, and relatedness support motivation, persistence, and engagement (Deci & Ryan, 2000; Ryan & Deci, 2020). The study integrates linguistic, academic, relational, identity-related, and environmental factors and identifies the SDT-aligned conditions most associated with engagement. Recent higher education research also emphasizes that critical thinking and self-directed learning require intentional pedagogical strategies that support students' active participation and learning agency (Inayati et al., 2026). Its findings may inform relational pedagogy, inclusive classroom development, academic language support, critical-thinking-oriented instruction, and preparation for active learning in postsecondary education.

Research Purpose, Question, and Hypotheses

The purpose of this study was to examine the associations between selected contextual factors and junior high school students' active learning engagement and to identify which factors were most strongly associated with classroom engagement. The study focused on an international school program that had recently adopted a pedagogical approach intended to promote critical thinking, collaboration, and reflective learning. By identifying factors associated with stronger or weaker engagement, the study aimed to provide evidence to inform instructional leadership, teacher professional development, and program-level improvement. The following research question guided the study:

RQ1. How are contextual factors associated with junior high school students' active learning engagement in the classroom?

Based on the theoretical framework and previous engagement research, the study hypothesized that competence-related, autonomy-related, and relatedness-related supports would be positively associated with students' active learning engagement:

H1. Students reporting higher levels of competence-related support, including academic English support, manageable academic pressure, and balanced co-curricular or extracurricular involvement, will report higher levels of active learning engagement.

H2. Students reporting higher levels of autonomy-related support, including differentiated instruction and cultural identity adjustment, will report higher levels of active learning engagement.

H3. Students reporting higher levels of relatedness-related support, including positive teacher-to-student relationships and an inclusive classroom environment, will report higher levels of active learning engagement.

LITERATURE REVIEW

Active Learning Engagement

Student engagement is widely understood as a multidimensional construct reflecting the quality of students' participation, effort, and investment in learning. However, engagement should not be understood solely as visible participation or academic achievement. In this study, active learning engagement refers to students' sustained cognitive, emotional, behavioral, and social participation in classroom-based academic activities. This definition is particularly relevant in inquiry-based and language-rich classrooms, where students are expected not only to receive information but also to question, explain, discuss, present, and apply ideas through interactions with teachers and peers.

Active learning engagement involves both internal and external forms of participation. Internally, students invest attention, reasoning, curiosity, and strategic effort in understanding learning content. Externally, they demonstrate engagement through note-taking, discussion, task completion, peer collaboration, questioning, and presentations. Hiver et al. (2024) emphasized that engagement involves both the quantity and quality of students' participation. This distinction is important because students may appear present in class but differ substantially in the depth, purpose, and consistency of their engagement. Thus, students who listen attentively, take meaningful notes, contribute to group discussions, ask questions, and participate in presentations can be considered actively engaged.

Engagement should not be equated with passive attention or academic performance alone. A student may achieve high test scores while remaining minimally involved in classroom interaction. Such achievement may indicate academic competence, but it does not necessarily demonstrate active engagement in the learning process. Oga-Baldwin (2019) suggested that meaningful engagement requires participation in learning processes involving attention, effort, and purposeful interaction. This perspective is important because an input-output model of learning may limit students' development if it overlooks social interaction, critical thinking, and collaborative meaning-making. Students who remain disconnected from classroom discussions may lose opportunities to connect content with context, build peer relationships, and develop academic confidence.

Therefore, active learning engagement is conceptualized in this study as a multidimensional and relational process involving cognitive, emotional, behavioral, and social dimensions (Chi & Wylie, 2014; Fredricks et al., 2004). This understanding is necessary because classroom engagement is shaped not only by what students do individually but also by how they interact, respond, collaborate, and construct meaning within the learning environment. By adopting this definition, the present study moves beyond a narrow view of engagement as attendance, attention, or performance and instead examines it as an active process of participation in classroom learning.

Dimensions of Learning Engagement

Learning engagement is commonly understood as a multidimensional construct involving cognitive, emotional, behavioral, and social dimensions. Cognitive engagement refers to students' sustained mental effort to understand, analyze, question, and apply classroom content (Burke et al., 2025; Fredricks et al., 2004). This dimension is important because active learning depends not only on students' physical presence in the classroom but also on the depth of their thinking and the extent to which they use higher-order reasoning. Cognitive engagement is evident when students generate questions, seek clarification, solve problems, and reflect critically rather than receive information passively (Wu et al., 2025). Therefore, cognitive engagement helps distinguish active learners from students who complete tasks without deeper intellectual involvement.

Emotional engagement refers to students' affective responses to teachers, peers, learning tasks, and the school environment, including interest, enjoyment, anxiety, confidence, and belonging. These

emotional experiences influence students' motivation, identity, academic persistence, and willingness to participate in classroom activities (Fredricks et al., 2004; Henry & Thorsen, 2020; Liu et al., 2024). This suggests that learning engagement is not only a cognitive process but also an emotional experience shaped by students' sense of safety, confidence, and connection. Together, cognitive and emotional engagement demonstrate that active learning requires both intellectual investment and a positive emotional connection to the learning process.

Behavioral engagement refers to students' observable participation in academic activities, such as task completion, attendance, discussions, presentations, and responsiveness to teachers' instructions (Appleton et al., 2008; Hiver et al., 2024). However, behavioral engagement requires careful interpretation because visible participation does not always indicate meaningful learning. A student may attend class, complete assignments, or respond to instructions without being deeply involved in the learning process. Therefore, engagement research emphasizes not only the frequency of participation but also its quality, including persistence, effort, and meaningful interaction with learning tasks.

Social engagement refers to the quality of students' interactions with teachers and peers in classroom and school contexts (Wentzel, 1998). This dimension is particularly significant in active learning because many classroom tasks require students to construct meaning through dialogue, cooperation, and shared responsibility. It includes collaborative dialogue, peer support, teacher-to-student communication, and shared problem-solving, all of which contribute to students' sense of belonging and academic participation (Järvelä et al., 2016; Mercer & Howe, 2012; Vygotsky, 1978). In this sense, social engagement connects individual learning to the relational environment of the classroom.

Therefore, active learning engagement should be understood as an integrated process in which students think deeply, feel connected, participate visibly, and interact meaningfully with others. These four dimensions are analytically distinct, but they operate together in classroom learning. Cognitive effort may be weakened when students feel anxious or excluded; behavioral participation may remain superficial without deeper thinking; and social interaction may strengthen both confidence and academic understanding. For this reason, a multidimensional perspective provides a stronger framework for examining active learning engagement than a narrow focus on attendance, performance, or visible classroom behavior alone.

Factors Influencing Learning Engagement

Student engagement is shaped by interacting linguistic, academic, relational, and institutional conditions rather than by a single classroom variable. In English-medium and EFL secondary education contexts, academic English may support deeper cognitive engagement or discourage participation, depending on whether teachers explicitly clarify terminology, discourse expectations, and task requirements (Ng, 2024). Similarly, English-medium instruction (EMI) research suggests that Content and Language Integrated Learning (CLIL), problem-posing education, and project-based learning can strengthen students' confidence and communicative skills (Chu & Takahashi, 2024). Students who develop a growth-oriented language mindset and perseverance are more likely to sustain attention, regulate effort, and reduce their vulnerability to academic burnout (Fan et al., 2024). However, language demands do not operate independently of academic pressure. Excessive or insufficiently supported pressure may contribute to anxiety, withdrawal, and unstable patterns of participation (Kuromiya et al., 2022; Steare et al., 2023). Thus, academic English and academic pressure can be understood as competence-related conditions that influence whether students feel capable of engaging actively in classroom learning.

Relational and environmental factors are equally important to engagement. Supportive teacher-to-student relationships, clear feedback, and timely instructional guidance may strengthen students' self-efficacy, emotional security, and willingness to participate (Endedijk et al., 2022; Meyer et al., 2025; Shao et al., 2025). Classroom micro-interactions, such as targeted prompts, visible annotations, and immediate clarification, can also help teachers guide participation in real time (Nakamura et al., 2024). Beyond teacher

support, student-to-student relationships and inclusive classroom climates shape students' sense of belonging, particularly in culturally diverse learning environments. Research suggests that multicultural and diversity-supportive practices may strengthen peer relationships, identity development, and collaborative participation among adolescents (Abacioglu et al., 2023; Schachner et al., 2024). Co-curricular and extracurricular participation may also strengthen students' school belonging and broader educational involvement, although its association with classroom engagement may vary across students and institutional contexts (McKellar & Wang, 2023; Sulz et al., 2023).

Overall, these studies suggest that active learning engagement depends on how students experience competence, autonomy, and relatedness within specific classroom and school conditions. Existing research has identified several relevant factors, including academic English support, academic pressure, teacher-to-student relationships, student-to-student relationships, inclusive classroom climate, cultural identity adjustment, differentiated instruction, and extracurricular participation. However, fewer studies have examined these factors together within a single international junior high school context, where students simultaneously manage language learning, academic expectations, peer relationships, and identity development (Hiver et al., 2024; Wang & Eccles, 2013). This gap is important for school leadership because engagement is not only a student-level outcome but is also associated with instructional design, teacher support, inclusive policies, and curriculum implementation. Examining these factors together may therefore provide more integrated evidence for improving classroom practice and informing school-level decisions.

Self- Determination Theory

Self-determination theory (SDT) guided the design and interpretation of this study (Deci & Ryan, 1985). SDT explains motivation and engagement through the satisfaction of three basic psychological needs: autonomy, competence, and relatedness. Autonomy refers to students' sense of agency and volition in learning, competence refers to their perceived ability to meet academic demands, and relatedness refers to their sense of care, connection, and belonging within the learning environment (Ryan & Deci, 2020). From this perspective, engagement is not viewed solely as an individual trait but as being associated with the extent to which classroom and school conditions support students' psychological needs.

SDT is particularly relevant to active learning engagement because it connects students' observable participation with underlying motivational processes. Autonomy-supportive instruction may strengthen students' sense of ownership by providing meaningful choices, clear rationales, and opportunities to express their ideas. Competence-supportive teaching, including explicit expectations, constructive feedback, appropriate academic challenge, and academic language support, may strengthen students' confidence and persistence. Relatedness-supportive environments, characterized by positive teacher-to-student relationships and an inclusive classroom climate, may help students feel safe, valued, and willing to participate in classroom activities (Deci & Ryan, 2000; Ryan & Deci, 2020). These three needs therefore provide a coherent theoretical basis for examining students' cognitive, emotional, behavioral, and social engagement.

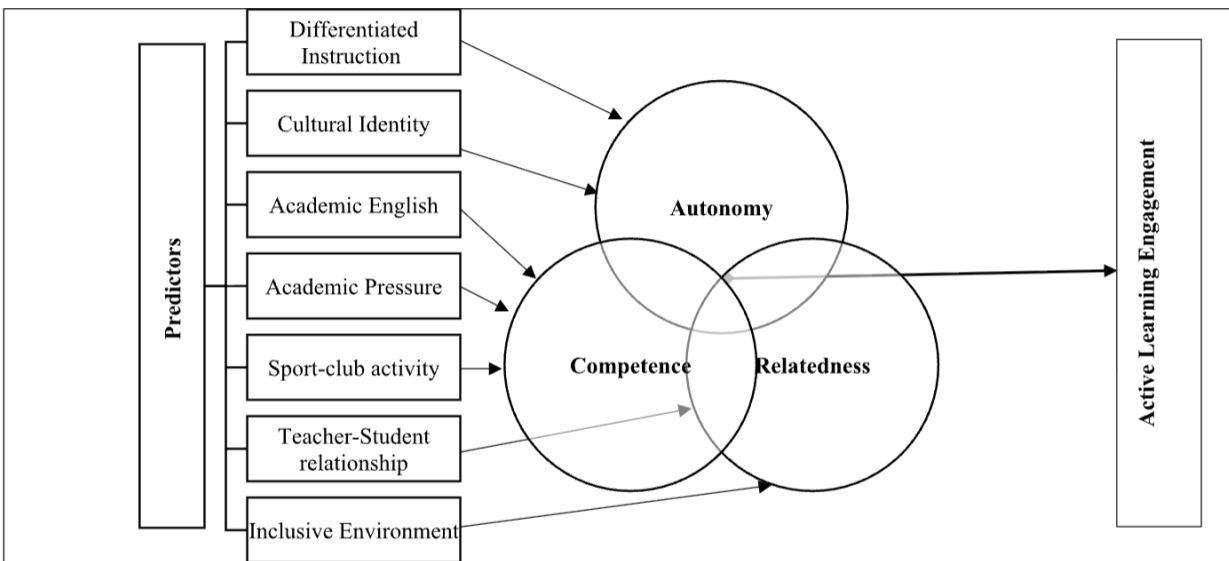
SDT also connects classroom practice with instructional leadership. School leaders influence the conditions through which teachers support students' psychological needs, including curriculum design, instructional guidance, teacher professional development, feedback practices, inclusive classroom culture, and student support systems. Previous research has shown that need-supportive teaching is associated with greater participation, interest, persistence, and strategy use, whereas need-thwarting practices are associated with disaffection and reduced engagement (Jang et al., 2010; Reeve & Cheon, 2021; Skinner et al., 2008). Accordingly, SDT provides both psychological and instructional perspectives for examining how school- and classroom-level conditions are associated with junior high school students' active learning engagement.

Conceptual Framework

This study conceptualizes active learning engagement as being associated with students' perceived autonomy, competence, and relatedness, as proposed by self-determination theory (Deci & Ryan, 1985; Ryan & Deci, 2020). It extends SDT-based engagement research by examining the relative associations of these three psychological needs with active learning engagement in an international junior high school context. The framework links autonomy to differentiated instruction and cultural identity adjustment; competence to academic English support, academic pressure, and co-curricular or extracurricular participation; and relatedness to teacher-to-student relationships and an inclusive classroom environment. Together, these conditions reflect students' perceptions of agency, capability, belonging, and psychological safety within the learning environment.

Although the factors are analytically distinct, they may be theoretically interdependent. Differentiated instruction, for example, may support both autonomy and competence, while teacher-to-student relationships may strengthen relatedness and competence through feedback, scaffolding, and emotional support. Students' experiences of academic pressure may also vary according to the instructional and emotional support available to them. Relatedness may be particularly salient in an international junior high school because active learning requires students to take intellectual and social risks, including asking questions, using academic English, collaborating with peers, and presenting ideas publicly. This interactional perspective is consistent with SDT, which proposes that sustained engagement is more likely when learning environments support students' basic psychological needs and less likely when those needs are frustrated (Deci & Ryan, 2000; Jang et al., 2010; Reeve, 2012; Skinner et al., 2008). Accordingly, the framework examines the relative associations between SDT-aligned instructional, relational, linguistic, and institutional conditions and active learning engagement, with particular attention to relatedness-related conditions.

Figure 1
Conceptual Framework



RESEARCH METHOD

Design and Context

This study used a cross-sectional quantitative case study design to examine active learning engagement within one bounded educational setting, an international junior high school. A case study approach is appropriate when a phenomenon is examined within its real-world institutional context and when the boundaries between the phenomenon and its context are closely connected (Yin, 2018). Quantitative survey data were collected at one point in time to examine associations between selected contextual factors and students' active learning engagement rather than to make broad statistical generalizations across schools.

The school was selected because it combines English-oriented instruction, cultural and educational diversity, returnee students, and an institutional emphasis on critical-thinking pedagogy. Students participate in language-rich and inquiry-based activities, including questioning, discussion, explanation, collaboration, and presentations. The school constituted the bounded case, while individual students served as the units of observation. Their survey responses enabled the identification of context-specific engagement patterns that may inform teacher support, inclusive classroom development, and pedagogical improvement.

Population and Sampling

The study population consisted of junior high school students enrolled across different grade levels at the selected international school. During data collection from April to July 2025, the junior high school population was approximately 300 students. Because the study examined active learning engagement within a specific school context, participants were recruited through purposive sampling. This approach was appropriate because the study required students who had direct experience with the school's English-oriented, inquiry-based, and critical-thinking-focused curriculum and could respond meaningfully to the questionnaire (Etikan et al., 2016).

A total of 90 students were invited to participate using online and paper-based questionnaire formats, and 83 valid responses were obtained, representing a response rate of approximately 92.2%. Students of different genders were eligible to participate; however, gender data were not collected to protect privacy and reduce the risk of identification within a single-school study. Although this decision strengthened confidentiality, it prevented gender-based subgroup analysis. The purposive sampling strategy also requires cautious interpretation because participating students may have differed from nonparticipants in confidence, motivation, or familiarity with the school's learning expectations. Therefore, the findings are interpreted as context-specific evidence rather than statistically generalizable results.

Questionnaire and Reliability

The study used a structured questionnaire to measure students' self-reported active learning engagement and seven contextual factors aligned with self-determination theory. The instrument was developed through a theory-informed process. First, the engagement items were designed to reflect the cognitive, emotional, behavioral, and social dimensions of student engagement identified in multidimensional engagement research (Fredricks et al., 2004; Hiver et al., 2024). Second, the contextual items were organized around the three basic psychological needs proposed by self-determination theory: autonomy, competence, and relatedness (Deci & Ryan, 2000; Ryan & Deci, 2020). Competence-related items addressed academic English support, academic pressure, and co-curricular or extracurricular participation. Autonomy-related items addressed differentiated instruction and cultural identity adjustment, while relatedness-related items addressed teacher-to-student relationships and inclusive classroom climate.

The questionnaire was also informed by scale-development principles emphasizing construct clarity, item relevance, accessible wording, and alignment between items and theoretical dimensions (Boateng et al., 2018; DeVellis, 2017). The final instrument contained 33 items rated on a five-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Items were written in accessible English for junior high school students in an English-oriented program, and the questionnaire required approximately five minutes to complete. To support content validity, the items were reviewed for alignment with the conceptual framework, clarity, age appropriateness, and relevance to students' classroom experiences. The overall instrument demonstrated acceptable internal consistency, with Cronbach's alpha of .784, which is generally considered adequate for exploratory educational research (Nunnally & Bernstein, 1994).

Analysis Approach

Descriptive statistics, including means and standard deviations, were calculated for each item and composite factor. Composite scores were reported as item-level means to maintain consistency with the original five-point Likert-type scale. Internal consistency was assessed using Cronbach's alpha for the overall instrument. Factor analysis was not conducted because the study was not designed as a scale-validation study, and the sample size was modest relative to the number of questionnaire items. Instead, evidence supporting the instrument's validity was based on theory-informed item development, alignment with the theoretical framework and relevant literature, contextual relevance, and internal consistency. Pearson correlation analysis was used to examine bivariate associations between the seven contextual factors and active learning engagement. Multiple regression analysis was then conducted to examine the unique statistical contribution of each contextual factor when all seven factors were entered simultaneously. Before the regression analysis, the assumptions of normality, linearity, homoscedasticity, independence of errors, and absence of problematic multicollinearity were examined. Tolerance and variance inflation factor values were used to assess multicollinearity among the contextual factors. Statistical significance was set at $p < .05$, two-tailed.

Ethical Considerations and Researcher Positionality

This study was conducted as a school-based inquiry within the researcher's teaching context. Permission to conduct the study was obtained from the school administration, including the principal. Because the participants were junior high school students and the researcher was a full-time faculty member at the school, particular care was taken to protect students' privacy, minimize perceived pressure to participate, and reduce the risk of identification. The questionnaire was anonymous and did not collect names, email addresses, gender, student identification numbers, grade levels, or other directly identifying information. Participation was voluntary, and responses were used solely for research and educational improvement. The researcher's insider role provided valuable contextual knowledge of the school environment but may also have influenced students' decisions to participate or their responses concerning engagement and classroom relationships. Researcher positionality was therefore acknowledged as a methodological limitation, and the findings were interpreted as context-specific evidence from a single school setting.

RESULTS

The findings are presented in four parts: descriptive statistics, reliability analysis, Pearson correlation analysis, and multiple regression analysis. Because the questionnaire used a five-point Likert-type scale, composite scores are reported as item-level means on the original 1–5 scale rather than as summed scores. This approach facilitates interpretation by retaining the scale's original response metric.

The analyses examined descriptive patterns, internal consistency, bivariate associations, and the unique statistical contributions of the seven contextual factors to students' active learning engagement.

Descriptive Statistics

Table 1 presents descriptive statistics for the seven contextual factors and active learning engagement. Overall, the mean scores were in the moderate range. Differentiated instruction had the highest mean score ($M = 3.12$, $SD = 0.41$), followed by inclusive classroom environment ($M = 3.11$, $SD = 0.43$), academic pressure ($M = 3.08$, $SD = 0.52$), and teacher-to-student relationships ($M = 3.00$, $SD = 0.55$). Academic English support had a slightly lower mean score ($M = 2.89$, $SD = 0.48$). Co-curricular and extracurricular participation ($M = 2.49$, $SD = 0.64$) and cultural identity adjustment ($M = 2.29$, $SD = 0.56$) had the lowest mean scores, indicating comparatively less positive perceptions in these areas.

Active learning engagement had a composite mean of 2.71 ($SD = 0.68$), indicating a moderate level of self-reported classroom engagement. The greater variability in co-curricular and extracurricular participation and cultural identity adjustment indicates that students' experiences in these areas differed more widely than their perceptions of differentiated instruction and the inclusive classroom environment. These descriptive patterns provide context for interpreting the subsequent correlation analysis.

Table 1

Descriptive Statistics for Contextual Factors and Active Learning Engagement

Variable	Items	M	SD
Differentiated instruction	4	3.12	0.41
Cultural identity adjustment	4	2.29	0.56
Academic English support	4	2.89	0.48
Academic pressure	4	3.08	0.52
Co-curricular or extracurricular participation	4	2.49	0.64
Teacher-to-student relationships	4	3.00	0.55
Inclusive classroom environment	4	3.11	0.43
Active learning engagement	5	2.71	0.68

Note. $N = 83$. Composite scores are reported as item-level means on the original five-point Likert-type scale.

Reliability Analysis

Internal consistency was assessed using Cronbach's alpha for the overall questionnaire. The study used a cross-sectional quantitative case study design rather than a scale-validation design; therefore, the contextual factors were treated as theory-informed indices aligned with self-determination theory rather than as independently validated psychometric scales. The overall questionnaire demonstrated acceptable internal consistency, $\alpha = .784$. However, because this coefficient was calculated across all 33 items, it should not be interpreted as evidence of reliability for each contextual factor separately. Accordingly, factor-level findings were interpreted cautiously as context-specific associations.

Correlation Analysis

Pearson correlation analysis was conducted to examine the bivariate associations between the seven contextual factors and active learning engagement. The results are presented in Table 2. Academic English support was positively and significantly associated with active learning engagement ($r = .24$, $p = .028$), indicating that students who reported stronger academic English support also tended to report higher levels of classroom engagement. Academic pressure ($r = .15$, $p > .05$) and co-curricular or extracurricular

participation ($r = .01, p > .05$) were not significantly associated with engagement. Therefore, at the bivariate level, H1 was partially supported.

The autonomy-related factors showed weaker associations with active learning engagement. Differentiated instruction had a small, positive, but nonsignificant association with engagement ($r = .20, p = .069$), whereas cultural identity adjustment was not significantly associated with engagement ($r = -.02, p = .881$). These results indicate that the autonomy-related factors were not strongly associated with students' self-reported engagement in this sample. Therefore, H2 was not supported.

The relatedness-related factors showed the strongest associations with active learning engagement. Teacher-to-student relationships were positively and significantly associated with engagement ($r = .36, p < .001$). The inclusive classroom environment was also positively and significantly associated with engagement ($r = .33, p = .002$). These findings indicate that students who perceived stronger teacher support and a more inclusive classroom environment tended to report higher levels of active learning engagement. Therefore, at the bivariate level, H3 was supported.

Table 2

Pearson Correlations Among Contextual Factors and Active Learning Engagement

Variable	1	2	3	4	5	6	7	8
1. Academic English support	—							
2. Differentiated instruction	.33**	—						
3. Teacher-to-student relationships	.40**	.34**	—					
4. Inclusive classroom environment	.36**	.38**	.43**	—				
5. Cultural identity adjustment	.08	-.05	-.13	-.18	—			
6. Academic pressure	.16	.16	.05	.19	.14	—		
7. Co-curricular or extracurricular participation	.06	.07	.14	.21	.25*	.21	—	
8. Active learning engagement	.24*	.20	.36**	.33**	-.02	.15	.01	—

Note. $N = 83$. Values are Pearson correlation coefficients. $p < .05$. ** $p < .01$.

Multiple Regression Analysis

Multiple regression analysis was conducted to identify which contextual factors were most strongly associated with active learning engagement when all seven factors were entered simultaneously. The overall model was statistically significant, $F(7, 75) = 2.62, p = .018$, and accounted for 20% of the variance in active learning engagement, $R^2 = .20$, adjusted $R^2 = .12$. Thus, the contextual factors collectively explained a modest proportion of the variance in students' engagement.

Among the seven contextual factors, teacher-to-student relationships were the only statistically significant unique contributor to active learning engagement ($\beta = .27, p = .029$). The inclusive classroom environment showed a positive but nonsignificant association ($\beta = .22, p = .089$). Academic English support, differentiated instruction, cultural identity adjustment, academic pressure, and co-curricular or extracurricular participation did not make statistically significant unique contributions to the model. The tolerance and variance inflation factor values did not indicate problematic multicollinearity among the contextual factors. Overall, relatedness-related conditions showed the strongest statistical associations with engagement when all factors were considered simultaneously. In the multivariate analysis, H3 was partially supported, whereas H1 and H2 were not supported.

Table 3
Multiple Regression Predicting Active Learning Engagement

Predictor	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>p</i>	95% CI LL	95% CI UL	Tolerance	VIF
Academic English support	.043	.152	.03	0.28	.782	-.260	.345	.74	1.36
Differentiated instruction	.017	.237	.01	0.07	.945	-.455	.489	.79	1.27
Teacher-to-student relationships	.334	.150	.27	2.22	.029	.034	.633	.71	1.42
Inclusive classroom environment	.348	.202	.22	1.72	.089	-.055	.751	.66	1.51
Cultural identity adjustment	.085	.137	.07	0.62	.538	-.188	.358	.83	1.20
Academic pressure	.144	.148	.11	0.97	.334	-.152	.439	.90	1.12
Co-curricular or extracurricular participation	-.128	.124	-.12	-1.03	.308	-.374	.119	.84	1.20

Note. $N = 83$. B = unstandardized regression coefficient; $SE B$ = standard error of the unstandardized coefficient; β = standardized regression coefficient; CI = confidence interval; LL = lower limit; UL = upper limit; VIF = variance inflation factor. Model fit: $R = .44$, $R^2 = .20$, adjusted $R^2 = .12$, $F(7, 75) = 2.62$, $p = .018$. The dependent variable was active learning engagement.

DISCUSSION

This study examined the associations between selected school-based contextual factors and junior high school students' active learning engagement in an international school context. The findings provided context-specific evidence that relatedness-related conditions, particularly teacher-to-student relationships and an inclusive classroom environment, were more consistently associated with engagement than competence-related or autonomy-related conditions. This pattern is consistent with self-determination theory, which identifies relatedness as a basic psychological need that supports motivation, persistence, and engagement (Deci & Ryan, 2000; Ryan & Deci, 2020). It also aligns with previous research showing that supportive teacher-to-student relationships and inclusive school climates can strengthen students' belonging, confidence, and classroom participation (Abacioglu et al., 2023; Endedijk et al., 2022; Schachner et al., 2024). In a critical-thinking-oriented international program, these relational conditions may be particularly important because students are expected to ask questions, discuss ideas, explain their reasoning, and take intellectual and social risks.

Although the regression model was statistically significant, its explanatory power was modest. The model accounted for 20% of the variance in active learning engagement, $R^2 = .20$, with an adjusted R^2 of .12, indicating that a substantial proportion of the variance remained unexplained. This result is consistent with the multidimensional view of engagement, which recognizes that students' participation is shaped by interacting personal, instructional, relational, and environmental conditions (Fredricks et al., 2004; Hiver et al., 2024). Additional factors not examined in this study, such as prior achievement, English proficiency, classroom anxiety, specific teacher practices, peer dynamics, and individual motivation, may also have contributed to students' engagement. Therefore, the findings should be interpreted as evidence of context-specific associations within one bounded school setting rather than as a comprehensive or causal explanation of active learning engagement.

Competence-Related Conditions

Competence-related factors showed varied patterns of association with active learning engagement. Academic English support was positively and significantly correlated with engagement, indicating that students who perceived stronger academic language support also tended to report higher levels of classroom engagement. This finding is consistent with previous research showing that language scaffolding, explicit terminology support, and growth-oriented language practices may strengthen students' cognitive effort and participation in language-rich classrooms (Fan et al., 2024; Ng, 2024). In an English-oriented international school, academic English is not merely a language skill. It functions as an enabling resource because students require academic language to ask questions, explain their reasoning, participate in discussions, and present ideas.

Academic English support did not remain statistically significant in the regression model when the other contextual factors were considered simultaneously. This result qualifies the bivariate finding and suggests that its association with engagement may overlap with other contextual conditions, including teacher explanation, feedback, encouragement, and classroom interaction. The study did not test these potential mechanisms; therefore, this interpretation remains tentative. From this perspective, competence is not solely an individual student attribute but also a pedagogically supported perception shaped by accessible language instruction, constructive feedback, and opportunities to participate without fear of error.

Academic pressure and co-curricular or extracurricular participation showed limited associations with engagement in this sample. Academic pressure was not significantly associated with active learning engagement. Previous research has shown that excessive academic pressure may be associated with anxiety and mental health difficulties among adolescents, which may indirectly constrain participation and engagement (Kuromiya et al., 2022; Steare et al., 2023). The nonsignificant result suggests that the relationship between academic pressure and engagement may depend on students' perceptions, available support, and the specific school context. Similarly, co-curricular and extracurricular activities may strengthen school belonging and broader educational participation, although their relationship with classroom engagement may vary according to students' circumstances and patterns of involvement (McKellar & Wang, 2023; Sulz et al., 2023). These findings suggest that competence-related conditions require careful instructional and institutional management. School leaders should maintain clear expectations, appropriate academic challenge, and balanced workloads rather than simply increasing the volume of assignments, deadlines, or activities.

Autonomy-Related Conditions

Autonomy-related conditions showed limited associations with active learning engagement. Differentiated instruction had a small, positive, but nonsignificant association with engagement, whereas cultural identity adjustment was not significantly associated with engagement. These findings should not be interpreted as evidence that autonomy is unimportant. Rather, they suggest that students may not have consistently experienced differentiated instruction as autonomy-supportive or perceived cultural identity adjustment as directly relevant to their agency in everyday classroom learning.

From an SDT perspective, autonomy support becomes motivationally meaningful when students experience choice, relevance, and ownership within a structured learning environment (Jang et al., 2010; Reeve, 2012). Differentiated instruction may therefore have a limited association with engagement when students experience it merely as variation in activities rather than as meaningful academic choice. To support engagement, differentiated instruction should provide clear rationales, relevant options, and opportunities for students to exercise judgment, voice, and responsibility in their learning.

The nonsignificant finding for cultural identity adjustment also requires careful interpretation. In an international school context, students may hold different expectations regarding classroom participation, teacher authority, discussion, group work, and academic expression. Cultural diversity alone may not

strengthen engagement unless students' prior learning experiences and cultural perspectives are explicitly recognized and integrated into classroom practice. The findings suggest that identity-related conditions may become more relevant to engagement when they are supported through intentional instructional design. In a curriculum emphasizing critical thinking, autonomy may therefore be cultivated through tasks that enable students to connect prior knowledge, cultural experiences, and personal reasoning with academic inquiry.

Relatedness as the Most Salient SDT-Related Condition

The strongest pattern in the findings concerned relatedness-related conditions. Teacher-to-student relationships were significantly correlated with active learning engagement and remained the only statistically significant unique contributor in the regression model. The inclusive classroom environment was also significantly correlated with engagement, although its unique association was nonsignificant when the other contextual factors were considered simultaneously. These results indicate that relational conditions had the strongest statistical associations with engagement in this international junior high school context.

This pattern is consistent with SDT, which identifies relatedness as a basic psychological need supporting motivation, persistence, and engagement (Deci & Ryan, 1985; Ryan & Deci, 2020). It also aligns with previous research emphasizing the importance of supportive teacher-to-student relationships for students' participation and adjustment (Endedijk et al., 2022). For junior high school students, classroom participation involves academic, social, and emotional risks. Students may be more willing to ask questions, contribute to discussions, and express incomplete ideas when they feel respected, safe, and valued. These findings may be particularly relevant to returnee and culturally diverse students who are adjusting to unfamiliar classroom norms, peer relationships, and academic expectations. An inclusive classroom climate may support engagement by strengthening students' sense of belonging and psychological safety. Inclusion is enacted through everyday interactions, including how teachers respond to students, how peers listen to one another, and how mistakes are treated during learning. This interpretation is consistent with research showing that multicultural and inclusive climates may strengthen belonging, identity safety, and peer relationships (Abacioglu et al., 2023; Schachner et al., 2024). However, the mechanisms through which inclusion influenced engagement were not directly tested in this study.

Several alternative explanations should also be considered. More actively engaged students may have perceived their relationships with teachers and the classroom environment more positively. The use of self-reported data collected at one point in time may also have introduced common method bias. Other factors, including English proficiency, prior achievement, classroom anxiety, peer dynamics, and specific teacher practices, may have contributed to engagement. Therefore, the findings should be interpreted as context-specific associations rather than causal pathways.

Although the study focused on junior high school students, the findings may have developmental relevance to higher education. Skills required for university active learning, including questioning, discussion, explanation, and critical reflection, begin developing before students enter postsecondary education. Relationally supportive, inclusive, and language-accessible secondary classrooms may therefore help prepare students for later active learning and critical-thinking demands. This implication should be understood as a developmental connection rather than a direct generalization to higher education.

Implications for Instructional Leadership

The findings have several implications for instructional leadership. First, student engagement should be understood not only as an individual learner behavior but also as an institutional concern associated with teacher support, classroom relationships, and inclusive pedagogical conditions. A curriculum that emphasizes critical thinking is more likely to achieve its aims when students feel sufficiently safe to question, explain, disagree, and participate. Teacher professional development should

therefore prioritize relational pedagogy, formative feedback, academic language scaffolding, and inclusive classroom interaction.

Second, academic English support should be embedded within subject teaching rather than treated as a separate language concern. Students need explicit support with academic vocabulary, disciplinary reading, discussion strategies, explanation, and presentation. Integrating these forms of support into classroom instruction may help students participate more confidently in critical-thinking activities and communicate their reasoning more effectively.

Third, schools should review academic pressure and co-curricular or extracurricular participation from the perspective of balance. The findings did not show significant direct associations between these factors and engagement; therefore, increasing assignments, deadlines, or activities should not be assumed to improve participation. Schools should prioritize meaningful tasks that promote reasoning, reflection, and critical thinking while monitoring workload and coordinating club activities to protect students' well-being, sense of belonging, and academic focus.

Finally, teacher-to-student relationships should be recognized as an important relational foundation for engagement. Everyday practices, such as listening attentively, acknowledging partial answers, responding respectfully to student comments, and using consistent forms of address, can strengthen students' sense of safety and belonging. In the study school, some teachers use the honorific "san" as a locally established practice intended to communicate respect and consistency. Although the meaning of this practice may vary across contexts, respectful and predictable interaction can contribute to the psychological safety students need to ask questions, express developing ideas, and participate actively in classroom learning.

Limitations of the Study

This study has several limitations. Its cross-sectional quantitative case study design, single-school setting, modest purposive sample, and voluntary participation limit causal interpretation, representativeness, and generalizability. Reliance on self-reported data may also have introduced social desirability, common method bias, and reverse-perception effects, whereby more engaged students evaluated their teachers and classroom environment more positively. The questionnaire was used as a theory-informed contextual instrument rather than a fully validated psychometric scale; factor analysis was not conducted, and the overall Cronbach's alpha does not establish the reliability of each contextual factor separately. The absence of demographic data prevented subgroup analyses, while the researcher's insider role may have influenced participation or responses. Moreover, the regression model explained only part of the variance in engagement, indicating that factors such as English proficiency, prior achievement, anxiety, peer dynamics, family support, and teacher practices may also be relevant. Future studies should use larger multi-school samples, longitudinal and mixed-methods designs, and validated construct-level measures.

CONCLUSION

This study examined associations between selected school-based contextual factors and junior high school students' active learning engagement in a critical-thinking-oriented international school. Relatedness-related conditions, particularly teacher-to-student relationships and an inclusive classroom climate, showed the strongest associations with engagement. Academic English support was significantly correlated with engagement but was not significant in the regression model, while differentiated instruction, cultural identity adjustment, academic pressure, and co-curricular or extracurricular participation showed limited associations. These findings indicate that curriculum innovation alone may be insufficient to sustain active engagement without relational, linguistic, and instructional support.

The study contributes to engagement research and instructional leadership by framing engagement as both a student-level outcome and a school-level responsibility. It may also contribute to higher education by showing that the relational, linguistic, and participatory foundations of active learning can begin developing before students enter university. Schools seeking to strengthen critical-thinking pedagogy should therefore prioritize relational teaching, inclusive classroom interaction, academic language scaffolding, balanced workloads, and autonomy-supportive instruction. Given the single-school context, cross-sectional design, modest sample, and reliance on self-reported data, the findings should be interpreted cautiously. Future research should use larger, multi-school, longitudinal, and mixed-methods designs to examine how these contextual factors relate to different dimensions of engagement over time.

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