

Short Paper

Correlations and Functional Mechanisms Among University-level Factors, English Learning Engagement and Students' Language Proficiency

XiaoLu Zhu

Trinity University of Asia, Philippines
xiaolunzhu@tua.edu.ph
(corresponding author)

Adelina Sebastian

Trinity University of Asia, Philippines

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Abstract

This study aims to explore the impacts of university-level factors on English learning engagement among students in local universities, clarify the mediating mechanism of learning engagement in the development of language proficiency, and formulate practical University-level intervention strategies under the framework of resource constraints and classified evaluation. A total of 400 undergraduate students from two universities in Guangxi were selected as participants, and data were collected via questionnaires. The results revealed that students held positive overall attitudes toward the immersive learning environment (Mean = 3.61) and evaluation mechanism (Mean = 3.65). Significant inter-group differences between the two universities were identified in the two dimensions of immersive learning environment ($U = 12008$, $p = 0.002$) and evaluation mechanism ($U = 12429$, $p = 0.008$). Learning feedback related to self-regulation was moderately and positively correlated with language proficiency ($\rho = 0.687$, $p < 0.001$), while multi-dimensional learning support showed a stronger positive correlation with language proficiency ($\rho = 0.862$, $p < 0.001$). The findings indicate that school resource allocation, teaching modes, feedback systems, and assessment mechanisms are key factors affecting students' learning engagement and language development. Accordingly, this study puts



forward targeted countermeasures, including balancing educational resources, reforming the evaluation system, improving teacher feedback, and optimizing the immersive learning environment. This research addresses the lack of empirical evidence regarding the relationships among university intervention, learning engagement, and language development. It also provides evidence-based references for promoting the high-quality development of college English teaching in local universities.

Keyword – English learning engagement, language proficiency, University-level factor, evaluation mechanism, immersive learning

INTRODUCTION

The quality evaluation of higher education has long been a focal topic in educational management research, and student learning engagement is widely recognized as a vital indicator for measuring the quality of education and teaching. International organizations such as the OECD (2021) and UNESCO (2022) have repeatedly emphasized the importance of student engagement, noting that it not only directly reflects the quality of students' learning experience in higher education but also acts as a key predictor of their academic performance and professional competency development (Kuh, 2021). As China advances higher education evaluation reform and builds a high-quality higher education system, exploring ways to strengthen students' English learning engagement is of great practical value and policy significance for improving college English teaching and talent cultivation.

Unlike other academic subjects, language learning relies heavily on the organic combination of sufficient comprehensible language input, effective language output, and interactive communication between learners. Accordingly, English learning engagement presents a distinctive three-dimensional structure, including cognitive engagement, affective engagement, and behavioral engagement. Cognitive engagement is reflected in students' in-depth thinking in English learning, such as summarizing language rules, comprehending discourse connotations and applying learning strategies; affective engagement involves students' emotional tendencies in the learning process, such as learning interest, self-efficacy and the ability to regulate language anxiety; behavioral engagement refers to students' positive learning behaviors, including classroom interaction, peer collaborative learning and extracurricular English practice. Among them, behavioral engagement is the external manifestation of cognitive and affective engagement, and it exerts a direct driving effect on the development of students' productive language skills, such as oral expression and intercultural communication. The disciplinary characteristics of English learning determine its "high input and high output" development law, which requires universities to create high-quality classroom teaching scenarios, design scientific and practical learning tasks, and build a sound campus language learning ecosystem, to transform students' learning engagement into the sustainable development of their language competence.

In the context of the classified development and application-oriented transformation of local undergraduate universities in China, many non-"Double First-Class" local universities are facing multiple practical constraints in college English teaching. Firstly, there are obvious differences in students' English foundation and learning motivation, leading to the common phenomenon of "classroom silence" in English teaching and insufficient active participation of students. Secondly, the shortage of high-quality teaching resources, including insufficient professional teachers with comprehensive competencies, underdeveloped digital teaching platforms, and limited access to authentic English input resources, fails to support students' high-frequency, high-quality language interaction and practical training. Thirdly, the current English teaching evaluation is still dominated by result-oriented assessment, with insufficient attention to process assessment, which cannot effectively stimulate and maintain students' continuous behavioral input in English learning. Fourthly, the construction of campus English cultural environment is insufficient, and there is a lack of diverse extracurricular English practice platforms, making it hard to form an integrated "in-class and out-of-class" English language application ecosystem. These problems have jointly restricted the intensity and quality of students' English learning input, leading to a certain gap between the current English teaching effect and the requirements of national college English teaching quality standards for cultivating students' competency-oriented and output-oriented language abilities.

Existing research on student learning engagement has mainly focused on two aspects: at the macro level, it verifies the predictive effect of student engagement on academic achievement and competency development; at the micro level, it explores the impact of individual psychological factors such as learning motivation, self-efficacy, and learning anxiety on student engagement. However, there is a lack of systematic empirical research on how University-level factors (instructional methods, curriculum design, teacher support, and campus culture) influence students' English learning engagement and then drive the development of their language competence through specific mediating mechanisms. Although the internationally widely used National Survey of Student Engagement (NSSE) and its localized version NSSE-China have provided a mature framework for the process assessment of student engagement, their application in the field of college English teaching, including the verification of measurement equivalence, the identification of influence mechanisms and the design of targeted intervention strategies in the context of English learning, still needs to be further deepened and refined. Given the background of limited educational resources in local universities, how to improve students' classroom interaction quality, deepen their in-depth learning, and enhance their authentic language application ability through the collaborative innovation of school-level teaching management systems and teaching organization forms is still an unsolved key problem in current college English teaching research.

Taking student engagement theory and the core principles of second language acquisition as the dual theoretical basis, this study constructs an integrated research model of school-level factors, English learning engagement, and language competence development. From the perspective of English learning engagement, the study adopts a

three-dimensional analytical framework of cognition, affection, and behavior, and highlights the mediating and amplifying role of behavioral engagement in the transformation from language input to language output. From the perspective of school-level influencing factors, the study systematically combs and analyzes the action paths of four core dimensions on students' English learning behavioral engagement: instructional methods (e.g., active learning, collaborative learning, technology-integrated teaching), curriculum design (e.g., hierarchical and classified curriculum setting, task-based and project-based curriculum development, practice-oriented curriculum content), teacher support (e.g., high-quality academic feedback, multi-dimensional academic and emotional support, in-depth teacher-student interaction), and campus culture (e.g., English corner, English language competitions, international exchange activities, peer learning support). Centering on the development of students' comprehensive English application ability, the study takes oral expression, listening comprehension, reading comprehension, written expression, and intercultural communication competence as observable indicators to measure students' language proficiency.

The main research objectives of this study are as follows:

1. To explore students' overall perceptions of immersive learning environments and assessment mechanisms, and examine the effects of school-level factors on students' engagement in English learning.
2. To analyze the correlations between multi-dimensional learning engagement and students' language proficiency, and clarify the pathways and core mediating mechanisms through which learning engagement facilitates the development of language abilities.
3. To develop systematic and practical school-level intervention strategies and implementation approaches based on empirical findings.

LITERATURE REVIEW

Theoretical Basis and Measurement Tools of Student Engagement

Student engagement has been widely recognized as a core indicator of higher education quality and a robust predictor of academic achievement, competency development, and long-term learning success (OECD, 2021; UNESCO, 2022). Among the various frameworks for measuring student engagement, the National Survey of Student Engagement (NSSE), developed by Kuh et al. (2021), has become one of the most influential tools worldwide. Since its introduction to China in 2007, NSSE-China has been localized and revised to better adapt to the Chinese higher education context (Shi & Guo, 2022). With the development of educational technology, learning analytics has been gradually integrated into NSSE-China to improve assessment accuracy (Wang et al., 2024). However, the application of NSSE and NSSE-China in college English education, especially for English majors in regional universities, is still limited.

Conceptual Definition and Multidimensional Structure of English Learning Engagement

Fredricks et al. (2020) defined academic engagement as a multi-dimensional structure including cognitive, affective, and behavioral engagement. In the field of second language acquisition, the construct of English learning engagement has been further expanded. Dörnyei & Ryan (2021) emphasized the roles of motivation and self-regulation in language learning, while Hiver & Al-Hoorie (2022) proposed interactive engagement as an important dimension. Zhang & Li (2024) confirmed that the multi-dimensional engagement of English learning is significantly positively correlated with the improvement of language proficiency, which provides a clear theoretical basis for the dimension division of this study.

School-Level Influencing Factors of College Students' English Learning Engagement

Teaching Methods and Learning Activities

Innovative and interactive teaching methods play a positive role in stimulating students' learning engagement. Traditional teacher-centered teaching is gradually replaced by Task-Based Language Teaching, Project-Based Learning, and blended learning (Yang & Cheng, 2024; Liu & Feng, 2024). Extracurricular practical activities such as English corners and speech contests can provide authentic language application scenarios and enhance students' practical communication ability (Wang & Liu, 2023).

Curriculum Design and Content Arrangement

Reasonable curriculum design is an important prerequisite to improving learning engagement. Traditional exam-oriented curricula can no longer meet students' developmental needs, while diversified and practical courses such as academic English, intercultural communication, and Content and Language Integrated Learning can better meet personalized learning needs and enhance learning autonomy (Cen et al., 2021).

Teacher Support and Teacher-Student Interaction

Teacher support is a key factor in maintaining sustained learning engagement. High-quality teacher-student interaction, timely constructive feedback, and personalized academic support can significantly enhance students' learning motivation (Sun & Zhao, 2022). Teachers' professional ability in interactive teaching directly affects the quality of students' classroom participation (Wang & Liu, 2023).

Campus Culture and Language Environment

Campus language culture creates a subtle, immersive environment for English learning. Activities such as bilingual clubs and international exchange programs can reduce students' language anxiety and improve their communication confidence (Sun & Zhao, 2022). Incentive mechanisms such as scholarships and competition awards can also consolidate students' long-term learning motivation (Liu & Feng, 2024).

Theoretical Mechanism of Language Learning Engagement and Development

Behaviorist theory and second language acquisition theory jointly explain the formation mechanism of English learning engagement. Behaviorist theory emphasizes the influence of environmental stimuli and reinforcement mechanisms on learning behaviors (Watson & Sturme, 2022). In digital learning, gamification and personalized feedback can enhance learning motivation based on conditioning theory (Pavlov & Kravtsova, 2023). Ellis (2022) pointed out that sufficient comprehensible input, effective output, and interactive negotiation are the core conditions for language.

Ellis (2022) pointed out that sufficient comprehensible input, effective output, and interactive negotiation are the core conditions for language proficiency development, and learning engagement acts as an important mediator between environmental factors and learning effects.

Research Gaps and Problems to Be Solved

At present, most studies focus on the macro prediction of engagement on academic performance or the micro influence of individual psychological factors, while the systematic research on the mediating mechanism of school-level factors on English learning engagement and language development is insufficient (Guo & Wan, 2023). In addition, NSSE-China lacks empirical evidence in local colleges and universities, especially for English majors in underdeveloped regions (Shi & Guo, 2022). Therefore, this study takes English majors in local universities of Guangxi as the research object to make up for the deficiencies of existing research.

METHODOLOGY

Research Design

This study adopted a quantitative research approach to gather comprehensive empirical data. Questionnaires were utilized for data collection, and statistical analyses were performed to explore the key factors affecting students' engagement in English learning. Grounded in behavioral learning theory and language learning theory, this research investigated how motivation, self-regulation, feedback, social support, and learning

interest shape students' English learning engagement. It also examined the effects of language input, language output, interactive communication, immersive learning environment, and assessment mechanisms on the development of learners' language proficiency.

Respondents and Sampling

Participants were selected via stratified cluster sampling from two universities in Guangxi Zhuang Autonomous Region. The sampling covered undergraduate students across all academic years and various disciplines, with balanced distribution in terms of gender and grade level. A total of 400 undergraduates were recruited as the research sample, with a focus on their engagement in college English learning. The sample size for each department was determined based on faculty scale and course coverage, so as to guarantee the representativeness and comparability of the collected data.

Research Instrument

A self-developed bilingual (Chinese and English) questionnaire served as the main research instrument. It was divided into two sections. Section A collected demographic information and learning background, including gender, age, grade, major, and self-reported English proficiency. Section B measured English learning engagement and its influencing factors, with all items rated on a five-point Likert scale.

The questionnaire covered behavioral, cognitive, and emotional dimensions of learning engagement. Measured influencing factors included motivation, self-regulation, feedback, support, and interest, as well as language input, language output, interaction, immersive environment, and evaluation mechanisms. All items were revised and refined based on expert comments and a preliminary pilot test with a small sample.

The questionnaire was distributed online via Wenjuanxing, a mainstream survey platform. Standardized instructions about research purposes, anonymity, and data confidentiality were provided to all participants. The survey remained open for one week before data collection was completed.

All valid responses were coded and imported into SPSS, Jamovi, and Excel for subsequent analysis. Data processing included descriptive statistics, reliability analysis, correlation analysis, regression analysis, and analysis of variance (ANOVA). This study was reviewed and approved by the research ethics committee. Throughout the whole research procedure, the principles of informed consent, participant anonymization, encrypted data storage, and exclusive academic use of data were strictly followed.

RESULTS

This section conducts data analysis to explore students' overall perception of immersive learning environments and examine the effects of school-level environmental factors on students' English learning engagement.

Table 1. Self-Assessment of the Respondents of their English Learning Ability in terms of Immersion Environment

| | Indicator | Mean | Verbal Interpretation |
|--------------|---|------|-----------------------|
| 1 | The English learning environment provided by our school (such as full English teaching, English clubs, international exchange programs) is very helpful for English learning. | 3.51 | Agree |
| 2 | I believe that immersing myself in an English environment will increase my motivation and participation in learning English. | 3.64 | Agree |
| 3 | The teaching method of the teacher has a great influence on my English learning ability. | 3.66 | Agree |
| 4 | Extra-curricular learning resources (such as online courses and English corners) are helpful to students' English learning ability. | 3.60 | Agree |
| 5 | Family support (such as parents' encouragement, family language environment) influences my English learning ability. | 3.65 | Agree |
| OVERALL MEAN | | 3.61 | Agree |

Note. 4.21-5.00 (Strongly Agree) | 3.41-4.20 (Agree) | 2.61-3.40 (Neutral) | 1.81-2.60 (Disagree) | 1.00-1.80 (Strongly Disagree)

As presented in Table 1, the overall mean for the assessment by the respondents on their English learning ability in terms of "Immersion Environment" is 3.61, with a verbal interpretation of "Agree".

This study systematically examined students' self-evaluation of their English learning abilities in an immersive English learning environment through five specific dimensions. The overall average score was 3.61 (a five-point scale, interpreted as "agree"), indicating that students held a significantly positive attitude towards their English proficiency development in the immersive environment. According to the Likert scale scoring rules (1.00–1.80 for strong disagreement, 3.41–4.20 for agreement, and 4.21–5.00 for strong agreement), the results fall within the positive cognition range, and the scores of each sub-dimensional are all above the neutral threshold (2.60), reflecting students' general recognition of their English learning effectiveness under the multidimensional support system.

Following the research objectives, this part further analyzes students' perception of evaluation mechanisms and explores how school-level assessment factors affect students' English learning engagement.

Table 2. Self-Assessment of the Respondents of their English Learning Ability in terms of the Assessment Mechanism

| | Indicator | Mean | Verbal Interpretation |
|--------------|---|------|-----------------------|
| 1 | I believe that the feedback provided by my teachers (e.g., homework correction, class evaluation) helps me to improve my English learning ability. | 3.71 | Agree |
| 2 | Formative assessment mechanisms (e.g., quizzes, oral feedback) are more effective in improving my English learning than a final exam. | 3.65 | Agree |
| 3 | The English assessment mechanism tools provided by the school (such as the online assessment mechanism system, oral assessment software) are very helpful to my English learning Ability. | 3.61 | Agree |
| 4 | I adjusted my learning methods according to the English assessment results (such as test results and teacher feedback) to improve my English learning ability. | 3.66 | Agree |
| 5 | My school provides more diverse English assessment methods (e.g, project-based learning, practical task assessment) to improve my English learning ability. | 3.62 | Agree |
| OVERALL MEAN | | 3.65 | Agree |

Note. 4.21-5.00 (Strongly Agree) | 3.41-4.20 (Agree) | 2.61-3.40 (Neutral) | 1.81-2.60 (Disagree) | 1.00-1.80 (Strongly Disagree)

As presented in Table 2, the overall mean for the assessment by the respondents on their English learning ability in terms of "Assessment Mechanism" is 3.65, with a verbal interpretation of "Agree".

This study systematically examined students' self-evaluation of the relationship between English learning assessment mechanisms and their own learning ability improvement from five sub-dimensions: teacher feedback, formative assessment, assessment tools, application of assessment results, and diversity of assessment methods. The overall average score was 3.65 (a five-point scale, interpreted as "agree"), indicating that students generally believed that the various assessment mechanisms currently used in schools have a positive effect on improving their English learning ability. This result is

consistent with the interpretation criteria set in this study (3.41–4.20 for "agree") and also with the research conclusions of Zhou & Xu (2021) on the development and validation of assessment mechanism scales, indicating that this assessment dimension has good construct validity and explanatory power.

To further examine the differential impacts of immersive learning environments and evaluation mechanisms on English learning engagement among students from different universities, this study adopts independent sample tests for comparative analysis.

Table 3. Mann-Whitney U Test Results Comparing Respondents' Assessment of their Learning Ability in English by School

| | | Statistic | P | Significance |
|---------------------------|----------------|-----------|-------|--------------|
| Language Input | Mann-Whitney U | 11666 | <.001 | Significant |
| Language Output | Mann-Whitney U | 11701 | <.001 | Significant |
| Interaction Communication | Mann-Whitney U | 11193 | <.001 | Significant |
| Immersion Environment | Mann-Whitney U | 12008 | 0.002 | Significant |
| Assessment Mechanism | Mann-Whitney U | 12429 | 0.008 | Significant |

The Independent Samples Mann-Whitney U test was employed to assess potential differences in the respondents' assessment of their English learning ability with school as a test factor. For the immersive environment, the statistic obtained was 12008, with a corresponding p-value of 0.002. The significant p-value indicates sufficient evidence to reject the null hypothesis, suggesting a significant difference in mean ranking between the two groups.

For the evaluation mechanism, the statistic obtained was 12429, with a corresponding p-value of 0.008. The significant p-value indicates sufficient evidence to reject the null hypothesis, suggesting a significant difference in mean ranking between the two groups. In line with the second research objective, this part analyzes the correlation between multi-dimensional learning engagement and language competence, so as to clarify the internal paths through which learning engagement influences the development of language competence.

Table 4 presents the Spearman's rho correlation between self-regulated engagement learning and overall learning ability. The correlation coefficient is $\rho = 0.687$, indicating a moderately positive correlation between the two variables. The corresponding p-value is less than 0.001, which is below the significance level of 0.05, demonstrating a statistically significant association. The result reveals that engaged learning exerts a positive effect on learners' learning ability.

Table 4. Spearman's Rho Correlation Analysis between their Engagement Learning (in terms of Feedback) and Learning Ability

| | | Feedback | Learning Ability |
|------------------|----------------|----------|------------------|
| Feedback | Spearman's rho | — | |
| | P-value | — | |
| Learning Ability | Spearman's rho | 0.687 | — |
| | P-value | <.001 | — |

This section further explores the correlation characteristics of different dimensions of learning engagement and language competence, and identifies the core mediating mechanisms of learning engagement in promoting language competence development.

Table 5 presents the Spearman's rho correlation between support-oriented engagement learning and overall learning ability. The correlation coefficient is $\rho = 0.862$, indicating a strong positive correlation between the two variables. The corresponding p-value is less than 0.001, which is below the significance level of 0.05, demonstrating a statistically significant association. The result reveals that engaged learning exerts a positive effect on learners' learning ability.

Table 5. Spearman's Rho Correlation Analysis between their Engagement Learning (in terms of Support) and Learning Ability

| | | Support | Learning Ability |
|------------------|----------------|---------|------------------|
| Feedback | Spearman's rho | — | |
| | P-value | — | |
| Learning Ability | Spearman's rho | 0.862 | — |
| | P-value | <.001 | — |

DISCUSSION

Table 1 examines students' self-assessment of English proficiency in an immersive environment from five dimensions: school environment, motivation enhancement, teacher teaching methods, extracurricular resources, and family support. The overall mean $M = 3.61$, interpreted as "agree," and all sub-dimension scores are above the neutral threshold (2.60), indicating that students hold a positive attitude towards immersive learning with multidimensional support. The highest mean was in "Teacher teaching methods' influence on ability" ($M = 3.66$), and the lowest was in "School environment's support for learning" ($M = 3.51$), but both fall within the positive cognitive range.

Lee & Chen (2021) found in their study of immersive English teaching in Taiwanese high schools that optimizing teacher teaching methods is more effective in boosting confidence

than simply increasing immersion time; UNESCO (2020) emphasized the role of family and extracurricular resources in language immersion.

This study verifies the above conclusions. Enriched educational resources and optimized teaching methods can boost students' learning motivation and participation, which in turn increases their frequency of language use and learning confidence, and ultimately strengthens their perceived ability. The support system (Table 5) provides both emotional and cognitive guarantees in this process. The positive effects of immersive environments were recognized by students, and teaching methods and resource optimization were key to enhancing the experience.

Table 2 surveyed students' self-evaluation of the relationship between assessment mechanisms and their own English learning ability improvement across five dimensions: teacher feedback, formative assessment, assessment tools, application of assessment results, and diversity of assessment methods. The overall mean $M = 3.65$ (five-point scale), interpreted as "agree," indicates that students generally believe that the various assessment mechanisms currently in school have a positive effect on improving English learning ability. The highest mean appeared in "effectiveness of teacher feedback" ($M = 3.71$), indicating that students highly recognized the direct promoting effect of personalized feedback such as homework correction and classroom evaluation; the lowest mean was in "helpfulness of digital assessment tools provided by the school" ($M = 3.61$), which, although still in the "agree" category, reflects a slightly lower perceived actual utility of digital assessment tools.

These results are consistent with the research conclusions of Zhou & Xu (2021) on the development and validation of assessment mechanism scales, verifying the good construct validity of this dimension. Li et al. (2022) found that AI-driven digital tools can improve student engagement in the Chinese ESL context, but this contrasts with the relatively low scores for digital tools in this study, suggesting potential inter-school differences in technology acceptance or insufficient training. Hattie & Timperley (2023) pointed out that effective feedback can significantly improve self-regulated learning ability by indicating learning goals and directions for improvement, providing theoretical support for the high feedback scores in this study. Teacher feedback provides diagnostic information to help students identify weaknesses and adjust learning strategies, which constitutes the self-regulated learning path. This process strengthens students' sense of control and self-efficacy and further improves their self-assessment. Lower scores for digital tools may stem from implementation gaps (device accessibility, insufficient digital literacy among teachers and students) or a lack of targeted training. The assessment mechanism as a whole has a positive impact on student learning; future efforts should focus on maintaining high-quality feedback while optimizing the availability of digital assessment tools and training support.

Table 3 uses an independent samples Mann-Whitney U test to compare the differences in self-assessment among students from different schools across five

dimensions: language input, language output, interactive communication, immersive environment, and assessment mechanism. All dimensions showed $p < 0.05$, indicating a significant structural impact of school background on self-assessment of learning ability. The interaction and communication dimension ($U = 11193$, $p < .001$) showed the most significant difference, followed by language input ($U = 11666$) and language output ($U = 11701$), indicating the most significant imbalance in core teaching components among schools. The assessment mechanism dimension ($U = 12429$, $p = 0.008$) showed a relatively small but still significant difference.

Garcia & Wei (2021)'s research shows that differences in school classroom interaction design and resources significantly affect the accessibility of language learning opportunities; the OECD (2023) Global Education Monitoring Report points out that inter-school resource disparities are one of the main sources of inequality in learning outcomes. This study further validated the applicability of these conclusions in English-speaking contexts using nonparametric tests. Differences in school teaching resources, classroom interaction patterns, and assessment systems lead to unequal access to language input, output, and interactive opportunities among students, which ultimately results in notable disparities in their self-assessment scores. This structural disparity can be partly explained by differences in school support systems and feedback quality (see Tables 5 and 4). Significant inter-school differences exist across all core dimensions, suggesting that education policies should focus on promoting balanced resource allocation and consistency in teacher professional development to ensure equitable learning opportunities.

Table 4 uses Spearman's rho test to examine the relationship between engaged learning (from a feedback perspective) and learning ability, yielding $\rho = 0.687$ ($p < .001$), indicating a moderately significant positive correlation. This means that students who actively participate in the feedback process are more likely to self-report higher learning abilities. This coefficient shows that feedback input has a stable positive effect on perceived learning ability, but the correlation strength is moderate, suggesting the existence of other influencing factors (such as motivation and prior knowledge).

Núñez et al. (2022) found in a study of Spanish learners that formative feedback significantly improved metacognition and self-reporting abilities; Winstone et al. (2021)'s meta-analysis indicated that active student participation in feedback promotes learning progress more effectively than passive acceptance. This study replicates this trend in an English-speaking context. According to Zimmerman's (2006) self-regulated learning model, feedback enables learners to detect errors and adjust strategies. This process strengthens their sense of control and learning self-efficacy, and ultimately improves their self-assessment. The highest feedback scores in Table 2 are consistent with this mechanism. From a feedback perspective, engaged learning and learning ability are significantly positively correlated. In teaching, actionable, personalized feedback should be designed, and students should be guided to actively use it.

Table 5 shows that engaged learning (from a support perspective) and learning ability have a Spearman's rho = 0.862 ($p < .001$), indicating a highly significant positive correlation. Higher support levels correlate with stronger self-assessment of learning ability. This coefficient is the highest correlation value in this study, demonstrating that supportive factors (family encouragement, school resources, teacher motivation) have a very strong driving effect on learning self-assessment.

Wang et al. (2021) found in their study of English learning among Chinese middle school students that multidimensional support from family and school significantly improved self-efficacy and self-assessment of achievement; the OECD (2023) emphasizes that a supportive environment is a key structural factor in narrowing the learning outcome gap. This study validates the amplifying effect of supportive factors on perceived English proficiency. According to theory, a supportive environment can reduce learners' affective filters, thereby enhancing motivation and classroom engagement. This enables learners to gain more opportunities for practice and feedback, continuously accumulating positive learning experiences and ultimately improving their perceptual abilities. This logical chain explains the differences in self-evaluations among schools shown in Table 3. At the same time, the significant positive correlation between participatory learning and learning capacity further underscores the importance of establishing a multi-level support system integrating families, schools, and communities. This pathway explains the source of inter-school self-assessment differences in Table 3. From a supportive perspective, engaged learning and learning ability show a strong positive correlation, highlighting the necessity of building a multi-layered support network encompassing family, school, and community.

CONCLUSIONS AND RECOMMENDATIONS

The overall results show that students exhibit multi-dimensional and systematic positive cognition in their self-assessment of English learning ability, significantly influenced by the quality of the assessment mechanism, differences in school background, the strength of support and feedback mechanisms, and immersive environment conditions. Regarding assessment mechanisms, students generally acknowledge the role of teacher feedback, formative assessment, assessment tools, outcome application, and methodological diversity, believing that existing assessment methods have a positive effect on improving learning ability. This reflects that scientifically designed assessments not only provide effective diagnosis but also promote the adjustment and improvement of learning strategies. Significant differences exist in students' self-assessments across different schools regarding language input, language output, interactive communication, immersive environments, and assessment mechanisms. This indicates that school-level resource allocation, classroom interaction models, and institutional arrangements constitute important structural factors in shaping students' perceived abilities, and inter-school imbalances directly reflect the differentiation in learning opportunities and outcomes.

Furthermore, regarding the relationship between engaged learning and learning ability, engaged learning shows a significant positive correlation with learning ability from both feedback and support perspectives, with a stronger correlation in support levels. This suggests that under the combined effect of supportive factors (such as family encouragement, school resource guarantees, and teacher incentives) and effective feedback, students are more likely to develop positive self-efficacy and belief in their abilities, thereby improving learning engagement and effectiveness. Regarding immersive environments, students gave positive evaluations across dimensions such as school environment, motivation enhancement, teacher teaching methods, extracurricular resources, and family support, particularly affirming the key role of teacher teaching methods and family support. Even with slightly lower perceived direct help from the school and activity environment, students still gained sufficient motivation to participate and opportunities to use language through the support of a multi-dimensional support system, thus forming positive cognitive abilities.

Here, researchers offer the following suggestions for educational practice: (1) Optimize the evaluation mechanism. Schools should continue to strengthen the use of formative assessment and diverse evaluation tools, and enhance teacher and student training on digital assessment platforms to improve their practicality and acceptance. (2) Narrow the gap between schools. Education management departments need to formulate policies for balanced resource allocation, especially in terms of language input, output, and interaction opportunities, to ensure that students from different schools enjoy equal learning conditions. (3) Strengthen the support system. Through home-school cooperation, community resource integration, and teacher incentive measures, a multi-level support network should be built to enhance students' self-efficacy and learning motivation. (4) Improve the quality and accessibility of feedback. Teachers should receive training in formative feedback strategies to ensure that feedback is operable, timely, and individualized, promoting the development of students' self-regulating learning abilities. (6) Improve the immersive environment. While maintaining the advantages of teachers' teaching methods, schools should increase investment in all-English teaching, English clubs, and international exchange programs, and improve the coverage and utilization rate of hardware facilities and extracurricular resources.

IMPLICATIONS

This study expands the application of self-regulated learning theory, social cognitive theory, and formative assessment theory in English learning contexts at the theoretical level, confirming the dual-channel role of support and feedback and its explanatory power in inter-school differences. At the practical level, the findings provide empirical evidence for optimizing assessment design, promoting educational equity, and improving the quality of immersive teaching. Future research, combining longitudinal tracking and cross-regional comparisons, will further reveal the evolutionary patterns of these mechanisms over time and in their macro-structure, providing more targeted guidance for language education policy and teacher development in a globalized context.

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DECLARATIONS

Conflict of Interest

No conflicts of interest exist with the author that might be deemed significant to the article's content.

Informed Consent

Informed consent was obtained from all subjects involved in the study.

Ethics Approval

Approval to conduct the study was obtained from the local ethics committee and the administrator of the campus.

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Author's Biography

XiaoLu Zhu is a lecturer in China, and a doctor of Education at Trinity University of Asia, Philippines. Her research interests include English teacher's development, English Learning, educational leadership, students' development and higher education sustainability.

Adelina Sebastian, a teacher of the College of Arts, Sciences and Education at Trinity University of Asia, Philippines. Her academic research interests are in teacher education and higher education leadership.