

When Anxiety Outweighs Motivation: Motivational and Affective Predictors of EFL Achievement in Indonesian Vocational Schools

Dewa Sang Made Widiantera*, Anak Agung Putri Maharani, I Gde Putu Agus Pramerta

Universitas Mahasaraswati Denpasar, Indonesia

Corresponding Email: dewa.widhi08@gmail.com

Abstract

Cognitive ability alone does not determine success in learning English as a foreign language (EFL), since psychological factors strongly influence how students engage and perform. Research that examines these factors together within vocational education remains scarce. This study investigates intrinsic motivation, extrinsic motivation, and learning anxiety as predictors of EFL learning achievement among vocational high school students. A quantitative *ex post facto* design was applied to 137 students of SMKS Praja Pandawa Bangli, selected through total sampling. Data on the three predictors were collected using validated questionnaires, while achievement data were drawn from documented English scores. The data were analyzed through descriptive statistics and multiple linear regression. The results show that intrinsic motivation has a positive and significant effect on EFL learning achievement, whereas learning anxiety has a negative and significant effect. Extrinsic motivation, by contrast, shows no significant independent effect. Together, the three predictors account for 24.9% of the variance in student achievement. These findings indicate that internal psychological conditions matter more than external incentives in shaping language learning outcomes. From the perspective of transformational education and learning, the study suggests that meaningful change in EFL learning grows not from external pressure but from instruction that strengthens intrinsic motivation and dismantles emotional barriers, enabling students to move from passive compliance toward authentic and self-sustaining engagement with the language.

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INTRODUCTION

English proficiency has become a basic requirement rather than an optional skill in the globalized era. It opens access to information, enables international interaction, and shapes a person's standing in the global workforce (Kecskes, 2021; Shchemeleva, 2022). In countries where English as a Foreign Language (EFL) is taught, exposure is often confined to the classroom, so students' success depends not only on the quality of instruction but also on their internal readiness and psychological engagement (Han, 2021; Ma et al., 2024). EFL learning achievement is commonly measured through the four language skills of listening, speaking, reading, and writing. These outcomes, however, are driven by a broader mix of cognitive, motivational, and emotional factors (Alamer, 2022; Kormos, 2023). Understanding what determines EFL achievement therefore calls for a perspective that reaches beyond linguistic competence alone.

Language learning is best understood not as the simple accumulation of knowledge but as an interplay between cognitive processes and affective conditions. Two of these conditions stand out. Motivation drives learners to initiate, sustain, and regulate their learning behavior, and even the most carefully designed instruction rarely produces meaningful results without it (Kang et al.,

2021; Wang et al., 2025). Self-Determination Theory distinguishes intrinsic motivation, which springs from interest, enjoyment, and curiosity, from extrinsic motivation, which is driven by external rewards or pressures, and it maintains that the value of extrinsic motivation depends on how fully it is internalized (Chong et al., 2024; Ryan et al., 2021). Learning anxiety operates alongside motivation as a powerful affective filter. The Foreign Language Classroom Anxiety framework describes it through communication apprehension, test anxiety, and fear of negative evaluation, while Krashen's Affective Filter Hypothesis explains how high anxiety blocks the processing of language input and slows acquisition (Dong & Huang, 2024; Gok et al., 2023; Morgan & Katz, 2021).

A growing body of empirical work has examined these factors. Alharfi and Alamer (2025) and Yang et al. (2025) showed that intrinsic motivation strengthens engagement and achievement, and (Tahmouresi & Papi, 2021) found that motivation supports writing achievement while anxiety hinders it. On the affective side, Hu et al. (2024) and Heydarnejad et al. (2022) reported that foreign language anxiety correlates negatively with achievement, and Song et al. (2021) and Walker (2024) identified anxiety as the affective variable with the strongest negative bearing on English test scores. Together, these studies establish that motivation generally helps and anxiety generally harms, which provides a firm foundation for further inquiry into how these forces play out in specific learning environments.

Several gaps remain despite this progress. Much of the existing research has been conducted in higher education or general secondary settings, which leaves vocational education underrepresented. Many studies also treat motivation as a single construct without separating its intrinsic and extrinsic dimensions, an approach that can obscure important differences in learning behavior. Just as often, motivation and anxiety are studied in isolation rather than within one analytic model that captures how they work together. These limitations point to a clear need for research that examines intrinsic motivation, extrinsic motivation, and learning anxiety at the same time and within a clearly defined educational context.

Vocational secondary education offers exactly such a context, and it differs from general academic schooling in ways that matter for language learning. Vocational students are oriented toward practical skills and future employment, so they tend to view English as a tool tied to certification or job requirements rather than as a subject in its own right (Avcı & Engin-Demir, 2021; Liashenko, 2022). This orientation may heighten their reliance on extrinsic motivation, although such external incentives do not always translate into deep engagement. Vocational students also have few opportunities to use English outside the classroom, a condition that can intensify anxiety and erode confidence (Akmal & Unsiah, 2025; Kulsum & Ridwan, 2025). The result is a distinctive setting in which motivational and emotional factors interact in ways that general education research cannot fully capture. Preliminary observation at SMKS (Sekolah Menengah Kejuruan, vocational high school) Praja Pandawa Bangli reflects this picture. Achievement there remains moderate, dependence on external motivators runs high, intrinsic interest is limited, and anxiety surfaces frequently in speaking and classroom interaction.

The novelty of this study lies in addressing these gaps together rather than separately. It treats intrinsic and extrinsic motivation as distinct constructs, places them alongside learning anxiety within a single regression model, and situates the analysis in an Indonesian vocational school, a setting that has drawn little attention in the literature. By combining Self-Determination Theory with the Foreign Language Classroom Anxiety framework, the study offers an integrated account of how motivational and affective factors jointly shape academic performance. This integration makes it possible to weigh the relative contribution of each factor within one model, something earlier single-variable studies could not achieve.

Building on this rationale, the present study investigates how intrinsic motivation, extrinsic motivation, and learning anxiety influence English as a Foreign Language (EFL) learning achievement among students at SMKS (Sekolah Menengah Kejuruan, vocational high school) Praja Pandawa Bangli. Three hypotheses are proposed. First, intrinsic motivation has a positive and significant effect on EFL learning achievement. Second, learning anxiety has a negative and

significant effect. Third, extrinsic motivation does not exert a significant independent effect. By testing these hypotheses, the study aims to inform teaching strategies that strengthen intrinsic motivation and reduce learning anxiety, particularly in the vocational education setting.

RESEARCH METHOD

Research Design and Approach

This study adopted a quantitative approach with an ex post facto design. The design was chosen because the variables under investigation, namely intrinsic motivation, extrinsic motivation, and learning anxiety, had already occurred naturally and could not be manipulated by the researcher (Creswell & Creswell, 2018). An ex post facto design allows a researcher to examine cause and effect relationships among variables under existing conditions without any direct intervention (Sugiyono, 2017). Two theoretical frameworks underpinned the analysis. Self-Determination Theory (Ryan & Deci, 2017, 2020) guided the treatment of the motivational variables, while Foreign Language Classroom Anxiety Theory (Horwitz et al., 1986) informed the conceptualization of the affective variable. Working within this design, the study sought to determine both the partial and the simultaneous effects of the three predictors on students' EFL learning achievement. The overall research procedure is presented in **Figure 1**, which traces the study from its design stage through to the analysis of findings.

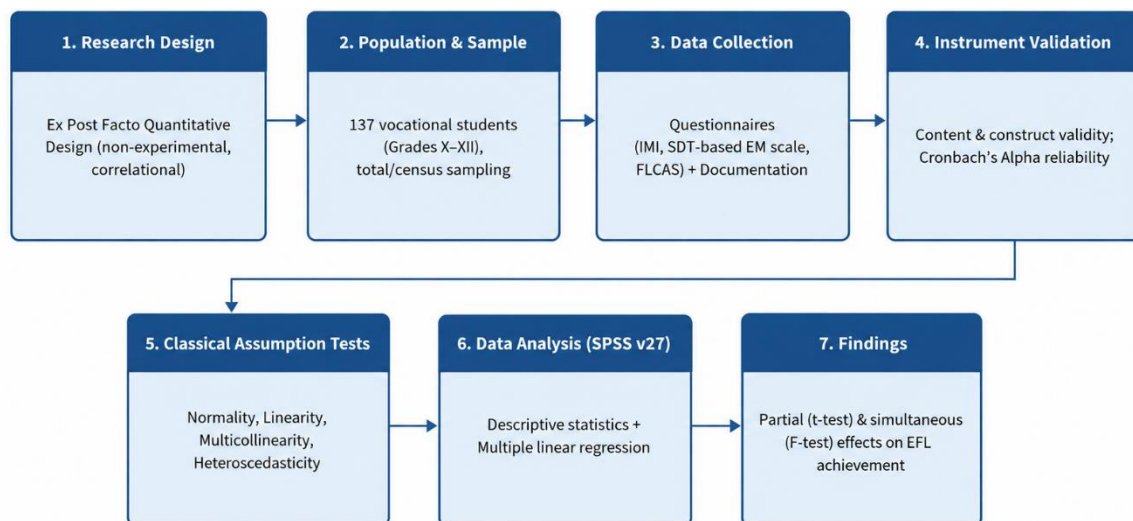


Figure 1. Research procedure flow

Source: Author's own elaboration (2025)

As **Figure 1** illustrates, the study moved through a linear sequence of stages. Each stage fed directly into the next, beginning with the determination of the design and the sample, proceeding through data collection and instrument validation, and ending with assumption testing and regression analysis. This structure ensured that every methodological decision was made before the data were analyzed, which strengthens the internal validity of the findings.

Population and Sample

The population comprised all 10th, 11th, and 12th grade students enrolled at SMKS Praja Pandawa Bangli during the 2025/2026 academic year. The study applied total sampling, also known as census sampling, in which every member of the population served as a research participant. This procedure yielded 137 students. A vocational school was deliberately chosen as the research setting because English learning in this context is closely tied to students' future career requirements, which makes it a meaningful setting for examining how motivational and affective factors relate to language achievement.

Data Collection Techniques

Data were gathered through two techniques. Questionnaires measured the three independent variables, and documentation provided the data for the dependent variable. Intrinsic motivation was assessed with an adapted Intrinsic Motivation Inventory (IMI) covering interest and enjoyment, perceived competence, effort and importance, and perceived choice, while extrinsic motivation was measured through a Self-Determination Theory questionnaire spanning external, introjected, identified, and integrated regulation (Alizadeh et al., 2025; Yan et al., 2025). Learning anxiety was measured with the Foreign Language Classroom Anxiety Scale (FLCAS), which captures communication apprehension, test anxiety, and fear of negative evaluation (Lee & Ye, 2023). All items were translated into Bahasa Indonesia for clarity and cultural appropriateness and rated on a five-point Likert scale from strongly disagree to strongly agree. The dependent variable, students' EFL learning achievement, was drawn from official English scores that included daily assessments, mid-term examinations, and final semester examinations. Collected with the school's permission, these records form a valid summative measure of language proficiency under the national curriculum and reduce the subjectivity and bias common to self-reported achievement data. **Table 1** summarizes the instruments.

Table 1. Summary of the Research Instruments

Variable	Instrument		Theoretical Basis	Dimensions / Components	Scale
Intrinsic Motivation	Intrinsic Inventory adapted	Motivation (IMI),	Self-Determination Theory	Interest/enjoyment, perceived competence, effort/importance, perceived choice	5-point Likert
Extrinsic Motivation	SDT-based questionnaire		Self-Determination Theory	External, introjected, identified, integrated regulation	5-point Likert
Learning Anxiety	Foreign Language Classroom Anxiety Scale (FLCAS)	Language Anxiety	Foreign Language Classroom Anxiety Theory	Communication apprehension, test anxiety, fear of negative evaluation	5-point Likert
EFL Learning Achievement	Documentation of official English scores	of	National curriculum (summative)	Daily, mid-term, and final examination scores	Numeric score

Note. N = 137. The three questionnaires used a five-point Likert scale ranging from strongly disagree to strongly agree.

Instrument Validity and Reliability

The accuracy and consistency of the instruments were tested before the main analysis. Content validity was established through expert judgement involving two specialists in English language teaching, while construct validity was examined through item analysis. Reliability was assessed using the Cronbach's Alpha coefficient, and every instrument returned a value above the acceptable threshold, as reported in **Table 1**. These procedures confirmed that the instruments were both valid and reliable for the purposes of this study.

Data Analysis Techniques

Data were analyzed using SPSS version 27. The analysis began with descriptive statistics, which summarized the mean, standard deviation, and distribution of each variable. Before the inferential analysis, a set of classical assumption tests was conducted, covering normality, multicollinearity, heteroscedasticity, and autocorrelation, to ensure that the data met the requirements for regression. Multiple linear regression was then used to test the effect of intrinsic motivation, extrinsic motivation, and learning anxiety on EFL learning achievement. The coefficient of determination (R^2) estimated the proportion of variance explained by the predictors, the t-test examined the partial effect of each variable, and the F-test assessed their combined effect. This sequence of procedures provided a detailed account of how the motivational and affective variables related to students' academic performance in EFL learning.

RESULT AND DISCUSSION

Results

The field data were obtained from 137 students of SMKS (Sekolah Menengah Kejuruan, vocational high school) Praja Pandawa Bangli through questionnaires and documentation. Three independent variables, namely intrinsic motivation, extrinsic motivation, and learning anxiety, were measured using validated questionnaires, whereas students' EFL learning achievement was derived from their documented English scores. The analysis proceeded in two stages: descriptive statistics to characterize the distribution of each variable, followed by inferential statistics to examine the relationships among the variables.

Descriptive Statistics

The descriptive analysis summarizes the central tendency and dispersion of each variable, providing an initial overview of students' motivational and affective profiles before the relationships among the variables were tested. The results are presented in **Table 2**.

Table 2. Descriptive Statistics of the Research Variables

Variable	Mean	Std. Deviation	Category
Intrinsic Motivation	65.82	8.80	Moderate-High
Extrinsic Motivation	59.96	9.72	Moderate
Learning Anxiety	102.10	15.13	Moderate-High
EFL Learning Achievement	81.98	3.80	Moderate

Note. N = 137. Categories were determined using the established scoring intervals of each instrument.

As shown in **Table 2**, intrinsic motivation recorded a mean of 65.82 (SD (Sekolah Dasar, elementary school) = 8.80), placing it within the moderate-to-high category and indicating that most students were driven by interest, enjoyment, and personal satisfaction when learning English. Extrinsic motivation was comparatively lower, with a mean of 59.96 (SD = 9.72) in the moderate category, suggesting that external factors such as grades, rewards, and career expectations contributed to students' motivation but were not the dominant driver. Learning anxiety, by contrast, was notably high (M = 102.10, SD = 15.13), revealing that a considerable proportion of students experienced nervousness, fear of making mistakes, and apprehension about negative evaluation, particularly in communicative situations. Finally, EFL learning achievement averaged 81.98 (SD = 3.80) within the moderate category; the relatively small standard deviation indicates that students' scores clustered within a narrow range. Taken together, these figures reveal a learning environment in which a positive motivational disposition and a substantial affective barrier coexist. This apparent tension is precisely what the subsequent inferential analysis was designed to disentangle.

Classical Assumption Tests

Before conducting the multiple linear regression, a series of classical assumption tests was performed to ensure that the data satisfied the statistical requirements for parametric analysis. The outcomes of these tests are summarized in **Table 3**.

Table 3. Summary of the Classical Assumption Tests

Assumption Test	Statistic / Criterion	Value	Results
Normality (Kolmogorov-Smirnov)	Asymp. Sig. (> 0.05)	0.200	Met
Linearity – Intrinsic Motivation	Deviation from Linearity Sig. (> 0.05)	0.101	Linear
Linearity – Extrinsic Motivation	Deviation from Linearity Sig. (> 0.05)	0.131	Linear
Linearity – Learning Anxiety	Linearity Sig. (< 0.05)	0.000	Linear
Multicollinearity	Tolerance > 0.10; VIF < 10	Met	No issue
Heteroscedasticity	No systematic residual pattern	Met	Homoscedastic

Note. For the Kolmogorov-Smirnov and Deviation from Linearity tests, a significance value greater than 0.05 indicates that the assumption is met.

As reported in **Table 3**, the Kolmogorov–Smirnov test produced a significance value of 0.200 ($p > 0.05$), confirming that the data were normally distributed. The linearity tests indicated that the relationships between intrinsic motivation and achievement ($\text{Sig.} = 0.101$) and between extrinsic motivation and achievement ($\text{Sig.} = 0.131$) were linear, while learning anxiety showed a strong and statistically significant linear relationship with achievement ($\text{Sig.} = 0.000$). The multicollinearity test yielded high tolerance values and low Variance Inflation Factor (VIF) values for all predictors, demonstrating the absence of multicollinearity, and the heteroscedasticity test revealed no systematic pattern in the residuals, thereby satisfying the homoscedasticity assumption. Collectively, these results confirm that all assumptions were met and that the data were suitable for multiple linear regression analysis.

Multiple Linear Regression Analysis

To examine the partial contribution of each independent variable to EFL learning achievement, a multiple linear regression analysis was conducted. The standardized coefficients, t -values, and significance levels are presented in **Table 4**.

Table 4. Results of the Multiple Linear Regression Analysis

Variable	β	t	Sig.	Interpretation
Intrinsic Motivation	0.247	2.238	0.027	Significant (positive)
Extrinsic Motivation	-0.158	-1.352	0.179	Not significant
Learning Anxiety	-0.411	-4.810	0.000	Significant (negative)

Note. Dependent variable: EFL Learning Achievement. β = standardized regression coefficient. Significance at $p < 0.05$.

Table 4 presents the partial effect of each predictor. Intrinsic motivation had a positive and statistically significant effect on student achievement ($\beta = 0.247$, $t = 2.238$, $p = 0.027$). Students with stronger internal drive therefore tended to perform better. Extrinsic motivation, by contrast, did not significantly predict achievement ($\beta = -0.158$, $t = -1.352$, $p = 0.179$). External incentives on their own did not produce any measurable gain. The most pronounced effect came from learning anxiety, which had a negative and highly significant influence on achievement ($\beta = -0.411$, $t = -4.810$, $p = 0.000$). Its coefficient was larger in absolute terms than that of intrinsic motivation, which means anxiety shaped achievement more strongly than any other variable in this sample.

The combined effect of the three predictors was then tested through the F-test. Intrinsic motivation, extrinsic motivation, and learning anxiety together had a significant effect on EFL learning achievement ($F = 14.675$, $p = 0.000$). The coefficient of determination ($R^2 = 0.249$) shows that these three variables explained 24.9% of the variance in achievement. The remaining 75.1% is attributable to factors beyond the scope of this study. These results show that EFL learning achievement is shaped by psychological conditions that can be measured directly in the classroom. The descriptive and inferential findings point in the same direction, and together they establish a clear empirical link among intrinsic motivation, extrinsic motivation, learning anxiety, and academic performance. This link forms the basis for the interpretation that follows.

Discussion

The findings of this study reveal that intrinsic motivation, extrinsic motivation, and learning anxiety exert markedly different influences on students' EFL learning achievement. Intrinsic motivation made a positive and significant contribution ($\beta = 0.247$, $p = 0.027$), learning anxiety produced a negative and highly significant effect ($\beta = -0.411$, $p = 0.000$), and extrinsic motivation showed no significant effect ($\beta = -0.158$, $p = 0.179$). Taken together, these results suggest that the internal psychological condition of students predicts academic performance more powerfully than external incentives. The descriptive findings reinforce this reading. Intrinsic motivation sat at a moderate-to-high level ($M = 65.82$), while learning anxiety was also relatively

high ($M = 102.10$), which signals that a positive driver and a substantial barrier operated within the same classroom at the same time.

The significant positive effect of intrinsic motivation indicates that students who engaged with English out of genuine interest and enjoyment tended to achieve better results. This pattern is well documented in the wider literature. A large meta-analysis by Howard et al. (2021), drawing on hundreds of samples, concluded that intrinsic motivation is closely tied to both student success and well-being. Işıkgöz (2025) reached a similar conclusion in their study of high school learners, reporting a clear positive link between intrinsic motivation and academic achievement. These convergent findings can be explained through Self-Determination Theory, which holds that learners driven by internal motives are more likely to engage deeply with learning tasks and to sustain that engagement over time (Alharfi & Alamer, 2025). The correspondence between the moderate-to-high mean of intrinsic motivation and the moderate achievement level observed in this sample lends further weight to the conclusion that intrinsic motivation is a meaningful predictor of EFL achievement in this setting.

The absence of a significant effect for extrinsic motivation, despite its moderate mean score ($M = 59.96$), tells a different story. Although students were clearly influenced by external factors such as grades and future career prospects, these factors did not translate directly into stronger academic performance. Alam et al. (2023) observed a comparable pattern, finding that externally enriching academic experiences did not yield immediate gains in learning or achievement, even though they were valuable in other respects. Within Self-Determination Theory, this outcome is expected: externally regulated motivation may secure participation, but it rarely produces deep learning unless it becomes internalized. The contrast between the presence of extrinsic motivation in the descriptive data and its lack of statistical significance in the regression underscores how limited external incentives can be when it comes to generating durable learning outcomes.

The strongest result in this study was the negative effect of learning anxiety ($\beta = -0.411$, $p = 0.000$), reinforced by its relatively high mean ($M = 102.10$). This shows that a considerable number of students experienced anxiety severe enough to depress their academic performance. The size of the coefficient indicates that anxiety weighed more heavily on EFL achievement than intrinsic motivation did. This finding aligns with Krashen's Affective Filter Hypothesis, which argues that high anxiety obstructs the processing of language input and lowers the efficiency of learning. It also echoes a substantial body of empirical work. Hu et al. (2024) reported a negative relationship between foreign language anxiety and achievement, H. Zhao (2022) confirmed the same inverse association, and Li et al. (2025) found that highly anxious learners made slower progress and leaned more heavily on their teachers, which points to passive learning behavior. The statistical evidence here confirms that anxiety is not a peripheral concern but a central obstacle standing directly in the way of student success.

The regression model as a whole ($R^2 = 0.249$) shows that the three predictors together explained 24.9% of the variance in EFL learning achievement. Other studies support the continuing relevance of these variables. Shang and Ma (2024) found that both intrinsic and extrinsic motivation positively predicted achievement, and Hasanzadeh et al. (2024), in a study of a thousand college students, reported that motivation and anxiety significantly shaped learning outcomes. At the same time, the large share of unexplained variance (75.1%) is informative in its own right. It indicates that EFL learning achievement is a multidimensional outcome influenced by factors beyond those examined here, including teaching methods, classroom interaction, exposure to the language, and individual learning strategies. The findings of this study are therefore best understood as one part of a larger system rather than a complete account of what drives language learning success.

The pedagogical implication is clear. The pairing of high anxiety ($M = 102.10$) with its strong negative effect ($\beta = -0.411$) means that emotional factors deserve serious attention in the

classroom. This conclusion is supported across diverse contexts. A literature review by Rani (2025) found a consistent negative association between anxiety and academic achievement in studies published between 2020 and 2024. Liu (2022) similarly observed that students with high anxiety performed poorly while those with low anxiety performed well, and X. Zhao and Yang (2023) identified foreign language classroom anxiety as the affective variable with the strongest negative bearing on English test scores. Because these findings hold across subjects, countries, and sample sizes, they make a compelling case for schools to address the emotional dimension of learning. Teachers need to do more than deliver content; they need to build a supportive environment in which students feel safe to make mistakes and willing to participate. The positive contribution of intrinsic motivation points in the same direction, suggesting that instruction should be designed to nurture interest, autonomy, and engagement through meaningful, context-rich tasks. This is especially important in vocational education, where the relevance of English to real-world work is central to how students perceive the subject.

This study makes a specific contribution to the field of transformational education and learning. Transformative learning, as conceptualized by Southworth (2022), describes education that reshapes how learners interpret their experience and engage with the world, rather than education that merely transfers knowledge. The present findings extend this perspective to the affective and motivational foundations of EFL learning. By showing that intrinsic motivation raises achievement while anxiety depresses it, and that external rewards alone are insufficient, the study locates the conditions for transformative learning inside the learner rather than in external control mechanisms. This reading is theoretically coherent: the literature on transformative learning has long connected the process of transformation to learner autonomy and motivation, which are also the central concerns of Self-Determination Theory. Although the cross-sectional design of this study cannot demonstrate transformation as it unfolds over time, the results identify the psychological terrain on which such transformation becomes possible. For vocational education in particular, they suggest that meaningful change in English learning is unlikely to emerge from intensified external pressure. It is more likely to grow from instruction that strengthens internal engagement and reduces emotional barriers at the same time, enabling students to move from passive compliance toward authentic and self-sustaining engagement with the language.

CONCLUSION

This study set out to examine how intrinsic motivation, extrinsic motivation, and learning anxiety shape EFL learning achievement among vocational high school students, and the results point to a clear pattern in which internal psychological conditions matter more than external incentives. Intrinsic motivation emerged as a significant positive predictor, indicating that students who learn English out of genuine interest, autonomy, and personal relevance tend to perform better, whereas learning anxiety stood out as the strongest negative predictor, revealing that emotional barriers such as fear of negative evaluation and apprehension about communicating actively undermine achievement. Extrinsic motivation, by contrast, showed no significant direct effect, which suggests that external rewards alone cannot produce deep or sustainable learning unless they are internalized. Although the three variables together accounted for only part of the variance in achievement, leaving a substantial portion to factors beyond the scope of this study, their combined influence confirms that language learning is a multidimensional process in which motivational and affective forces operate side by side. These findings strengthen the relevance of Self-Determination Theory and the Affective Filter Hypothesis to vocational EFL contexts and extend them toward the perspective of transformational learning, while also carrying a practical message for educators: meaningful improvement in English learning is most likely to grow from instruction that cultivates intrinsic motivation and reduces learning anxiety through meaningful, context-based, and learner-centered practice, and future research would do well to explore the wider set of pedagogical and contextual factors that further shape language learning success.

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