

Analysis of cognitive, affective, and motivational factors that affect second language (L2) learning in high school students

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Abstrak

Penelitian ini bertujuan untuk menganalisis faktor-faktor kognitif, afektif, dan motivasional yang mempengaruhi pembelajaran bahasa kedua (L2) pada siswa sekolah menengah atas (SMA). Jenis penelitian ini merupakan penelitian deskriptif kuantitatif yang bertujuan untuk menggambarkan tingkat pengaruh ketiga faktor tersebut terhadap kemampuan belajar bahasa Inggris sebagai bahasa kedua. Data dikumpulkan melalui kuesioner dalam bentuk skala Likert yang diberikan kepada 30 siswa sebagai responden. Teknik analisis data yang digunakan adalah analisis statistik deskriptif dengan menghitung nilai rata-rata dan menafsirkan tingkat pengaruh masing-masing faktor. Hasil menunjukkan bahwa faktor motivasi memiliki pengaruh tertinggi terhadap pembelajaran bahasa kedua dengan skor rata-rata 4,42, diikuti oleh faktor afektif sebesar 3,54 dan faktor kognitif sebesar 3,50. Hasil ini menunjukkan bahwa motivasi belajar merupakan aspek yang paling dominan dalam kesuksesan siswa dalam belajar bahasa kedua, sementara faktor afektif dan kognitif juga memberikan kontribusi penting dalam mendukung proses belajar yang efektif.

Kata kunci: faktor kognitif, faktor afektif, motivasi belajar, pembelajaran bahasa kedua, siswa sekolah menengah atas

Abstract

This study aims to analyze cognitive, affective, and motivational factors that affect second language (L2) learning in high school (SMA) students. This type of research is a descriptive quantitative research that aims to describe the degree of influence of these three factors on the ability to learn English as a second language. Data was collected through a questionnaire in the form of a Likert scale which was given to 30 students as respondents. The data analysis technique used is descriptive statistical analysis by calculating the average value and interpreting the degree of influence of each factor. The results showed that motivational factors had the highest influence on second language learning with an average score of 4.42, followed by affective factors of 3.54 and cognitive factors of 3.50. These results show that learning motivation is the most dominant aspect in students' success in learning a second language, while affective and cognitive factors also make important contributions in supporting an effective learning process.

Keywords: cognitive factor, affective factor, learning motivation, second language learning, high school students

INTRODUCTION

Second Language Learning (L2) is a complex and multidimensional process that involves a variety of internal and external factors. In the context of education in Indonesia, English as a second language has an important role in increasing the global competitiveness of students at the high school (SMA) level. Individual factors include cognitive, affective, and motivational aspects, all of which contribute to how a student learns and interacts with the teaching material (Mukarom, 2024). Good understanding will create successful language learning (Nurlaila, 2020). Cognitive factors are related to the ability to think, remember, and process information that students use in understanding and using the target language. The language teaching and learning process aims to improve students' ability to produce language in the English speaking aspect ((Darihastining et al., 2023). Speech processing requires metacognitive awareness. Metacognitive awareness has a positive and significant influence on critical thinking skills (Munir, 2016). In addition, mastery of vocabulary and grammar can affect the way a person thinks and perceives things (Lestari et al., 2019).

The relationship between cognitive, affective, and motivational factors is dynamic. According to the role of parents in increasing students' motivation to learn, they are getting more attention in the context of education in Indonesia. In addition, self-efficacy theory explains that belief in one's abilities encourages active participation in learning. Confident students are more likely to be brave enough to speak and take risks in language. Students with good cognitive strategies and high motivation tend to have superior learning outcomes than other students. According to Sarimanah (2018) in, a learner has metacognitive abilities when they are able, understand learning objectives, formulate their own learning objectives, and develop and implement appropriate learning strategies (learner autonomy). Teachers inspire and encourage students in facing challenges and overcoming obstacles in the learning process. By providing praise, rewards, and constructive feedback, teachers build students' confidence and motivation. Motivation is a strength that comes from within oneself and from the surrounding environment. Similarly, the use of game mechanics to create an engaging and interactive learning environment, which can increase students' motivation and engagement in the learning process, In addition, Game Based Learning can also develop students' cognitive and social skills through in-game interaction and collaboration. (Kumalasari et al., 2024) (Fadhilah & Jauhari, 2025) (Haryono, 2023) (Hanaris , 2023) (Wahyudi et al., 2024)

Nevertheless, most previous research has still focused on the context of a college or language course institution. In-depth studies that integrate cognitive, affective, and motivational factors simultaneously in the context of high school students in Indonesia are still rare. Therefore, this study has a scientific novelty by comprehensively analyzing the relationship between these three factors in high school students. This research is expected to make a theoretical contribution to the development of a second language learning model that is more humanistic and student-centered. In addition, the results of this study are also expected to provide practical implications for teachers in designing language learning strategies that are able to foster motivation, optimize cognitive abilities, and create a positive emotional climate in the classroom.

METHOD

This study uses a quantitative descriptive research method with a statistical analysis approach to describe the factors that affect English learning in students. The research data was obtained through questionnaires which were compiled based on indicators of student motivation, attitude, and confidence in learning English. The questionnaire was distributed to respondents online through the Google form.

The research was conducted at one of the State High Schools in Klaten Regency in November 2025. The research population was all grade XI students, while the research sample

consisted of 30 respondents who were selected by simple random sampling to represent the characteristics of grade XI students proportionally.

The research instrument was in the form of a closed questionnaire with a five-level Likert scale, namely Strongly Agree (SS), Agree (S), Neutral (N), Disagree (TS), and Strongly Disagree (STS). This questionnaire consists of 30 statements representing three main aspects: (1) motivation to learn English, (2) attitude towards learning English, and (3) confidence in using English.

Before use, the instrument is tested for its validity and reliability. The validity test is performed using Pearson's Product Moment correlation to ensure that each statement item has a significant relationship with the total score. The reliability test was performed using Cronbach's Alpha formula, and the results showed a $\alpha >$ value of 0.70 which means reliable.

The data obtained from the questionnaire is then processed descriptively with the help of the Microsoft Excel program. The score of each answer is converted into numbers, namely: SS = 5, S = 4, N = 3, TS = 2, and STS = 1. The total scores of each indicator are summed and categorized based on the average score criteria. Next, a quantitative descriptive analysis was carried out, namely by calculating the percentage, mean, and standard deviation to see the tendency of respondents in each aspect.

RESULTS AND DISCUSSION

Results

In this study, the researcher analyzed three main factors that affect the learning of English as a second language (L2), namely cognitive, affective, and motivational factors. Data was obtained from 30 respondents through a five-point Likert scale questionnaire. After the data cleaning and conversion process, the average of each factor is obtained as follows:

Table 1. Average score for each second language learning

Factor	Average	Category
Cognitive	3,53	Keep
Affective	3,48	Keep
Motivational	4,45	Tall

Description:

High category = ≥ 4.0 ; medium = 2.5 – 3.9; low = < 2.5

1. Cognitive Factors

The cognitive factor obtained an average score of 3.53, indicating that students' ability to understand English material is in the medium-high category. Students are quite able to recognize sentence patterns, understand the meaning of the text, and remember new vocabulary after several exposures. However, this ability has not yet reached the very high category, so there is still room for improvement, especially in the more complex aspects of processing structures and the use of self-study strategies.

2. Affective Factors

The affective factor obtained an average of 3.48, which is the lowest score compared to the other two factors. This shows that the emotional aspects and feelings of students towards English still need attention. Some respondents admitted that it is easy to feel nervous or anxious when they have to speak in front of the class. The fear of making mistakes is also one of the obstacles that arises quite often. However, the results of the questionnaire also showed that a comfortable classroom atmosphere and teacher support can help reduce this anxiety.

3. Motivational Factors

The motivational factor was the most dominant aspect with an average score of 4.45. Students show very high motivation to learn English, both for practical reasons (grades, exams, work), as well as personal reasons such as interest in foreign cultures and a desire to communicate globally. This high motivation shows that students have a clear orientation regarding the importance of English for their future.

Discussion

The results of the study show that all three individual factors have a significant role in the English language learning process. Motivation is the most powerful factor, while affective factors are the most important aspects.

1. Motivation as the Main Driver

A high motivation score indicates that students have a strong internal drive to learn English. This is in line with Gardner and Dörnyei's theory which emphasizes that motivation is the most important factor in the success of L2 learning. High motivation makes students more enthusiastic about learning and more consistent in learning languages outside the classroom.

2. Cognitive Factors That Support Language Comprehension

Even though it is in the medium-high category, cognitive factors still make an important contribution to student learning success. The students' ability to recognize patterns, remember vocabulary, and understand basic structures is quite good. However, improvements are still needed in the more complex aspects of sentence structure analysis and the application of more effective cognitive strategies, such as the use of repetition, note-taking, or elaboration techniques of meaning.

3. Affective Factors as Learning Challenges

Affective values that are in the medium category indicate that some students still face emotional barriers, especially fear of being wrong, anxious, or lack of confidence. This is in accordance with the theory *Affective Filter* from Krashen who states that psychological conditions such as anxiety can inhibit the reception of language input. Therefore, teachers need to create a more supportive learning environment, lower pressure, and provide opportunities for students to practice speaking without fear of being negatively evaluated.

4. The Connection of the Three Factors

These three factors are interrelated and inseparable. High motivation can strengthen cognitive abilities because students are more focused and try harder. On the other hand, negative affective aspects such as anxiety can decrease the effectiveness of cognitive strategies that students have. This means that the success of language learning depends not only on academic ability, but also on the emotional state and internal drive of the student.

CONCLUSION

Based on the results of the study, it can be concluded that cognitive, affective, and motivational factors play a significant role and interact with each other in influencing the success of second language (L2) learning in high school students. Motivational factors proved to be the most dominant, showing that students' internal drive was the main driver in improving English engagement and learning outcomes. In addition, a positive attitude, confidence, and a

supportive emotional environment also strengthen the cognitive and motivational aspects of students. These findings confirm that the success of second language learning is not only determined by intellectual ability, but also by the balance between motivation, emotion, and thinking ability. Going forward, it is recommended that teachers and researchers develop a student-centered learning model and integrate the three factors in a balanced manner to create a more effective and meaningful language learning process.

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