


RESEARCH ARTICLE

Tertiary English students' learning motivation and critical thinking skills

 <https://doi.org/10.32505/inspira.v4i1.5503>

 Fuad Nashori¹,  Adam Anshori²,  Rahmat Aziz³,  Infanti Wisnu Wardani⁴

¹ Department of Psychology, Universitas Islam Indonesia, Special Region of Yogyakarta, Indonesia

² Department of English Language Education, Universitas Islam Indonesia, Special Region of Yogyakarta, Indonesia

³ Department of Psychology, Universitas Islam Negeri Maulana Malik Ibrahim, East Java, Indonesia

⁴ Department of Psychology, Universitas Bina Bangsa, Banten, Indonesia

Corresponding Author:

Fuad Nashori (email: fuadnashori@uii.ac.id)

ABSTRACT

This paper highlights the importance of learning motivation and critical thinking skills to an EFL learner. Apart from gaining language ability in speaking, reading, listening, and writing, an EFL learner must also be equipped with other factors or skills to succeed. Hence, this study aimed to determine how much learning motivation correlates with critical thinking skills amongst tertiary English Language Education Department students at Universitas Islam Indonesia. By deploying a purposive sampling technique, 50 participants were involved in this study. It comprises 16 male students (32%) and 34 female students (68%). Critical thinking and learning motivation questionnaires were utilized to garner the data, and the data were further analyzed using the product-moment correlation. This study also utilizes in-depth interviews to gain more perspective on critical thinking, learning motivation, and how it shapes behavior. The results demonstrated that learning motivation positively and significantly correlated with critical thinking skills. Across varied levels, contexts, and periods, the current study confirmed the persistent theory concerning the correlation between learning motivation and critical thinking, as prior related studies already demonstrated. Further studies are called to be conducted by engaging a more significant number of samples to reveal broader insights.

Article History:

Received 11 January 2023

Revised 21 February 2023

Accepted 29 June 2023

Keywords: *critical thinking; EFL learner; learning motivation; tertiary English students*

INTRODUCTION

Today, English learning is underpinned by three lingual ideologies known as English as a lingua franca (Ishikawa, 2016; Kirkpatrick, 2018; Liu, 2019; Mauranen, 2018; Sherman, 2018), world Englishes (Alcoberes, 2016; Liu & Fang, 2017), and English as an international language (Hino, 2018; Lee & Chen Hsieh, 2018; Moradkhani et al., 2018; Tajeddin et al., 2019; Thuy et al., 2020). In the context of non-native English learning, besides rejecting the old-fashioned and monolithic paradigms, the aforesaid lingual ideologies, generally called global Englishes (see Fang, 2020; Galloway, 2017; Joo et al., 2019) for further detail about global Englishes as the umbrella term of ELF, WE, and EIL), promote students to acquire intercultural communicative competence (Byram & Wenger, 2018; Galante, 2015; Nameni

How to cite (APA 7th Edition)

Nashori, F., Anshori, A., Aziz, R., & Wisnu Wardani, I. (2023). Tertiary English students' learning motivation and critical thinking skills. *INSPIRA: Indonesian Journal of Psychological Research*, 4(1), 85–96. <https://doi.org/10.32505/inspira.v4i1.5503>



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& Dowlatabadi, 2018; Rahim & Daghigh, 2019; Tran & Duong, 2018) and to be self-regulated and lifelong learners of English (Jacobs & Renandya, 2016). To be intercultural, lifelong, and self-regulated, they must be highly motivated in learning and adequately critical in thinking. Multicultural exposures provided by global Englishes-governed interventions demand non-native English students to think critically about how to avoid English communication breakdowns in the repertoire of cross-cultural communication across spoken and written modes. Also, with good motivation, they are expected to enjoy their own paces in learning English until they reach an adequate level of communicative competence in the context of intercultural repertoire (Badrkoohi, 2018; García Botero et al., 2019; Joe et al., 2017; Lu & Hsu, 2008; Zhang & Pérez-Paredes, 2019). Thus far, it is clear that learning motivation and critical thinking skills are two substantial variables that determine the extent to which students can successfully learn English.

Many prior studies have been conducted on the issue of non-native English students' motivation in the last six years. Those studies have been executed in a variety of contexts. To name a few, Tanaka and Kutsuki (2016) conducted a study on English learning motivation in the context of an immersion environment. Ebrahimzadeh and Alavi (2016) sought to motivate students using digital video games as learning media. Lou and Noels (2018) worked on English learning motivation in the context of embracing Western and heritage cultures. Kruk and Zawodniak (2018) investigated the dynamicity of students' learning motivation across diverse learning activities and styles. Hsu (2018) studied students' motivation to learn English speaking skills using a communication-mediated ICT tool. Namaziandost et al. (2019) studied EFL Learning motivation in terms of English reading skills in a way that measures students' motivation across diverse levels of material difficulties. Zhang and Zhang (2020) delved into the correlation between students' learning motivation and the pedagogical competencies of native and non-native English teachers. Xuejun (2020) drew upon the self-determination theory and studied the motivational differences among junior high school students in learning English. Subsequently, Chen and Hwang (2020) conducted a study on the English learning motivation of students with varied cognition styles by using sociocultural videos as the modes of classroom intervention.

In a similar vein, there have also been a number of previous studies conducted on the issue of non-native English students' critical thinking skills for the last few years. To highlight a few, Chandrasoma and Ananda (2017) promoted non-native English students' critical thinking skills by using interactive texts. Lu (2019) embedded a critical thinking framework to help non-native English students deal with writing argumentative texts. Bankole-Minaflinou (2019) conducted a study on providing varied strategies of instruction and evaluations to improve non-native English students' critical thinking skills. Etemadfar et al. (2020) engaged non-native English students in the flipped classroom to increase their critical thinking skills. Mohseni et al. (2020) sought to see the extent to which the training of metacognition strategy and non-native English students' critical thinking skills on their reading comprehension. Thomson and Yedidi (2020) conducted a study on ways English teachers need to take to improve student's critical thinking skills. Subsequently, Wale and Bishaw (2020) sought to determine the degree to which pedagogical interventions on the basis of inquiry affect students' critical thinking abilities in learning English as a foreign language.

Previous studies on both English learning motivation and critical thinking skills have provided a broad range of insights for all related academicians. Nonetheless, to the best of our knowledge, very few studies in the field of English learning in the context of Indonesia have been undertaken in a way that brings the two variables, learning motivation and critical thinking skills, at once into a complete study. Prior studies bringing the two variables concomitantly into complete studies seem to have already been undertaken in other fields instead of English education. For further viewing, see the studies conducted by Fajari et al. (2020), Hu et al. (2016), and Hwang and Chen (2016) on elementary

school students, Bensley et al. (2016) on university students who majored in psychology, Tee et al. (2018) in the field of mathematical learning, and Berger et al. (2020) in the field of nursing education. A dearth of studies incorporating the two variables at once in the field of English education portrays a gap to be filled out scientifically. To fulfill this void, the present study seeks to scrutinize the degree to which learning motivation is correlated with critical thinking skills in the context of English learning carried out by tertiary students from an English Language Education Department at Universitas Islam Indonesia. To this end, the following research question is formulated: to what degree learning motivation correlates with critical thinking skills amongst tertiary students from an English Language Education Department?

Critical thinking is of important skill in human life, especially for tertiary students. The foregoing is confirmed by Yang and Rashid (2020), who argued that critical thinking had been positioned as one of the ideal objectives of higher education. Critical thinking has also been legitimated as one of the 21st-century skills students have to acquire (Fajari et al., 2020). To be defined, critical thinking skills refer to abilities to utilize the existing knowledge, insights, and experiences to construct logical reasoning in order to be competent at making decisions effectively and solving problems appropriately (Etemadfar et al., 2020; Howard et al., 2015; Mohseni et al., 2020). In the context of English as a foreign language education, Indah (2016) argued that critical thinking plays a pivotal role since it contributes to students' competence in making interpretations, establishing collaboration, practicing language use, using rules in writing, applying cultural knowledge, solving problems, reflecting on language use, and creating discourses.

Critical thinking skills play an important role in improving students' achievement. Afshar et al. (2017) investigated the relationship between critical thinking, strategy use, and student achievement. Their study engaged 76 English students as the respondents. Those students were assigned to take the California Critical Thinking Skills Test and fill out the Oxford Strategy Inventory questionnaire for language learning. They utilized students' GPA scores to represent their achievements. The results demonstrated that critical thinking and strategy use positively and significantly correlated with students' achievement. Regression analysis exhibited that critical thinking skills and the use of language learning strategies significantly affected students' achievement. The language learning strategy did not demonstrate any significant correlation with students' achievement for high, medium, and low achievements. However, critical thinking generally contributed more to students' achievement.

Critical thinking skills also play an important role in optimizing general language proficiency, including translation skills. Rashid and Hashim (2008) attempted to explore the link between critical thinking skills and language proficiency. To this end, 280 undergraduate students from Universitas Utara Malaysia were assigned to take the Cornell Critical Thinking Test (CCTT) and English language proficiency exams. The results strongly link their critical thinking skills and English proficiency. By so doing, the greater the potential for critical thinking, the higher the English proficiency. The ability to think critically, in particular, has a critical role in students' translation abilities. A study undertaken by Azin and Tabrizi (2016) exhibited the relationship between critical thinking skills and the quality of students' translation. As it was evident, students who had high critical thinking skills tended to produce better-translated texts. Their study suggested providing learning interventions on the basis of critical thinking for students in general to improve their performances in various subjects.

A factor that gives individuals the ability to think critically is their motivation to learn. In terms of English learning, especially for second or foreign language users, motivation is such a trigger that drives one to have positive attitudes towards a second or foreign language and later on leads to persistent engagement in learning per se (Dörnyei & Ryan., 2015). Many studies have proven the

interrelatedness between learning motivation and critical thinking skills. A study by Cholisoh et al. (2015) showed that learning motivation positively correlates with eighth grade students' critical thinking skills at *Madrasah Tsanawiyah* (junior high school). In the same line as well as to confirm the foregoing, another study conducted by Riyanto et al. (2019) exhibited that learning motivation positively correlates with critical thinking skills. Their study subjects were the grades 7-9 students at a junior high school. Fajari et al. (2020) confirmed the exact relationship between the two variables by conducting a study on 35 fifth-grade elementary school students. As informed from their study, the higher the students' learning motivation is, the higher their critical thinking skills are. By involving a more significant number of subjects, 1400 students aged 15-16 years old, Abbasi and Izadpanah (2018) conducted a similar study. They demonstrated a positive correlation between learning motivation and critical thinking skills. Subsequently, Firmansyah and Rizal's (2019) study on 132 elementary teacher education department students confirmed the same results.

Strong evidence from prior studies regarding the relationship between learning motivation and critical thinking skills across varied levels of students leads us to a potent formulation of the present study's hypothesis. Thus, this study is underpinned by the following hypothesis: a positive and significant correlation exists between learning motivation and critical thinking skills among tertiary students from an English Language Education Department.

METHOD

Drawing upon a positivist paradigm (Creswell, 2007), the present study applied a correlational research method (Fraenkel et al., 2012) to examine the extent to which learning motivation correlated with critical thinking skills amongst tertiary English students. This study was assigned to test the hypothesis formulated from reviewing a significant quantity of previous studies on learning motivation and critical thinking skills. As the preceding, the working hypothesis of the present study reads: there is a positive and significant correlation between learning motivation and critical thinking skills among tertiary students from an English Language Education Department. Tertiary students from an English Language Education Department at Universitas Islam Indonesia were incorporated as the samples of the present study. They were selected employing purposive sampling.

The total population in this study were 313 students. The study participants are all semester 7 students of the English Education Department, Universitas Islam Indonesia. The total sample was 50 students, consisting of 16 male and 34 female students. The reason for acquiring the 7-semester students was because they have experienced the learning process for more than 3 years and preparing to write their theses as the requirement to graduate from the program. After 3 years of joining the program, it is interesting to know the level of learning motivation and the development of their critical thinking. Is there any correlation between the degree of learning motivation and the student's critical ability after learning English for over 3 years?

The data were garnered from questionnaires distributed to all students from an English Language Education Department at Universitas Islam Indonesia who participated in several classes when we distributed the questionnaires. We provided them with two questionnaires to investigate the extent of learning motivation and critical thinking skills.

First, we deployed the English version of Honey's (2010) Critical Thinking Questionnaire (CTQ) to assess students' critical thinking skills. This questionnaire contained 30 items on a five-point Likert scale that explored what ones might or might not do when one thought critically about a subject. This questionnaire was distributed to students to evaluate three macro skills, which subsumed comprehension (10 items), analysis (10 items) and evaluation (10 items). As shown by Naeini (2005),

the reliability value of CTQ was $\alpha = .86$. This questionnaire was considered valid because, besides its practicality in scoring, it was already used by many researchers. This questionnaire allowed us to investigate students' micro skills in recording, summarizing, asking, repeating, investigating, concluding, arguing, categorizing, describing, comparing and contrasting, synthesizing, and thinking inductively and deductively in more effective ways. The scores ranged from 30 to 150. It took about 20 minutes to be filled out. Using Cronbach's alpha coefficient, the reliability of the critical thinking questionnaire deployed by the present study was estimated at .79.

Table 1. Number of subjects with data obtained (N=50)

Category	n (%)
Sex	
Man	16 (32%)
Woman	34 (68%)
Age	
22	21 (42%)
21	26 (52%)
20	3 (6%)

Second, we employed the learning motivation scale. It was intended to measure students' learning motivation. This scale was already constructed and compiled with by Utami et al. (2014) based on the constructs of learning motivation theory according to McCown et al. (1996). The aspects negotiated in the learning motivation scale extended to (1) one's own desire or initiative to learn; (2) serious engagement in learning processes and assignments; and (3) commitment to continue learning to survive. This scale consisted of 33 valid items with the correlation coefficient of total items ranging from 0.323 to 0.635. The reliability test results of 33 valid items showed a reliability coefficient of $\alpha = .903$. The scale used an ordinal scale model with five alternative answers, namely very relevant (VR), relevant (R), doubtful or not remembering the situation (D), irrelevant (IR), and very irrelevant (VIR). The scores on favorable items were VR = 5, R = 4, D = 3, IR = 2, and VIR = 1. Subsequently, the scores on unfavorable items are VR = 1, R = 2, D = 3, IR = 4, and VIR = 5.

This research also uses interviews to understand the dynamic influence of respondents' critical thinking. It is important to comprehend the correlation between learning motivation and critical thinking in the thinking process and also the attitude of someone. Several questions were asked regarding the strength and weaknesses of critical thinking and learning motivation and how it affects the way of thinking and behaving were asked to gain a comprehensive understanding of its relation.

The data in terms of the correlation between learning motivation and critical thinking skills were analyzed using the product-moment correlation. To help us analyze the data accurately, we used a sophisticated analytical tool called the Statistical Package for Social Science (SPSS) 23.0 program for Windows.

RESULT

The assumption tests were carried out utilizing two tests, namely normality and linearity tests. The normality test was undertaken using the One-Sample Kolmogorov-Smirnov Test ($K-S = .507, p = .959$). Besides the normality test, a linearity test was also carried out by utilizing product moment correlation. The results demonstrated a linear data pathway for critical thinking and learning motivation ($F = 1.107, p = .392$).

Hypothesis testing was intended to attain the objective of the current study. It was to see how learning motivation correlated with critical thinking skills amongst tertiary students from an English Language Education Department at Universitas Islam Indonesia. The results exhibited a positive and significant correlation between learning motivation and critical thinking skills ($r = 2.159, p = .036$).

Additional findings to enhance this research were also conducted in the form of an in-depth interview. We further interview 5 students regarding the interconnection between learning motivation and critical thinking from their perspective.

The result from the interview shows 13 strong statements on the issue. First, problem-solving will arise, raising more curiosity about something. Ultimately, it raises positive thinking skills and motivates a person to learn (MIK, female; IRV, male; LUA, female). Second, the strength in learning motivation is more on exciting topics. Someone will be highly motivated if they are interested in the subjects they like (MIP, female; INH, female). Third, parents tend to be the main reason for higher motivation in the study. They feel that their parents' kindness in nurturing them is the forcing drive to have a higher motivation in learning (LAM, female). Fourth, they feel embarrassed if they do not possess a high motivation to learn. The logic is that their parents, who were not learners, tend to learn every time, then why am I not (LUA, female)? Fifth, consistently correlate with what has been done for life purposes (LAM, female). Sixth is the feeling of running out of energy, especially during a long learning period in a single day (IRV, male). Seventh, try to start and work harder earlier than others (LAM, female).

Eighth is a realization of inconsistency. Sometimes we feel very excited about learning, but when problems arise, we feel down (MIK, female). Ninth, laziness arises dealing with a heavy reading load (NH, female). Tenth, clarifying, reviewing, and discussing with people who understand the problem being studied keeps us critical (MIK, female). Eleventh, the habit of differentiating facts and opinions enables us to be critical (LAM, female). Twelve, having a reason for accepting or rejecting an argument (IRV, male). Thirteen, other people's opinions that make sense or are more reasonable than others affect the individual's perspective (NH, female).

DISCUSSION

The current study revealed a positive and significant correlation between learning motivation and critical thinking skills among tertiary English students. Anchored in the data, it can be interpreted that the higher students' motivation to learn is, the higher their critical thinking skills can be. Otherwise, the lower students' learning motivation, the lower their critical thinking skills. It is in line with the results from the interview, which underlines that problem-solving will arise in the things that are liked. It raises more curiosity about something, leading to positive thinking skills that motivate a person to learn.

The results of the present study confirmed and supported those of the previous studies across diverse contexts and levels. A couple of studies supported by the current study are those conducted by Cholisoh et al. (2015) and Riyanto et al. (2019), which examined the correlation of the two variables in the context of junior high school students. Cholisoh et al. (2015) study indicated that learning motivation positively correlates with the critical thinking skills of eighth-grade students at Madrasah Tsanawiyah. Similarly, Riyanto et al. (2019) study showcased that learning motivation positively correlates with critical thinking skills among grades 7-9 in junior high school students. The positive correlation between learning motivation and critical thinking skills also occurred among high school students. Sulistianingsih's (2016) study engaging 154 high school students demonstrated that learning motivation positively correlates with critical thinking skills. Sucipta et al. (2018) also showed that high school students with high learning motivation have good critical thinking. In the same year, a study executed by Putri et al. (2018) also proved the same condition that learning motivation is positively correlated with the ability to think critically among high school students.

At the same level as the so-called tertiary education but across diverse majors, the current study also confirmed and supported the primary data from other studies regarding a positive correlation between learning motivation and critical thinking skills. The results of a study conducted by Firmansyah and Rizal (2019) showed that learning motivation is related to critical thinking skills among tertiary students of the elementary school teacher education department. The other study undertaken by Fatmawati et al. (2019) on tertiary students from a Biology department revealed the same results.

The psychological dynamics of how learning motivation can generate critical thinking skills in tertiary students in the English language education department can be explained. Students are both subjects and objects in learning. They are said as the subjects because they get engaged actively in teaching and learning processes, and they are the objects as well because learning processes per se are expected to lead students to behavioral changes taking place in constructive ways (Rifa'i & Anni, 2012; Sjøberg, 2010). According to Sardiman (2016), the desire to learn that comes from within will affect success in learning. This finding aligns with one of the themes in the interview result, the strength of motivation. A person's motivation grows higher when dealing with interesting learning topics. Based on this opinion, it can be concluded that learning motivation can influence a person's learning activities. Suitable learning activities make it easier for students to understand and master the materials provided, especially for materials that require critical thinking skills. In their study, Abbasi and Izadpanah (2018) elucidated that someone who can think critically will not just accept information. They will learn and think about their acquired information to reach the best understanding. Indah (2016) revealed that critical thinking in the context of foreign language education is related to interpretation, collaboration and training in language use, using rules in writing, applying cultural knowledge, solving problems, reflecting on language use, and creating discourse. High motivation to learn makes someone capable of carrying out such tasks. Wicaksana et al. (2020) stated that critical thinking processes in analyzing and solving a problem would not be able to take place well without a high level of motivation to learn. The previous is also echoed by Dörnyei and Ryan (2015) as they explained the psychology of language learners.

Having the right motivation influences the curiosity to know more, resulting in the learning perspective itself. It is also highlighted by the interview results, which show that the strength of learning motivation will increase, especially if an individual deal with a subject or topic in which he or she is interested. The mindset drives the brain to work sooner, and the body finalizes it sooner. The sense of knowing everything increases. The right motivation drives the attitude to be persistent and to gain knowledge to become a better human being.

CONCLUSION

The current study demonstrated a positive and significant correlation between learning motivation and critical thinking skills among tertiary students from an English language education department. Across different levels, diverse contexts, and varied years of studies, the present study has confirmed and supported a persistent theory constructed from prior studies concerning a positive correlation between learning motivation and critical thinking skills. Grounded in the present study's data, the recommendations are given to a couple of parties. The first is to the campus management. Those of the campus management should make efforts to increase students' motivation so that their critical thinking skills are optimal by means of providing various critical thinking-oriented programs. The second is for students. Through both campus and private programs, students are expected to play an active role in efforts to develop learning motivation because high learning motivation will contribute very much to activating critical thinking skills. The third is to research further. It is recommended that

further researchers conduct studies along the same line, incorporating the variables of learning motivation and critical thinking skills amid a particular group of students by engaging more subjects to reveal broader and comprehensive insights about learning motivation and critical thinking skills. Further studies are also expected to make efforts to provide broader and generalized data on these variables.

DECLARATION

Acknowledgment

The authors would like to express thanks to Idi Warsah (Islamic education) and Ruly Morganna (English Education Department) Institut Agama Islam Negeri Curup, Curup, Bengkulu, Indonesia) for valuable comments on the early draft of this paper. The authors are grateful to the research assistants, Dwi Yan Nugraha (Universitas Islam Indonesia), and those who successfully completed this research. We would like to express our gratitude to all of the participants who have contributed to the provision of data required by this study.

Author contribution statement

Fuad Nashori led the overall research design, conducted discussion processing, and wrote results and discussion. Adam Anshori provided in formulating the study's objectives, research design, analysis process, and result interpretation. Rahmat Aziz provided in-writing results and discussion. Infanti Wisnu Wardani provided in the analysis process and wrote a discussion.

Funding statement

This research receives a specific grant from the Faculty of Psychology and Socio-Cultural Sciences, Universitas Islam Indonesia, Special Region of Yogyakarta, Indonesia.

Data access statement

The data described in this article can be accessed by contacting the first or second author.

Declaration of interest's statement

The author declares no conflict of interest.

Additional information

No additional information is available for this paper.

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