



How Does Emotional Intelligence, Learning Motivation and Learning Independence Affect Students' Critical Thinking Skills in Economics Subjects?

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ABSTRACT

Keywords:

Emotional intelligence;
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Students must possess critical thinking abilities to succeed in the 21st century. Numerous factors influence the development of economics students' critical thinking abilities. This study aims to investigate the impact of emotional intelligence, learning motivation, and learning independence on students' critical thinking abilities in economics courses. This study employs a quantitative research methodology with a quantitative descriptive approach. The data in this study were collected using a questionnaire with closed questions on a Likert scale. Data was gathered from 630 respondents from the South Sulawesi Province of Indonesia and further analysed using SEM (Structural Equation Modelling). According to the findings of this study, emotional intelligence, learning motivation, and learning independence substantially impact critical thinking abilities. This study provides two main contributions. First, this study provides a theoretical contribution to the development of constructivist learning theory by including the importance of a combination of emotional, motivational, and independence factors in economic learning. Second, this study provides a practical contribution in the development of methods, media, and learning resources that are oriented towards students' critical thinking skills in economic learning.

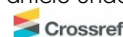


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A. INTRODUCTION

Critical thinking skills are one of the central issues in 21st century education that can encourage students to acquire new knowledge through problem solving and collaboration (Hakim et al., 2018). Through this perspective, the success of education can be determined by the quality of education, which includes the quality of the education process and the quality of graduates. Education is designed to create learning situations and processes so that students actively develop religious spirituality, self-control, personality, psychology, intelligence, noble morals, and skills needed by society, nation, and state (Andriani et al., 2018; Qomariyah, 2019). There are several ways to improve students' critical thinking skills through various resources in the school environment (Amtu et al., 2020). Critical thinking skills are believed to be closely related to various aspects, such as emotional factors, motivation, and a person's learning independence,

which is an effort to carry out learning activities independently to understand certain material and apply it in problem solving (Retnawati, 2019).

Empirical facts show that in several schools in South Sulawesi Province, students' critical thinking skills in class in economics learning are low. The inability to think critically has become a problem that must be addressed at various levels of education (Valentina et al., 2019). Many previous studies have identified that emotional intelligence, learning motivation, and learning independence affect students' critical thinking skills in economics learning. Previous studies also show that the relationship between emotional intelligence, learning motivation, learning independence, and critical thinking skills in students can be stronger.

In recent decades, studies on various factors that influence critical thinking skills have been conducted by several experts. Saeed and Waseem (2014) found that emotional intelligence allows a person to understand and respond appropriately to his or her own views, as well as the views of others. More specifically, Saeed and Waseem (2014) found that emotional intelligence is a component of social intelligence that involves the ability to observe social emotions in relation to the abilities of others, distinguish them, and use this information to guide one's thinking and actions, including critical thinking. Furthermore, it was found that someone with high emotional intelligence tends to have good character and achieve success in life because they are able to think critically (Mayer et al., 2000; Cicciu and Vitello, 2002; Sekreter, 2019; Nurhayati et al., 2021; Menhard, 2022). From another perspective, several previous researchers also found that learning motivation also has an impact on critical thinking skills (Nugraha et al., 2017; I Wayan et al., 2019; Fathoni et al., 2019; Khairani et al., 2020; Ambarwati et al., 2021; Nur'Azizah et al., 2021; Muwaffiq et al., 2022). Previous researchers have also found that independent learning can also develop strong critical thinking skills in students (Noviyanto & Wardani, 2020). Students who utilize the principles of independent learning are superior to those who do not (Yusuf et al., 2015; Sukenda Egok, 2016; Nurfalah et al., 2019; Bowen, 2020).

Based on empirical and theoretical facts, this study aims to investigate the influence of emotional intelligence, learning motivation, and learning independence on students' critical thinking skills in economics learning at the high school level. Based on these objectives, this study provides two main contributions. First, this study provides a theoretical contribution in the development of constructivist learning theories by including the importance of a combination of emotional factors, motivation, and independence in economics learning. Second, this study provides a practical contribution in the development of methods, media, and learning resources that are oriented towards students' critical thinking skills.

B. METHODS

This research is quantitative with an explanatory approach. The variables used in this study include emotional intelligence, learning motivation, learning independence, and critical thinking skills. The total study population consisted of 1,165 Indonesian students in grade XI social studies from South Sulawesi. Based on this population, 630 students volunteered to participate in the study. The research instruments used are as shown in Table 1.

Table 1. Research Variables and Indicators

Variable Type	Variable	Indicator
Independent Variable	Emotional Intelligence (X ₁) (Dhani & Sharma, 2016).	1. Recognizing one's own motivation (X1.1) 2. Managing self-emotion (X1.2)
	Learning Motivation (X ₂) (Anam Siddique et al., 2011).	1. Learning initiative (X2.1) 2. Perseverance in learning (X2.2)
	Learning Independence (X ₃) (Kholmuratovich, 2020).	1. Confidence and self-belief (X3.1) 2. Without any help from others (X3.2)
Dependent Variable	Critical Thinking Skills (Y) (Hanim Rahmat et al., 2020)	1. Problem identification (Y1) 2. Analyze the problem (Y2) 3. Draw conclusions (Y3) 4. Conducting evaluation (Y4) 5. Summarize the problem (Y5)

This study used a questionnaire with closed-ended questions to acquire data. The data are then evaluated for validity and reliability before being analysed with structural equation modelling (SEM). There are up to four answer options for each questionnaire item, with the weighting of each score measured on an interval scale: 1 = strongly disagrees; 2 = disagrees; 3 = agrees; 4 = strongly agrees.

C. RESULT AND DISCUSSION

1. Descriptive Test

The descriptive test is a generalization analysis of a sample-based result. This test serves no purpose but to summarize the data collected in the field. The result of the descriptive analysis is shown in the following Table 2.

Table 2. Variable Descriptive Analysis

Variables	N	Std. Deviation	Percentage
Emotional Intelligence (X1)	630	3.573	82.13
Learning Motivation (X2)	630	3.889	76.85
Learning Independence (X3)	630	3.687	75.75
Critical Thinking Skills (Y)	630	6.965	80.69

According to the perceptions of class XI students, the mean value of variable X1 is 29.83, with an associated percentage of 82.13%. Emotional intelligence is a significant factor influencing the critical thinking skills of 82.13 percent of students in economics courses who scored between 80 and 100 percent. Students' critical thinking leads to a tendency for argumentation and an objective assessment of their learning (Alkharusi et al., 2019). There is a correlation between emotional intelligence, intelligence, and critical thinking (Dr. Chandrakant Jamadar & Sindhu A, 2015). For variable X2, it has a mean value of 27.67 and a percentage of 76.85%. Learning motivation is an important factor that influences students' critical thinking skills in economic subjects, where the learning motivation possessed by students will affect the level of willingness possessed by students in the good category, with a percentage of 76.85% and a score between 60-80%.

The mean value for variable X3 is 30.30, with a percentage of 75.75 percent. Independence in learning is a significant factor that influences students' critical thinking skills in economic subjects, where the independence of learning that students have will require students to take an active role in learning, with this variable scoring between 60 and 80%. The mean value for variable Y is 58.10, with a percentage of 80.69 percent. Students mastery of economics subjects is dependent upon their ability to think critically. This is in the outstanding category, with an 80.69 percent score between 80 and 100 percent. Critical thinking is a skill that is crucial to learning in the modern era. It also refers to the capacity to think rationally and reflectively (Supratman et al., 2021). Critical thinking skills include analysis, information reconstruction, and evaluation (Mahanal et al., 2019).

2. Validity and Reliability Test

The validity test aims to determine whether the instruments or queries used in the research can be used for research. As shown in the table below, the results acquired from a test of the instrument's validity using an r-table with a confidence level and a significance level of 0.05% are 0.361.

Table 3. Validity Test Result of Independent Variable

Variables	r-test	r-table	Results
Emotional Intelligence (X1)	0.639	0.361	Valid
	0.639	0.361	
	0.752	0.361	
	0.620	0.361	
	0.518	0.361	
	0.620	0.361	
	0.507	0.361	
	0.569	0.361	
Learning Motivation (X2)	0.639	0.361	Valid
	0.682	0.361	
	0.618	0.361	
	0.826	0.361	
	0.555	0.361	
	0.826	0.361	
	0.617	0.361	
	0.638	0.361	
Learning Independence (X3)	0.784	0.361	Valid
	0.634	0.361	
	0.406	0.361	
	0.784	0.361	
	0.400	0.361	
	0.546	0.361	
	0.792	0.361	
	0.784	0.361	
	0.383	0.361	
	0.792	0.361	

From the validity testing table for the independent variables presented above, it can be concluded that all the study's instrument queries are valid and can be used for research. The following table displays the results of the conducted validity test for the dependent variable.

Table 4. Validity Test Result of Dependent Variable

Variable	r-test	r-table	Result
Critical Thinking Skills (Y)	0.545	0.361	Valid
	0.545	0.361	
	0.450	0.361	
	0.514	0.361	
	0.514	0.361	
	0.362	0.361	
	0.560	0.361	
	0.560	0.361	
	0.560	0.361	
	1.000	0.361	
	0.496	0.361	
	0.400	0.361	
	0.365	0.361	
	0.560	0.361	
	0.365	0.361	
	0.560	0.361	
	1.000	0.361	
	1.000	0.361	

From the validity testing table for the dependent variable presented above, it can be concluded that all the questions on the study's instrument are valid and can be used for research. The following assessment is the reliability test of the instruments utilized in this study. Reliability is a measuring test to determine the extent to which the measuring instrument is consistent in research. This reliability test was carried out using Cronbach's Alpha formula because the instrument used was a questionnaire with a multilevel scale. As a decision criterion for the reliability test, if the value of the r-test is greater than the value of the r-table ($r\text{-test} > r\text{-table}$), then the research instrument used in the study can be considered reliable, and vice versa. The reliability test results for the research instrument are displayed in the Table 5 Below.

Table 5. Instrument Reliability Test Results

No	Variables	Cronbach Alpha
1	Emotional Intelligence (X_1)	0.801
2	Learning Motivation (X_2)	0.858
3	Learning Independence (X_3)	0.805
4	Critical Thinking Skills (Y)	0.930

Table 6. Structural Model Goddess of Fit

Model Fit	Coefficients	Criteria	Result
Chy-square (X^2)	51.04	Small (not significant)	Fit
P-Value	0.72	≥ 0.05	Fit
DF	68	-	-
Cmin (X^2/Df)	0.750	≤ 2.00	Fit
RMR (standardized)	0.04	≤ 0.08	Fit

Model Fit	Coefficients	Criteria	Result
RMSEA	0.02	≤ 0.08	Fit
GFI	0.94	≥ 0.90	Fit
AGFI	0.94	≥ 0.90	Fit
CFI	0.99	≥ 0.94	Fit
IFI	0.98	≥ 0.94	Fit
NNFI atau TLI	0.98	≥ 0.94	Fit
AIC (Model)	73.16	Small, relative	Fit

Based on the fit model table above, it is known that all coefficients have met the standard criteria. The lambda coefficient (λ), determination (R^2), and T-Value of each manifest variable that constructs the independent and dependent variables are as shown in Table 7.

Table 7. Manifests of Structural Model Constructs

No.	Variables	Manifests	λ	R^2	T-value
1	X1	X1.1	0.70	0.07	7.23
		X1.2	0.51	0.05	5.41
2	X2	X2.1	0.22	0.02	2.59
		X2.2	0.24	0.02	2.81
3	X3	X3.1	0.62	0.06	6.38
		X3.2	0.56	0.05	5.71
4	Y	Y1	0.35	0.03	3.69
		Y2	0.57	0.05	5.84
		Y3	0.41	0.04	4.27
		Y4	0.49	0.04	4.90
		Y5	0.51	0.05	5.43

Values greater than λ . According to the analysis and structural model presented in Table 7, the direct and indirect influence coefficients between variables can be described.

Tabel 8. Influence Measurement Results

No.	Path	Direct Influence Coefficient	T-value	Result
1.	X1 \rightarrow Y	0,496	8,50	Significant
2.	X2 \rightarrow Y	0,769	12,51	Significant
3.	X3 \rightarrow Y	0,452	8,94	Significant

3. The Influence of Emotional Intelligence on Critical Thinking Skills

Emotional intelligence is something that plays a role in educational development. The affective domain consists of behaviours emphasizing emotional aspects, such as students' interest, attitude, appreciation, self-awareness, and social skills. Emotional intelligence harmonizes a feeling of emotions and thoughts that can affect the development of critical thinking in students. Education is not only a place of learning and giving value to students, but education has the primary goal of training students emotionally so that their emotions are stable (Arias et al., 2022). Emotions affect the way people rationalize, decide and act. Since emotional knowledge is crucial to determining the decisions one makes, the inability to regulate one's emotions can negatively impact one's efficiency when making effective judgments (Teoh & Liau, 2021). This study aims to determine whether the emotional intelligence variable has an effect. In this study, a test of the hypothesis was conducted by examining the structural model. This test asserts that emotional

intelligence influences the critical thinking skills of Indonesian students in grade 11. Emotional intelligence includes emotion as a human response to various learning activities in a social environment. Emotional intelligence fosters confidence and shaping students' critical thinking while they are learning.

In today's world, learning skills necessitate critical thinking and emotional intelligence (Ayu Sakdiyyah et al., 2022). When confronting a stressful event, intelligence is an emotional dynamic directly affected and influenced by spiritual and religious beliefs. Additionally, emotional intelligence has a direct influence on students' critical thinking. A person's critical thinking is affected by intelligence and the emotional dynamics that occur within him. This indicates that emotional intelligence that promotes emotional stability contributes to the growth and development of learning (Gudnanto et al., 2021). Emotional intelligence also encompasses behavioural skills such as adaptability, independence, and creativity, as well as interpersonal skills that provide the capacity to express opinions, convey information, negotiate, and collaborate. Similar to previous research MacCann et al. (2019) suggest that emotional intelligence involve the use of emotions in cognitive decision-making ability. Students use their critical thinking for problem-solving and learning. In South Sulawesi Province, Indonesia, schools increasingly employ modern learning patterns, particularly in economics, where the concept of learning emphasizes critical thinking.

Wayan Santyasa et al. (2021) state that critical thinking enables students to draw reasonable conclusions based on logic, evidence, and intellectual integrity. In South Sulawesi Province, Indonesia, economic courses emphasizing emotional intelligence help students develop a reflective mind focusing on deciding something that can be relied upon. Students' critical thinking skills will assist them in solving problems in the real world, whether they are simple, complex, or difficult (Kardoyo et al., 2020). Emotional intelligence also demonstrates that appropriately experiencing emotions, approaching, and creating emotions to support thinking, understanding, and knowledge of emotions, and organizing emotions to promote emotional and intellectual development. The cultivation of critical thinking skills aims to produce students who are adept at solving problems in everyday life, one of which is related to emotional intelligence in the field of economics and is implemented in economic subjects in schools in South Sulawesi Province, Indonesia. Emotional intelligence that guides the learning process is also required in economic subjects. The scope of social studies subjects about motivation, learning outcomes, and social skills includes economics. This study also reveals that the percentage score for the emotional intelligence variable is 82.13 percent, indicating that emotional intelligence has a very high score. This also implies that a person's emotional intelligence, categorized as very good, will influence decisions and thinking logically (Mardi et al., 2021). Emotional intelligence competence consists of self-competence and social environment competence (Collins & Cooper, 2014).

4. The Influence of Learning Motivation on Critical Thinking Skills

Motivation is a psychological condition of a person that encourages students to carry out certain activities and achieve specific goals (Rovai & Jordan, 2004). Motivation results in a student's eagerness to learn, which organizes a new experience in a specific activity (Sudrajat & Disman, 2021). Efforts to modify one's behavior to achieve success in learning activities are a form of self-generated learning motivation (Musfikhuna et al., 2021). This study aims to determine whether the variable of learning motivation has an effect. According to a structural model test result in eleventh-grade students' critical thinking skills are influenced by their learning motivation. Learning in the contemporary era necessitates a new form of motivation for students.

Learning motivation influences completing tasks and infuses a person with new energy to achieve predetermined objectives (Musfikhuna et al., 2021). Motivation itself convinces learners of their ability to learn. Motivation in economic subjects possessed by eleventh-grade students encourages students to enhance teaching and learning activities. Motivation also plays a role in encouraging students to learn, as opposed to cultivating critical thinking (Gavronskaya et al., 2022). Economic subjects require a level of student motivation that facilitates the learning process and creates students who are dynamic and highly motivated (Munawaroh et al., 2022). Classroom learning with problem-based learning has high intrinsic motivation, affects the meaning of doing work, and has metacognitive and self-regulated learning.

In this study, it can also be demonstrated that the percentage score for the learning motivation variable is 76.85 percent, indicating that this is a respectable score. This also implies that learning motivation is a force within students that activates behavior that leads to achieving learning objectives (Nazari et al., 2021). Motivation in a subject will influence a person's behavior, affecting his commitment to always be consistent in his pursuit of learning (Rajagukguk et al., 2022). In a learning process, it is essential to regularly monitor the development of learning motivation, which should maximize the growth of valuable qualities and skills (Gavronskaya et al., 2022).

According to Kubravi et al. (2018) motivation is the process of students acquiring new information, expressing new ideas, and providing themselves with references. Not only must students motivate themselves to learn, but educators must also motivate students so that they are more engaged in teaching and learning activities. The motivation possessed by class XI students studying economic subjects will enhance the quality of learning in which they engage, thereby producing the desired learning outcomes. The motivation to learn is one of the essential educational factors that will encourage educators to enhance learning (Atma et al., 2021). Changes in student motivation are primarily supported by internal and external factors. Motivation possessed by class XI students in South Sulawesi Province, Indonesia, also affects other factors, such as increasing self-confidence in learning.

5. The Influence of Learning Independence on Critical Thinking Skills

Moh Khoizi Eriyanto et al. (2021) state that learning independence is a new way for students to change their attitudes so they can stand on their own without depending on others. In this study, a structural model-based hypothesis test was conducted to determine whether the learning independence variable has an effect. According to test results from Indonesia's South Sulawesi Province, learning independence has an impact on 11th graders' critical thinking skills. Learning independence is necessary because students who have it can increase their ideas and knowledge, thereby enhancing their competence and learning outcomes. Learning independence is the process of acquiring knowledge without the participation of others. Students generate their own learning independence (Listiqowati et al., 2022). Learning is an ability within students that is obtained from student activities through a learning activity, and learning activities can lead to learning independence (In'am & Sutrisno, 2020).

In the South Sulawesi Province of Indonesia, the learning independence of eleventh-grade students leads to the success of independent learning in economic subjects rather than the concept of critical thinking. According to Kopzhassarova et al. (2016), independent learning is predicated not on a problem analysis involving the concept of critical thinking but rather on students making responsible decisions to complete learning tasks independently. With learning independence, students can study autonomously (Putri et al., 2022). Critical thinking fosters

communication, collaboration, and creative learning (Atwa et al., 2022). Economic subjects have a concept of learning achievement that examines concepts, facts, and generalizations associated with economic problems and activities (Sriyono, 2017). Additionally, economic subjects necessitate independent learning that facilitates each student's direct comprehension. Learning independence in economics can assist students in understanding the concept (Kholmuratovich, 2020). Independent learning does not lead to critical thinking (Fuad et al., 2017). Independent learning is a process in which students can take the initiative without assistance from others.

In this study, it can also be observed that the percentage score for the variable learning motivation is 75.75 percent, indicating that learning motivation has a satisfactory score with a score range of 60 to 80 percent. Learning requires independence to foster individual development (Hendri & Setiawan, 2016). Independence in learning is beneficial to the learning process because if a student has independence in learning, he will become accustomed to learning without relying on others (Lee, 2019). The most essential method in the learning system is independent learning (Muratov & Tadjieva, 2021). Learning begins within the learner and can occur anywhere. Students will exert effort and adopt a learning style if they intend to learn (Bibbings & Bieluga, 2018). Learning independence will also affect how students learn; students accustomed to independent learning will not be surprised if they are required to follow government rules if an emergency forces them to remain at home (Nuryanto & Ramadani, 2022). Behaviour, motivation, and cognition can influence learning independence (Hendarsyah et al., 2022).

D. CONCLUSION AND SUGGESTIONS

The results of this study indicate that emotional intelligence has a percentage score of 82.13%, which means that emotional intelligence is classified as a very good percentage. Learning motivation has a score of 76.85%, meaning that learning motivation is classified as a good percentage. Learning independence is 75.75%, meaning learning motivation is classified as a good percentage. After analysing the data by testing it using structural equation modelling (SEM), the results obtained show that the variables of emotional intelligence (X1), learning motivation (X2), and learning independence (X3) have a significant effect on critical thinking skills (Y). Based on these results, this study provides two contributions. First, this study provides a theoretical contribution in the development of constructivist learning theory by including the importance of a combination of emotional, motivational, and independence factors in economic learning. Based on this, it is expected that further researchers will develop these three factors, especially in the mental model aspect of economic learning. Second, this study provides a practical contribution in the development of methods, media, and learning resources that are oriented towards students' critical thinking skills. Based on this, it is expected that economics teachers at the high school level will design economic learning and evaluation tools based on emotional, motivational, and independence factors, as well as students' critical thinking skills in economic learning.

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