

SHARPENING CRITICAL ECONOMIC THINKING: INVESTIGATING THE IMPACT OF CASE-BASED LEARNING IN HIGHER EDUCATION

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ABSTRACT

Critical thinking in economics constitutes an essential competence for undergraduates to engage with the complexities of contemporary economic dynamics. Yet, conventional lecturer-centred approaches often constrain students from attaining such skills, particularly their capacity to connect theoretical constructs with real-world socio-economic challenges. This study seeks to reposition economics pedagogy by examining the impact of Case-Based Learning (CBL) on the development of critical economic thinking (CET). Employing a quasi-experimental design with non-equivalent control groups, the research involved 70 undergraduates in economics education at State University of Makassar, divided into experimental (CBL) and control (conventional) cohorts. The findings indicate that students exposed to CBL significantly outperformed their peers taught through traditional methods, particularly in applying theoretical concepts to authentic cases, engaging in evidence-based reasoning, and articulating the ethical and distributive implications of economic decisions. The study concludes that systematically embedding CBL into the economics curriculum is imperative for preparing graduates capable of navigating the complexities of contemporary economic realities.

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INTRODUCTIONS

The global economic landscape, which continues to evolve in response to advances in digital technologies, artificial intelligence, and the increasing complexity of market systems, renders the capacity for critical thinking in economic matters an indispensable competency for the younger generation (Haleem et al., 2024; Rahimi & Oh, 2024; Ramírez-Montoya et al., 2022), particularly for economics students (Tarasova et al., 2025). Moreover, the demand

within the labour market for graduates who are able to analyse economic issues reflectively and propose constructive solutions is steadily intensifying (OECD, 2018). In this regard, economics education cannot be confined merely to the transmission of concepts and theories; it must also cultivate students' ability to critique policies, to comprehend the economic implications of socio-political events, and to make data-informed decisions (Pühringer & Bäuerle, 2025; Taş, 2023).

Critical Economic Thinking (CET) refers to the ability to analyse, evaluate, and make economic decisions in a logical, reflective, and evidence-based manner. Unlike critical thinking in general, CET is domain-specific, encompassing skills such as interpreting economic data, evaluating policy arguments, and understanding the social and ethical implications of economic decisions (Mizzi, 2025; Siegfried & Colander, 2022; Tarasova et al., 2025). According to Ennis (2016), critical thinking skills include the capacity to analyse assumptions, recognise bias, and synthesise and evaluate information. Within the field of economics, these skills must be linked to the ability to comprehend market systems, economic-political policies, and issues related to the distribution of resources. As students acquire disciplinary knowledge in economics, they are expected to contextualise it socially, historically, and politically, recognising that economics is an integral part of the social system and developing an awareness of its interconnectedness with society (Pühringer & Bäuerle, 2025).

With regard to the teaching of critical thinking in economics, Siegfried & Colander (2022) distinguish between "big thinking" and "small thinking" (or thinking outside the box versus thinking within the box). This study focuses on highlighting the skill of "big thinking" in the economic context, referred to here as CET. The variable is operationalised by drawing upon the indicators of critical thinking proposed by Ennis (2016) and Facione (1990), adapted specifically to the domain of economics. These indicators comprise: interpretation, analysis, evaluation, inference, explanation, and self-regulation.

Although critical thinking has long been recognised as an essential skill within higher education, many universities continue to rely on conventional pedagogical approaches that are predominantly one-directional, lecturer-centred, and characterised by limited opportunities for reflective interaction (Breitschwerdt et al., 2025; Mwinkaar & Lonibe, 2024; Song et al., 2025). Such practices risk constraining students' ability to connect economic theory with real-world practice and the dynamics of public policy (Pan et al., 2024; Siegfried & Colander, 2022). The critical thinking skills of economics students in Indonesia also appear to be relatively low (Utami et al., 2025; Wardani et al., 2019). A study reported by Thamrin & Hutasuhut (2017) revealed that during a Q&A session at an Indonesian university, researchers observed that students rarely asked questions and responded when asked, indicating that students' critical thinking skills are still low. As students acquire disciplinary knowledge in economics, they are often detached from the social, historical, and political contexts in which economic systems are embedded. Both lecturers and students tend to focus narrowly on quantitative matrices, with insufficient recognition that economics constitutes an integral part of the broader social system and should ultimately serve societal interests. Yet, a deeper understanding of the functioning of contemporary economic systems requires both educators and students to imagine alternatives that are more just, inclusive, and ecologically sustainable (Mizzi, 2025). This persistent gap inevitably raises critical questions about the effectiveness of current pedagogical practices within economics programmes.

Research by Bhuttah et al. (2024) further argues that conventional approaches are insufficient to foster the development of critical thinking skills, and that policymakers must encourage the integration of innovative teaching practices within curricula so that lecturers can engage more creatively, interactively, and critically in transforming learning processes. The curriculum should afford both students and lecturers the flexibility to construct pedagogical environments that are more engaging, implicit, and effective in cultivating critical thinking, in line with the demands of twenty-first century learning (Idham et al., 2025; Imran et al., 2022; Sahade et al., 2024). One pedagogical model frequently recognised for its potential to stimulate critical thinking skills in higher education is case-based learning (Gaspe & Hathiringe Dona, 2024; Lavi & Marti, 2023; Xiang et al., 2025; Yang et al., 2024).

Case-Based Learning (CBL) is a student-centred instructional model that employs real-world cases as the basis for discussion and analysis (Dipuja & Wahyuni, 2025; Emblen-Perry, 2022; Gronski, 2021; Wijnia et al., 2024). In contrast to traditional lecture-based approaches, CBL situates students in authentic contexts where they are required to interpret complex information, consider multiple perspectives, and formulate solutions. The defining characteristics of CBL include: (a) students prepare the case in advance; (b) students apply their knowledge to solve or explain the

case; (c) the lecturer acts as a facilitator; (d) collaborative case discussions are central; and (e) there is typically no self-directed learning after the session (Baeten et al., 2013; Loyens & Rikers, 2011; Srinivasan et al., 2007; Williams, 2005). By engaging with contextualised cases, students are encouraged to actively construct meaning rather than passively receive knowledge. For this reason, it is imperative that Indonesia’s current higher education curriculum explicitly accommodate case-based learning as an approach to enhancing students’ capacity for critical thinking.

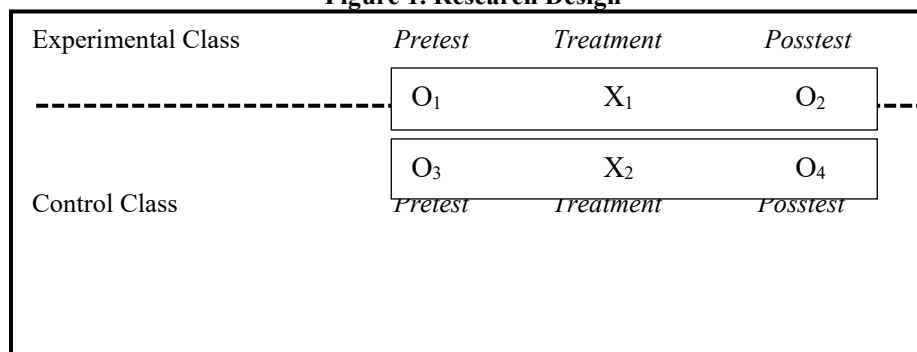
In the teaching of economics, CBL has been shown to enhance students’ analytical abilities, their capacity to apply theory in practice, and their engagement in reflective learning (Ampa & Sulolipu, 2024; Chulkov & Nizovtsev, 2025; Depro & Rouse, 2022; Emblen-Perry, 2022; Klebba & Hamilton, 2007). This is consistent with the findings of Raza et al. (2020), who argue that CBL in higher education immerses students in real-life situations and fosters stronger interaction between instructors and students, thereby improving students’ critical thinking skills. When applied to economics, CBL situates abstract theories within socio-economic issues—such as inflation, fiscal policy, or environmental dilemmas—that stimulate CET skills. By engaging with case-based processes, students are encouraged to move beyond rote memorisation towards argumentation, comparative analysis, and evidence-based reasoning (Pühringer & Bäuerle, 2025; Tarasova et al., 2025). Accordingly, this study positions itself to extend understanding of how CBL not only improves learning outcomes in general but, more specifically, cultivates students’ critical thinking skills within the discipline of economics.

To ensure that the case-based learning model can effectively contribute to enhancing economics students’ critical thinking skills in higher education, further empirical investigation is required. The novelty of this study lies in its integration of case-based learning with a critical economic thinking framework within the Indonesian context, an area that has to date received limited empirical attention. This endeavour is deemed essential given the pressing urgency of reforming economics pedagogy towards models that are more adaptive to the skill requirements of the twenty-first century.

METHOD

This study employed a quantitative experimental approach using a quasi-experimental design, specifically the non-equivalent control group design (Creswell & Creswell, 2018). The research involved two groups of students: an experimental group that received instruction through the CBL model, and a control group that was taught using a conventional lecturer-centred approach. Both groups were administered a pre-test and a post-test to measure changes in their CET skills. This design was selected as it allows for a more accurate assessment of the treatment effect, despite participants not being randomly assigned in their entirety. The inclusion of pre- and post-tests also served to control for initial differences in ability between the groups. The research design is illustrated in Figure 1 below.

Figure 1. Research Design



Information

- O₁ : Pre-test was given to the experimental group
- O₂ : Post-test was given to the experimental group
- O₃ : Pre-test was given to the control group
- O₄ : Post-test was given to the control group

X_1 : Learning using the CBL model

X_2 : Learning using conventional model

The population of this study comprised all students enrolled in the Economics Education Programme, Faculty of Economics and Business, State University of Makassar, during the even semester of the 2024/2025 academic year. The sample was selected using purposive sampling, taking into account similarities in students' academic characteristics and prior learning experiences. The sample consisted of two parallel classes: one assigned as the experimental group ($n = 35$) and the other as the control group ($n = 35$), resulting in a total of 70 participants. The experimental and control groups had both received introductory courses in economics, macroeconomics, and microeconomics. The selected classes shared similar schedules and were taught by comparable instructors in order to minimise instructional bias.

The primary instrument in this study was a CET test in the form of open-ended, context-based economic case studies. The instrument was developed with reference to the indicators of critical thinking proposed by Ennis (2016 and Facione (1990), and adapted to the domain-specific characteristics of economics, encompassing skills such as interpreting economic data, evaluating policy arguments, and understanding the social and ethical implications of economic decisions (Mizzi, 2025; Siegfried & Colander, 2022; Tarasova et al., 2025). The measured indicators included: (1) interpretation, assessing students' ability to interpret economic problems; (2) analysis, assessing the ability to analyse economic data and arguments; (3) evaluation, assessing the ability to evaluate economic policies or decisions; (4) inference, assessing the ability to formulate conclusions; (5) explanation, assessing the ability to explain problems using economic theory; and (6) self-regulation, assessing the ability to reflect argumentatively on the reasoning processes previously undertaken.

The data were analysed using parametric statistical tests, beginning with validity and reliability testing of the instrument, followed by normality and homogeneity tests as prerequisites for hypothesis testing. Finally, hypothesis testing was conducted to examine differences in the improvement of CET skills between the experimental and control groups through the use of paired-sample t-tests. The research hypotheses were formulated as follows:

H_0 : There is no significant difference in CET skills between students who are taught using CBL and those who are taught using conventional methods.

H_a : There is a significant difference in CET skills between students who are taught using CBL and those who are taught using conventional methods.

The hypothesis testing was assessed using a significance level of $\alpha = 0.05$. If $\alpha > 0.05$, the null hypothesis (H_0) is accepted; whereas if $p < 0.05$, the null hypothesis is rejected in favour of the alternative hypothesis (H_a). All statistical analyses were conducted using SPSS software.

RESULT AND DISCUSSIONS

Before testing the research hypotheses, a series of preliminary analyses were conducted to ensure the quality of the instrument and the suitability of the data. These analyses included validity and reliability testing of the CET instrument, as well as prerequisite tests of normality and homogeneity on the CET test results. The complete results of these analyses are presented in the table below.

Table 1. Results of the Validity Test of the Question Instrument

No.	r_{count}	$r_{\text{table}} 5\% (33)$	Criteria
Question 1	0.844	0.344	Valid
Question 2	0.856	0.344	Valid
Question 3	0.878	0.344	Valid
Question 4	0.782	0.344	Valid
Question 5	0.738	0.344	Valid
Question 6	0.720	0.344	Valid

Table 1 presents a comparison between the r_{count} and r_{table} values. As all items show $r_{\text{count}} > r_{\text{table}}$ (0.344), it can be concluded that all items of the CET instrument are valid.

Table 2. Results of the Reliability Statistical Test of the Question Instrument



Cronbach's Alpha	Part 1	Value	.908
		N of Items	4 ^a
	Part 2	Value	.565
		N of Items	3 ^b
	Total N of Items		7
Correlation Between Forms			.954
Spearman-Brown Coefficient	Equal Length		.976
	Unequal Length		.977
Guttman Split-Half Coefficient			.885

Based on the output presented in Table 2 (Reliability Statistics), the Guttman Split-Half Coefficient was 0.885, which exceeds the threshold of 0.80. It can therefore be concluded that the items of the CET instrument are overall reliable.

Table 3. Results of Descriptive Analysis

Class			Statistic	Std. Error
Critical Economic Thinking	Pretest Experiment (CBL)	Mean	44.49	1.937
		Std. Deviation	11.462	
		Minimum	28	
		Maximum	70	
		Range	42	
	Posttest Experiment (CBL)	Mean	74.97	2.501
		Std. Deviation	14.798	
		Minimum	53	
		Maximum	110	
		Range	57	
Pretest Control (Conventional)		Mean	42.20	2.060
		Std. Deviation	12.189	
		Minimum	26	
		Maximum	73	
		Range	47	
Posttest Control (Conventional)		Mean	58.80	1.960
		Std. Deviation	11.596	
		Minimum	33	
		Maximum	80	
		Range	47	

Table 3 above presents the results of descriptive analysis of the CET scores of students in the experimental and control groups, both at the pre-test and post-test stages. The average pre-test result for the experimental group was 44.49 with a standard deviation of 11.462. The average post-test result for the experimental group was 74.97 with a standard deviation of 14.798. The average pre-test result for the control group was 42.20 with a standard deviation of 12.189. The average post-test result for the control group was 58.80 with a standard deviation of 11.596. The results of this descriptive analysis conclude that there was an increase in pre-test to post-test for both groups. However, the increase in CET for the experimental group was much higher than that of the control group.

Table 4. Results of Normality Test

Class	Statistic	Kolmogorov-Smirnov ^a	
		Df	Sig.
CET Pre-test Experiment (CBL)	.143	35	.068
Post-test Experiment (CBL)	.117	35	.200*

Pre-test Control (Conventional)	.118	35	.200*
Post-test Control (Conventional)	.110	35	.200*

Based on the output presented in Table 4, the significance values for all data in the Kolmogorov–Smirnov test were greater than 0.05. It can therefore be concluded that the research data are normally distributed.

Table 5. Results of Homogeneity Test

		Levene Statistic	df1	df2	Sig.
CET	Based on Mean	2.537	1	68	.116
	Based on Median	2.525	1	68	.117
	Based on Median and with adjusted df	2.525	1	67.388	.117
	Based on trimmed mean	2.536	1	68	.116

Table 5 presents the results of the homogeneity test, which yielded a significance value (Sig.) Based on Mean of 0.116 > 0.05. It can therefore be concluded that the variances of the post-test data from the experimental class and the control class are equal, indicating homogeneity.

After all prerequisite tests were satisfied, the next stage was the hypothesis testing using an independent samples t-test to compare the mean CET scores of students in the group taught with the CBL model and those in the group taught with conventional learning. The statistical results of this test are presented in the table below.

Table 6. Results of Independent Samples T-Test Statistical

		F	Sig.	t	Sig. (2- tailed)	Std. Error Difference	95% Confidence Interval of the Difference Lower Upper	
CET	Equal variances assumed	2.537	.116	5.089	.000	3.178	9.830	22.512
	Equal variances not assumed			5.089	.000	3.178	9.824	22.519

Based on the output presented above, the significance value (Sig. 2-tailed) was found to be 0.000 < 0.05. Accordingly, it can be concluded that the research hypothesis (H_a), which posits a difference in the mean scores of students' CET between those taught using the CBL model and those taught through conventional methods, is accepted. This finding underscores that the CET skills of students in the experimental group exposed to the CBL model were significantly higher than those of their counterparts in the control group who received conventional instruction.

The findings of this study reinforce previous research identifying CBL as an effective pedagogical approach for fostering students' critical thinking skills in economics education (Ampa & Sulolipu, 2024; Chulkov & Nizovtsev, 2025; Depro & Rouse, 2022; Emblen-Perry, 2022; Klebba & Hamilton, 2007). Descriptive analysis of CET scores for both groups before and after the intervention revealed consistently higher averages for the experimental cohort. Specifically, the experimental group achieved a mean pre-test score of 44.49 and a post-test score of 74.97, compared with the control group's mean pre-test score of 42.20 and post-test score of 58.80. These descriptive data illustrate a significant difference between the groups. The results demonstrate that the experimental group outperformed the control group in their ability to analyse real-world cases and to connect contextual economic theory with practice more effectively. By contrast, the standard textbooks frequently employed in the control group's conventional model were largely confined to decontextualised examples, limiting students' capacity to engage with contemporary economic issues as they emerge in society. Although standard textbooks remain useful, they are nevertheless insufficient in capturing the subtleties employed by skilled economists when applying models and theories to real-world problems (Mizzi, 2025; Siegfried & Colander, 2022).

The implementation of the CBL model also enables students to move beyond the mere memorisation of concepts, fostering instead the development of evidence-based argumentation, critical reflection, and more mature economic decision-making. This is particularly significant, as the ultimate goal of cultivating CET lies in students'

ability to develop critical awareness of diverse schools of economic thought, to engage in discussions encompassing multiple perspectives, to interpret realities through economic data, and to critically evaluate both issues and official economic statistics (Mizzi, 2023).

Given the urgency of cultivating CET as an essential competency for every economics student, there is a pressing need to reposition the economics curriculum within the Economics Education programme at State University of Makassar so that it places greater emphasis on student-centred learning, with CBL as one of its core strategies. At present, the programme employs a combination of methods, including the case method, project-based learning, and conventional approaches. However, the dominant reliance on conventional teaching has meant that the development of students' CET has not yet reached its full potential. Consequently, the professional development of lecturers is also required, enabling them to act as facilitators and co-learners in stimulating students' CET skills.

CONCLUSION

This study provides empirical evidence that CBL is an effective pedagogical approach for enhancing students' CET within economics education. The findings demonstrate that students exposed to CBL significantly outperformed their peers taught through conventional methods, particularly in their ability to analyse real-world cases, apply theoretical concepts in practical contexts, and engage in evidence-based reasoning. These results reinforce previous research highlighting the potential of CBL to move students beyond rote memorisation towards the development of higher-order thinking, critical reflection, and informed economic decision-making. Moreover, the study underscores the limitations of traditional textbook-based instruction, which often presents decontextualised examples and fails to capture the complexity and nuance of economic issues encountered in practice. In contrast, CBL situates learning within authentic socio-economic contexts, thereby fostering students' capacity to critically interpret data, evaluate policy arguments, and appreciate the ethical and distributive implications of economic decisions.

Building on these findings, economics curricula—particularly within teacher education programmes—should be reoriented towards a student-centred approach, with CBL serving as a primary instructional strategy. Equally important is the professional development of lecturers, enabling them to act as facilitators and co-learners in fostering students' CET. By integrating CBL more systematically into the curriculum, economics education can equip graduates with the critical competencies required to navigate the complexities of contemporary economic realities.

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