


Original Article

# Relationship of Teaching Methods to Students' Engagement and Critical Thinking Disposition

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**Abstract.** Understanding the connection between teachers' instructional methods and students' engagement and critical thinking is essential in strengthening criminology education. This study examined the relationship between teaching strategies and the levels of engagement and critical-thinking disposition among fourth-year Criminology students at private institutions in Cagayan de Oro City during the 2023–2024 academic year. A descriptive-correlational design was employed, involving 109 students selected through simple random sampling. Data were gathered using three validated questionnaires, and analyzed through mean, standard deviation, and Pearson's product-moment correlation coefficient. Results showed that teachers' instructional methods were rated very satisfactory, whereas students demonstrated very high engagement (WM = 3.52) and a critical-thinking disposition (WM = 3.56). Significant positive correlations were found between the teaching strategies—lecture, demonstration, and case study—and both student engagement and critical thinking ( $p < .05$ ). Among these, case study methods produced the strongest association, indicating their effectiveness in promoting higher-order thinking. The findings underscore the importance of integrating interactive and analytical strategies to enhance criminology students' learning outcomes. Practically, the study supports capacity-building programs focused on case-based instruction and active learning. Future research may examine the longitudinal effects of instructional strategies, compare different year levels, or incorporate qualitative approaches to better understand how these methods shape students' cognitive development.

**Keywords:** Criminology students; Critical thinking disposition; Educational effectiveness; Student engagement; Teaching strategies.

Effective teaching methods are crucial for engaging students and facilitating meaningful learning experiences, encouraging active participation through strategies such as group work, problem-solving, and hands-on activities (Bae et al., 2020). Constructivist approaches, in particular, emphasize students' active role in constructing knowledge through experience, exploration, questioning, and collaboration, which fosters critical thinking and problem-solving skills (Kim & Hommel, 2019). Moreover, integrating 21st-century skills—such as creativity, collaboration, and critical thinking—has become essential in modern education to prepare students for complex, real-world challenges. Student engagement, a key outcome of effective teaching methods, encompasses both cognitive engagement, reflecting critical thinking and mental focus, and behavioral engagement, reflecting active participation in learning activities (Maba & Mantra, 2017). Engagement is influenced by intrinsic motivation, arising from personal interest and the joy of learning, and extrinsic motivation, such as grades and recognition (Rooij et al., 2017). Strategies that promote personalized learning, active discussions, case

studies, and interactive lectures enhance both engagement and the disposition toward critical thinking. Additionally, classroom factors—including teacher-student relationships, inclusivity, and feedback quality—play a critical role in maintaining high levels of student participation (Korhonen et al., 2019; Bowden et al., 2019).

Engagement and the disposition toward critical thinking are closely linked. Actively engaged students tend to demonstrate stronger critical thinking skills, as they delve deeper into subject matter, ask probing questions, and explore diverse perspectives (Álvarez-Huerta et al., 2022). Conversely, a strong disposition toward critical thinking encourages students to analyze information, evaluate evidence, and participate thoughtfully in learning activities. This relationship is particularly significant in criminology education, where critical thinking enables students to analyze complex cases, address ethical dilemmas, interpret crime data, and apply interdisciplinary approaches effectively (Hidayah et al., 2017; Zuriguel Pérez et al., 2019). Despite numerous studies on teaching strategies and student outcomes, there is a lack of comprehensive research on the specific teaching methods employed in criminology education and their direct impact on both student engagement and critical-thinking disposition. While general studies have shown positive correlations between instructional strategies and these outcomes, limited research examines which specific methods—such as interactive lectures, case-study learning, or demonstrations—are most effective for criminology students (Dwyer, 2017; Kim & Hommel, 2019). Recognizing the interplay between teaching methods, student engagement, and critical thinking disposition, this study aims to evaluate the relationship between teachers’ instructional strategies and the levels of engagement and critical thinking disposition among fourth-year Criminology students enrolled in a private institution in Cagayan de Oro City. Findings from this research may provide valuable insights for educators to refine teaching practices, promote active learning, enhance critical thinking skills, and better prepare students for careers in criminology and criminal justice.

## **Methodology**

### **Research Design**

This study employed a descriptive-correlational research design, which is appropriate for examining the strength and direction of relationships between variables without manipulating them. This design allows researchers to examine associations among teachers’ instructional methods, students’ engagement, and critical-thinking dispositions in a natural classroom setting. Using correlational analyses, the study provides insights into how different teaching methods relate to students’ academic outcomes, making it suitable for educational research in criminology.

### **Research Setting**

The study was conducted at a private institution in Cagayan de Oro City, Philippines, specifically within the College of Criminology. Cagayan de Oro City (CDO) is a major urban center in northern Mindanao, known for its educational institutions, economic activities, and diverse cultural influences. The selected institution was deemed appropriate because of its active enrollment of fourth-year Criminology students and its reputation for offering a comprehensive Criminology program.

### **Research Respondent**

The participants comprised 109 fourth-year Criminology students who were officially enrolled in the 2023–2024 academic year. Participants were selected using simple random sampling to ensure each student had an equal opportunity to be included. Inclusion criteria required that students be officially enrolled in the fourth-year Criminology program and be Willing to participate, providing informed consent. Exclusion criteria excluded students who were on leave of absence or who did not consent to participate. The sample comprised both genders and a diverse range of ages within the fourth-year cohort.

### **Research Instruments**

#### ***Teachers’ Teaching Methods Questionnaire***

A modified version of the original Teachers’ Teaching Strategies Questionnaire was created to assess pedagogical approaches in criminology, including lectures, demonstrations, and case studies. The questionnaire was divided into multiple sections targeting specific teaching strategies. Validation and reliability were ensured through expert review by three professionals in education and criminology, and a pilot test with 20 students not included in the main study (Cronbach’s  $\alpha = 0.87$ ). Responses were rated on a 4-point Likert scale:

Continuum	Responses	Interpretation
4 – Always	3.26–4.00	Excellent
3 – Often	2.51–3.25	Very Satisfactory
2 – Sometimes	1.76–2.50	Satisfactory
1 – Never	1.00–1.75	Poor

### *Students' Level of Engagement Questionnaire*

An adopted instrument by Delfino (2019), consisting of 40 items measuring behavioral, cognitive, and emotional engagement. Pilot testing with students not in the main study confirmed reliability (Cronbach's  $\alpha = 0.91$ ). The 4-point Likert scale interpretation:

Continuum	Responses	Interpretation
4	Very High	VH
3	High	H
2	Low	L
1	Very Low	VL

### *Critical Thinking Disposition Questionnaire*

A modified instrument assessing dimensions of critical thinking, including open-mindedness, analytical thinking, inquisitiveness, and reflective skepticism in criminology. Validation involved expert review and pilot testing (Cronbach's  $\alpha = 0.85$ ). The 4-point Likert scale interpretation:

Response	Continuum	Interpretation
4 – Always	3.26–4.00	Very High (VH)
3 – Sometimes	2.51–3.25	High (H)
2 – Rarely	1.76–2.50	Low (L)
1 – Never	1.00–1.75	Very Low (VL)

### **Data Gathering Procedure**

After obtaining necessary approvals and informed consent, questionnaires were distributed in person during class sessions. Respondents were given adequate time to respond, and completed instruments were collected in person by the researcher to ensure a 100% retrieval rate. Health and safety protocols were observed, including the use of facemasks and the provision of a personal pen for each respondent. Data were collated using Microsoft Excel for statistical processing.

### **Data Analysis Procedure**

Data on students' level of engagement and teachers' assessment strategies in relation to criminology students' critical thinking skills were analyzed using the following methods: the mean and Standard Deviation were used to determine students' level of engagement and critical thinking disposition. The Pearson (r) Product-Moment Correlation Coefficient was used to examine the relationship between students' perceptions of teachers' teaching strategies and their level of engagement and critical-thinking disposition.

### **Ethical Considerations**

The study adhered to ethical guidelines (Bryman & Bell, 2007). Participants were informed about the study objectives and provided written informed consent. Confidentiality was maintained by coding responses and securing all data. Participants could withdraw at any time without penalty. The study avoided deception, exaggeration, or conflicts of interest. Integrity and fairness were maintained in data collection, analysis, and reporting.

## **Results and Discussion**

### **Teachers' Teaching Strategies**

Table 1 presents the respondents' evaluation of teachers' teaching strategies, specifically Lecture, Demonstration, and Case Study. The overall weighted mean of 3.21 (VS) indicates that respondents perceived teachers' strategies as Very Satisfactory. The Case Study received the highest rating (WM = 3.28), followed by the Lecture (WM = 3.18) and the Demonstration (WM = 3.16). The high rating of the Case Study aligns with prior research highlighting its effectiveness in fostering active participation, knowledge application, and critical thinking (Seshan et al., 2021).

Lectures and demonstrations, though rated slightly lower, remain essential for structuring content delivery and providing guided, practical experiences (Farashahi & Tajeddin, 2018; Sari, Setiadi, & Rondhi, 2024). Overall, teachers' varied strategies reflect an integrated approach to meeting OBE objectives by balancing content delivery, practical demonstrations, and problem-solving.

**Table 1. Teachers' Teaching Strategies**

Constructs	WM	SD	I
Lecture	3.18	0.5483	VS
Demonstration	3.16	0.6145	VS
Case Study	3.28	0.5189	E
<b>Overall Weighted Mean</b>	<b>3.21</b>	<b>0.0643</b>	<b>VS</b>
<b>Legend:</b> 3.26-4.00 – Excellent 2.26-3.25 – Very Satisfactory 1.26-2.25 – Satisfactory 1.00-1.25 – Poor			

### Respondents' Level of Engagement

Cognitive engagement (WM = 3.55) was slightly higher than emotional (3.52) and behavioral engagement (3.49), with overall Very High engagement (WM = 3.52). The results suggest that students are deeply engaged in information processing, actively participate, and express positive attitudes toward learning. The high engagement also reflects the effectiveness of interactive teaching strategies, particularly case studies and demonstrations, in promoting reflective thinking and emotional investment (Fredricks et al., 2004).

**Table 2. Respondents' Level of Engagement**

Constructs	WM	SD	I
Behavioral Engagement	3.49	0.4369	VH
Cognitive Engagement	3.55	0.4395	VH
Emotional Engagement	3.52	0.4658	VH
<b>Overall Weighted Mean</b>	<b>3.52</b>	<b>0.300</b>	<b>VH</b>
<b>Legend:</b> 3.26-4.00 – Very High (VH) 2.26-3.25 – High (H) 1.26-2.25 – Low (L) 1.00-1.25 – Very Low (VL)			

### Students' Critical Thinking Disposition

Respondents' critical thinking disposition was Very High (WM = 3.56, SD = 0.12) across all dimensions: Analytical Thinking (WM = 3.73), Open-mindedness (WM = 3.52), Reflective Skepticism (WM = 3.52), and Inquisitiveness (WM = 3.47). Analytical Thinking scored highest, suggesting strong abilities in reasoning, evaluating evidence, and problem-solving. The findings reinforce that OBE-aligned strategies, such as case studies and demonstration methods, cultivate dispositions essential for lifelong learning and professional competence (Facione, 2020; Dwyer et.al., 2014). High levels of open-mindedness, inquisitiveness, and reflective skepticism indicate that students are receptive to alternative perspectives and motivated to explore new ideas.

**Table 3. Respondents' Critical Thinking Disposition**

Constructs	WM	SD	I
Open-Mindedness	3.52	0.4610	VH
Inquisitiveness	3.47	0.4745	VH
Analytical Thinking	3.73	0.4744	VH
Reflective Skepticism	3.52	0.4489	VH
<b>Overall Weighted Mean</b>	<b>3.56</b>	<b>0.1158</b>	<b>VH</b>
<b>Legend:</b> 3.26-4.00 – Very High (VH) 2.26-3.25 – High (H) 1.26-2.25 – Low (L) 1.00-1.25 – Very Low (VL)			

### Relationship Between the Teachers' Teaching Strategies and the Students' Level of Engagement

**Table 4. Significant Relationship Between the Teachers' Teaching Strategies and the Students' Level of Engagement**

Constructs	Behavioral Engagement			Cognitive Engagement			Emotional Engagement		
	r-value	p-value	Decision	r-value	p-value	Decision	r-value	p-value	Decision
Lecture	0.41	0.00**	Reject H <sub>0</sub>	0.34	0.00**	Reject H <sub>0</sub>	0.36	0.00**	Reject H <sub>0</sub>
Demonstration	0.44	0.00**	Reject H <sub>0</sub>	0.39	0.00**	Reject H <sub>0</sub>	0.38	0.00**	Reject H <sub>0</sub>
Case Study	0.68	0.00**	Reject H <sub>0</sub>	0.50	0.00**	Reject H <sub>0</sub>	0.48	0.00**	Reject H <sub>0</sub>

H<sub>0</sub>: There is no significant relationship between the teachers' teaching strategies and the students' level of engagement.

Legend: 0.00-0.01\*\* Highly Significant 0.02-0.05\* Significant above 0.05 Not Significant

Correlation analysis (Table 4) revealed that all teaching strategies were significantly associated with students' behavioral, cognitive, and emotional engagement (p = 0.00; highly significant). Case Study exhibited the strongest

relationship with engagement (behavioral:  $r = 0.68$ ; cognitive:  $r = 0.50$ ; emotional:  $r = 0.48$ ), followed by Demonstration and Lecture. These results suggest that interactive and applied teaching methods effectively foster active participation, intellectual effort, and emotional involvement. Case-based learning enhances cognitive and emotional engagement by immersing students in problem-solving scenarios (Seshan et al., 2021). Demonstrations provide hands-on experience, stimulating curiosity, and reinforcing conceptual understanding (Sari, Setiadi, & Rondhi, 2024). Lectures, while less interactive, contribute to engagement when complemented by questioning and discussion (Farashahi & Tajeddin, 2018).

### Relationship Between the Teachers' Teaching Strategies and the Students' Critical Thinking Disposition

Table 5 shows significant positive relationships between all teaching strategies and students' critical thinking disposition across dimensions ( $p = 0.00$ , highly significant). Case Study, Demonstration, and Lecture influence different dimensions of critical thinking (Reflective Skepticism, Analytical Thinking, Inquisitiveness). The Case Study particularly strengthens reasoning and reflective judgment ( $r = 0.56$  for Reflective Skepticism). Demonstrations enhance inquisitiveness ( $r = 0.55$ ) and open-mindedness ( $r = 0.48$ ). Lectures significantly impact analytical thinking and inquisitiveness ( $r = 0.54$ ,  $r = 0.44$ ). These insights inform teaching strategies in criminology, highlighting methods that improve engagement and critical thinking.

**Table 5.** Significant Relationship Between the Teachers' Teaching Strategies and the Students' Critical Thinking Disposition

Constructs	Open-Mindedness	Inquisitiveness	Analytical Thinking	Reflective Skepticism
<b>Lecture</b>	$r = 0.41$ $p = 0.00^{**}$ Reject $H_0$	$r = 0.41$ $p = 0.00^{**}$ Reject $H_0$	$r = 0.38$ $p = 0.00^{**}$ Reject $H_0$	$r = 0.39$ $p = 0.00^{**}$ Reject $H_0$
<b>Demonstration</b>	$r = 0.44$ $p = 0.00^{**}$ Reject $H_0$	$r = 0.48$ $p = 0.00^{**}$ Reject $H_0$	$r = 0.46$ $p = 0.00^{**}$ Reject $H_0$	$r = 0.45$ $p = 0.00^{**}$ Reject $H_0$
<b>Case Study</b>	$r = 0.54$ $p = 0.00^{**}$ Reject $H_0$	$r = 0.55$ $p = 0.00^{**}$ Reject $H_0$	$r = 0.54$ $p = 0.00^{**}$ Reject $H_0$	$r = 0.56$ $p = 0.00^{**}$ Reject $H_0$

$H_0$ : There is no significant relationship between the teachers' teaching strategies and the students' critical thinking disposition.

Legend: 0.00-0.01\*\* Highly Significant    0.02-0.05\* Significant    above 0.05 Not Significant

## Conclusion

These findings confirm that teachers' instructional strategies directly influence students' disposition toward critical thinking, supporting the view that Outcome-Based Education (OBE) emphasizes not only knowledge acquisition but also the development of critical, reflective, and analytical competencies. The study demonstrates that teachers' instructional strategies significantly affect students' engagement and critical-thinking disposition within an OBE framework. Among the methods examined, Case Study emerged as the most effective approach, followed by Demonstration, while Lectures remain valuable when complemented with interactive and applied elements. The very high levels of student engagement and critical thinking disposition observed in the study indicate the effectiveness of integrated, learner-centered teaching strategies. Implications for educational practice suggest that educators should adopt a balanced combination of instructional strategies, prioritizing Case Studies and Demonstrations, while enhancing Lectures with discussions, problem-solving activities, and real-world applications. Teachers are encouraged to design learning experiences that actively involve students, foster critical reflection, and develop analytical competencies.

Policy implications include the need for curriculum designers to develop OBE-aligned frameworks that emphasize active learning approaches in criminology courses. Institutions may also consider offering professional development programs to equip teachers with the skills necessary to implement interactive and experiential methods effectively. Such initiatives can ensure that teaching strategies not only improve engagement but also cultivate essential critical thinking skills for professional readiness. For future research, longitudinal studies are recommended to examine the sustained impact of teaching strategies on student engagement and critical thinking. Additionally, exploring the effectiveness of technology-enhanced learning methods and the influence of student demographics, prior knowledge, and motivation on learning outcomes could provide further insights into optimizing instructional strategies in higher education. By implementing these recommendations, educational institutions can foster holistic student development, enhance engagement, and ensure the achievement of OBE

objectives, preparing students for successful careers in criminology and the broader field of criminal justice.

## Contributions of Authors

**Author 1:** Led the research design, data collection, data analysis, and manuscript preparation.

**Author 2:** Contributed to manuscript critique, revision, and finalization.

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None.

## Conflict of Interest

None.

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