

# Enhancing Critical Thinking Through Collaborative Learning in Digital Business Student Assosiations

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## Abstract

This study aims to enhance critical thinking skills through collaborative learning within the Digital Business Student Association at the Faculty of Economics and Maritime Business, Universitas Maritim Raja Ali Haji. Recognizing the importance of critical thinking, the research explores how collaborative activities effectively develop this skill. The primary objective is to assess the impact of collaboration on students' critical thinking, problem-solving, and decision-making abilities during annual organizational activities. A qualitative approach was used, with data collected through interviews with core members, including the event head, secretary, and coordinator. Findings show that collaborative learning positively impacts students' critical thinking, particularly in problem-solving, reflective judgment, and communication skills. This research highlights that collaborative learning is a powerful tool for developing critical thinking skills, fostering active engagement, and preparing students for future challenges.

**Keyword:** improving skills; collaborative; critical thinking

## 1. Introduction

Critical thinking has become an essential skill in both academic and professional domains, particularly in fields characterized by rapid innovation and digital transformation, such as digital business. This skill involves the ability to systematically analyze, evaluate, and synthesize information, enabling individuals to make informed decisions and solve complex problems effectively. As the global economy increasingly relies on digital technologies, cultivating critical thinking skills has become imperative for students pursuing careers in digital business.

Collaborative learning has emerged as one of the most effective pedagogical strategies to foster critical thinking. By engaging in group activities, discussions, and problem-solving tasks, students are exposed to diverse perspectives and are encouraged to reflect critically on their own and others' ideas. This interactive process not only enhances their understanding of complex concepts but also improves their ability to communicate, negotiate, and arrive at well-reasoned conclusions. Collaborative learning environments mirror real-world professional settings where teamwork and critical thinking are indispensable.

This study focuses on the Digital Business Student Association at Faculty of Maritime Economic and Business, Raja Ali Haji Maritime University. An organization where students actively participate in planning, coordinating, and executing annual activities. These activities often require members to brainstorm ideas, solve logistical challenges, and evaluate the success of implemented programs—all of which demand a high level of critical thinking. By examining the collaborative learning practices within this association, the study aims to uncover how collective engagement contributes to the development of critical thinking skills among its members.

Specifically, this research investigates the extent to which collaborative learning enhances critical thinking in the context of Digital Business Student Association. Key questions include: How does participation in group activities influence students' ability to analyze and evaluate problems? What role does peer interaction play in fostering reflective thinking and informed decision-making? How do group discussions enhance students' ability to articulate their ideas clearly? By addressing these questions, the study seeks to provide insights into the value of collaborative learning as a tool for equipping students with the critical thinking skills necessary for success in digital business environments.

Several studies support the role of collaborative learning in enhancing critical thinking. For example, a study by (Warsah et al., 2021). The findings revealed that CL had a positive and significant impact on learners' critical thinking skills. CL also supported the retention of their critical thinking skills. Similarly, research by (Ellianawati et al., 2024) collaborative learning demonstrates the highest level of achievement in creative thinking. It enables the production of innovative mini-projects that critically analyze local resources available for national energy sources. Moreover, a recent study by (Octavia, 2022) students critical thinking in collaborative learning activities mainly happened in group drafting and revising, and the critical thinking skills were Inference, Explanation, and Self-Regulation.

The findings of this study are expected to have broader implications for educators and student organizations, particularly in designing learning environments that promote both collaboration and critical thinking. Through a closer look at the practices of Digital Business

Student Association members, this research contributes to the understanding of how academic and extracurricular activities can synergistically enhance essential cognitive and interpersonal skills.

## **2. Literature Review**

### **2.1 Critical Thinking**

Critical thinking is a process of gathering information, processing it, and using that information to make appropriate decisions, which then leads to problem-solving. When comparing creative thinking and critical thinking, there is a clear distinction between the two. Creative thinking focuses on the creation of new things or ideas, whereas critical thinking is directed towards achieving a specific goal or purpose, rather than engaging in random thinking without a clear aim. Critical thinking is also defined as the ability to generate something new or to place and combine a set of elements in different ways. This process stems from human thinking that is understandable, useful, and innovative, considering the various factors that can influence it (Sayuti & Marfiah, 2023) .

Sayuti & Marfiah, (2023) The core components of critical thinking are as follows:

#### 1) Interpretation

Interpretation refers to the ability to comprehend and express the meaningful significance of various experiences, situations, data, events, judgments, conventions, beliefs, rules, procedures, and criteria. It involves understanding the underlying message and conveying its importance in context.

#### 2) Analysis

Analysis involves identifying relationships between questions, concepts, descriptions, or other forms of representation aimed at illustrating beliefs, judgments, experiences, reasoning, information, or opinions. This skill requires breaking down complex ideas to understand their components and how they relate to each other.

#### 3) Evaluation

Evaluation is the ability to assess the credibility of statements and representations of viewpoints, experiences, situations, judgments, beliefs, and opinions. It includes judging the logical consistency and strength of the arguments presented, determining their validity and coherence.

#### 4) Inference

Inference is the ability to recognize the necessary elements required to draw reasonable conclusions, make assumptions, and form hypotheses. It involves considering relevant information drawn from data, reports, principles, evidence, assessments, beliefs, opinions, concepts, descriptions, questions, or other forms of representation, based on references obtained.

#### 5) Explanation

Explanation involves the ability to provide logical arguments by presenting a comprehensive view to establish and justify thoughts in relation to evidence, concepts, methods, criteria, and contextual considerations. It includes presenting ideas in a clear, persuasive, and coherent manner to ensure that the reasoning is sound and aligns with the evidence provided.

## 6) Self-regulation

Self-regulation is the ability to consciously observe one's own cognitive processes. This includes analyzing and evaluating one's thoughts, checking whether one understands the core ideas of others, and assessing whether the sources and methods used for critical thinking are appropriate and effective. It is about monitoring and adjusting one's thinking for accuracy and improvement.

Critical thinking is a skill essential for every individual to navigate various challenges in life, whether personal in nature or on a broader scale involving the wider community, efforts to optimally develop students' critical thinking skills require an interactive classroom environment, where students are seen as thinkers rather than passive learners, and teachers act as mediators, facilitators, and motivators who support students in their learning rather than simply teaching. The goal of this research is to analyze students' critical thinking abilities. This is crucial as it provides valuable insights for teachers to design appropriate learning strategies and enhance students' critical thinking skills (Nuryanti et al., 2018). Critical thinking is a mental activity conducted through a scientific approach, which involves understanding and formulating problems, gathering and analyzing reliable and relevant information, developing hypotheses, testing those hypotheses logically, drawing careful conclusions, evaluating outcomes, making informed decisions about beliefs or actions, and predicting potential consequences (Haghparast et al., 2013).

Critical thinking is the ability to think logically and make decisions based on valid evidence. It cannot be done haphazardly; it requires understanding that has been tested for accuracy. Critical thinking also involves considering several aspects, such as carefully identifying existing problems and not accepting information without first critically evaluating it (Mulyani, 2022). Despite variations in expert perspectives, there is a consensus on critical thinking involving the collection, evaluation, and effective utilization of information. This skill is essential for students as it equips them to make informed decisions in their lives. The components of critical thinking skills include:

Supena et al., (2021) formulating Problems: Measured by students' ability to identify and clearly define issues;

- 1) Providing Arguments or Opinions: Assessed based on students' capability to construct well-reasoned arguments and consider multiple perspectives on simulated tasks.
- 2) Making Deductions: Evaluated through the ability to draw logical conclusions and interpret data accurately.
- 3) Making Inductions: Assessed by students' capacity to analyze data, generalize findings, and draw valid conclusions.
- 4) Evaluating: Measured through the ability to critically assess facts and evidence.
- 5) Decision-Making and Taking Action: Assessed by the ability to determine solutions and select feasible alternatives.

Based on theoretical frameworks, the study hypothesizes that academic capability significantly influences students' learning outcomes across cognitive, psychomotor, and affective domains.

## 2.2 Collaborative Learning

Collaborative learning is an effective strategy for facilitating student learning. When students work together in small groups, exploring a subject or improving skills to achieve a common goal, it becomes one of the most beneficial aspects of active learning. The integration of technology plays a crucial role in supporting the collaborative learning process. Dynamic collaborative learning, when combined with the use of technology, can significantly enhance students' academic performance (Dewi, 2016).

Collaborative learning refers to an instructional approach where two or more students actively work together to achieve a common learning objective. This method highlights the significance of positive interactions among students. Within collaborative learning, students are encouraged to engage in various activities such as asking questions, providing detailed explanations, exchanging arguments, generating new ideas, and formulating solutions to problems. Collaborative learning is often regarded as a "success story" due to the extensive body of research demonstrating its positive impact on cognitive, meta-cognitive, affective-motivational, and social dimensions of learning (van Leeuwen & Janssen, 2019).

Collaborative learning offers numerous benefits for students, as it fosters critical thinking skills and social interactions, whether conducted in person or online. Compared to competitive or individualistic approaches, collaborative learning provides significant social advantages. It creates a supportive social system characterized by caring relationships, mutual support, commitment, and a positive atmosphere. These elements contribute to students' psychological well-being, enhance their social competence, and boost their self-esteem, all while helping them build and sustain a thriving learning community (Napitupulu et al., 2020).

Collaborative learning is widely regarded as one of the most effective methods of active learning. It is an instructional approach used by educators to enhance the learning process and improve student performance. This method involves students actively participating and interacting within a group setting, where they build relationships and collaboratively develop content. To enhance students' cognitive abilities, social connections, and metacognitive skills, fostering a collaborative and interactive environment is highly recommended. In such an environment, students serve as valuable resources for one another by engaging in discussions, observing each other's work, exchanging ideas, and making decisions collectively. The current methods of teaching require reform, as conventional or traditional classroom practices have often failed to cultivate thoughtful and reflective learners. Integrating collaborative learning strategies into educational institutions that still rely on traditional teaching methods is essential to spark students' interest, promote active participation, and enhance learning outcomes. This approach not only improves academic success but also motivates and inspires learners. Thus, this study aims to explore how collaborative learning and active student engagement influence academic performance through social interactions and relationships (Qureshi et al., 2023).

The primary goals of collaborative learning (Afrianto, 2011) and its relevance to students active in campus organizations;

- 1) Enhancing Student Engagement in the Learning Process

Collaborative learning facilitates students' active participation in understanding course materials, whether through group discussions or joint projects. Students involved in campus organizations are accustomed to working collaboratively to achieve organizational goals. This experience can help them engage more effectively in class by applying strategies for discussion and teamwork. In the context of organizations, they

can strengthen their understanding of material by sharing knowledge and linking theory to practical experiences.

2) **Building Writing and Oral Communication Skills**

Communication skills are essential both in academic settings and campus organizations. Collaborative learning encourages students to express their ideas verbally and in writing. Students active in campus organizations often participate in meetings, presentations, or prepare official documents such as proposals and activity reports. Consequently, the application of collaborative learning in the classroom can enhance these existing skills while improving their ability to articulate ideas clearly and systematically.

3) **Encouraging Explicit Responsibility for Learning**

In organizations, students are often assigned specific responsibilities, such as coordinating activities. This trains them to understand the importance of preparation before contributing to a group. Similarly, collaborative learning requires students to prepare beforehand to actively participate in group discussions. Students active in organizations will better understand the importance of active involvement and consistent contributions to the group's success.

4) **Clarifying the Role of the Instructor as Facilitator and Mentor**

Students in campus organizations often learn from seniors or organizational advisors who act as mentors. This aligns with the principles of collaborative learning, where instructors serve as facilitators, helping students overcome challenges and providing strategic guidance. Thus, students accustomed to mentorship in organizations will more easily adapt to a collaborative learning format.

5) **Covering More or Deeper Material**

Students active in campus organizations tend to have good multitasking skills, allowing them to absorb material more quickly. Collaborative learning enables faster learning through intensive discussions and task-sharing. In collaborative classes, these students can contribute creative ideas drawn from their organizational experiences, enriching group perspectives.

6) **Fostering Confidence and Independence**

Through organizational experiences, students learn to take initiative and solve problems independently. Collaborative learning provides opportunities to hone these skills in an academic context. By working in groups, students become more confident in expressing their opinions, solving group challenges, and taking on leadership roles when needed.

7) **Gaining Experience Working in Teams**

Campus organizations are an ideal environment for students to learn teamwork. This experience can be directly applied to group-based learning, where they must design solutions together, delegate tasks, and ensure integrated results. The principles they learn in organizations, such as the importance of communication and coordination, can be used to enhance the effectiveness of group work in class.

8) **Supporting Peer Review and Evaluation**

Students in campus organizations often evaluate their peers' performance, either formally or informally. Collaborative learning also emphasizes peer review, where students provide feedback on the work of other groups. Organizational experience makes them

more open to constructive criticism and capable of giving objective evaluations, making the learning process more effective.

### 3. Material and Method

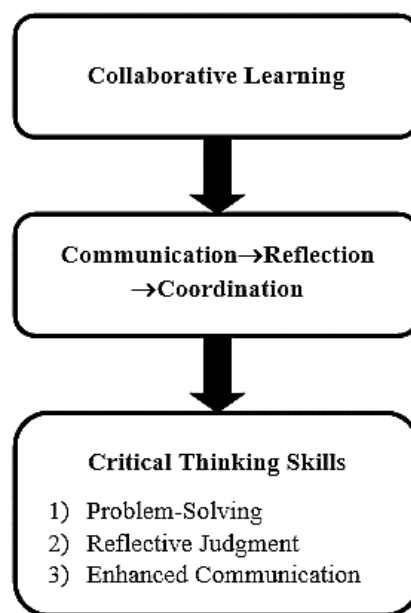
#### 3.1 Design Study

This research used a qualitative approach to examine how collaborative learning impacts critical thinking skills. Semi-structured interviews were conducted to explore students' experiences with collaboration and critical thinking in the association's annual activities.

The participants included three core members of the Digital Business Student Association, specifically the event head, secretary, and coordinator. These roles were selected for their involvement in planning and executing major organizational activities.

#### 3.2 Data Analysis

Data were collected through in-depth interviews with the core members, focusing on their experiences with collaborative learning and critical thinking in organizing activities. Thematic analysis was applied to identify key patterns and influences of collaborative learning on critical thinking skills.



**Figure 1. Research Model**  
(Times new roman 12pts)

### 4. Result

The findings indicate that collaborative learning within the student association significantly enhances critical thinking skills. Key results include:

- 1) **Problem-Solving:** The collaborative environment fostered among the key roles—namely, the Leader, Secretary, and Coordinator—proved instrumental in developing a structured approach to problem-solving. Each role brought distinct contributions to addressing organizational challenges. The Leader guided discussions with a strategic focus, ensuring alignment with the association's goals. The Secretary offered analytical support by documenting and synthesizing diverse perspectives, providing clarity and structure to the discussion. Meanwhile, the Coordinator contributed practical insights,

aligning proposed solutions with real-world feasibility. This synergy not only resolved issues more effectively but also cultivated a culture of systematic analysis among members.

- 2) **Reflective Judgment:** Peer interactions within the association nurtured reflective judgment among the key roles. The Leader facilitated open dialogues to ensure that all perspectives from committee members were heard and critically evaluated. The Secretary's ability to organize and synthesize these diverse viewpoints encouraged deep reflection and allowed for comprehensive assessments of potential decisions. The coordinator bridged reflection and action by providing practical evaluations of the discussed ideas, ensuring they were actionable and beneficial for the association's activities. This dynamic interaction fostered a deeper understanding of complex issues and promoted well-rounded, thoughtful decision-making.
- 3) **Communication:** The structure of the Digital Business Student Association's group discussions significantly enhanced communication skills among its members. The Leader's role in steering conversations and articulating the broader vision required clear and persuasive communication. The Secretary's responsibility to document and translate ideas into coherent records demanded precision and clarity in expression. Similarly, the Coordinator needed to communicate actionable steps effectively, ensuring alignment with the association's operational goals. These continuous exchanges within the association created a platform for members to refine their ability to convey ideas succinctly and collaboratively.

## **5. Discussion**

The findings from this study highlight the significant role of collaborative learning in enhancing critical thinking skills, particularly through the interactions and contributions of core team members. This discussion interprets the results and explores their implications, providing a deeper understanding of how teamwork and role-based contributions influence problem-solving, reflective judgment, and communication skills.

### **1) Collaborative Learning and Problem-Solving**

The involvement of the leader, secretary, and coordinator in collaborative activities enabled a more structured and systematic approach to problem-solving. As each participant brought their unique perspective, the group was able to break down complex problems into manageable components, thus facilitating a deeper analysis. The leader guided the discussions, ensuring that all ideas were considered, while the secretary organized the information for clarity. The coordinator helped implement and evaluate the feasibility of proposed solutions. This division of labor supported the group's ability to explore multiple solutions and arrive at more comprehensive outcomes.

### **2) Reflective Judgment and Peer Interaction**

The study also emphasizes the role of peer interaction in fostering reflective thinking. Throughout the collaborative process, the leader ensured that all voices were heard, the secretary synthesized and clarified different perspectives, and the coordinator provided practical insights, ensuring that the group reflected critically on their decisions. This dynamic not only enriched the decision-making process but also encouraged a deeper reflection on potential outcomes and the underlying reasons for each choice. Peer feedback and role-based

contributions made it possible for the group to evaluate the effectiveness of their decisions, thus strengthening their reflective judgment.

### 3) Communication as a Critical Thinking Skill

Effective communication emerged as another key aspect of the collaborative process that contributed to the development of critical thinking. The leader's role in facilitating discussion, the secretary's task of documenting insights, and the coordinator's responsibility for organizing tasks required clear and concise communication. These roles collectively ensured that ideas were expressed effectively and evaluated critically. The ability to listen attentively to peers and articulate thoughts in a structured manner were crucial in refining the group's decision-making process. As participants learned to communicate and evaluate information within a group setting, they developed a deeper understanding of how to critically assess the quality and validity of different arguments.

## 6. Conclusion, Implication, and Recommendation

This study demonstrates that collaborative learning significantly enhances critical thinking skills, particularly in the areas of problem-solving, reflective judgment, and communication. By involving core members in structured roles—such as leader, secretary, and coordinator—participants were able to systematically approach problems, reflect on diverse perspectives, and engage in critical decision-making processes. The collaborative environment facilitated these processes by fostering open communication, role-based contributions, and collective reflection. These findings support the growing body of research on the importance of collaboration in developing essential cognitive skills that are crucial for informed decision-making.

### 6.1 Implication

The results of this study have several practical implications for both educational and organizational settings where collaboration and critical thinking are essential. Group-based learning environments, particularly those with clearly defined roles, can significantly enhance participants' ability to solve problems, reflect critically, and communicate effectively. The model employed in this study, which involved structured collaboration among the leader, secretary, and coordinator, could be applied in a variety of contexts, such as classrooms, team projects, and professional development programs. By utilizing such a model, educators and organizations can foster critical thinking skills through deliberate, role-based collaborative activities.

### 6.2 Recommendation

Given the findings of this study, several recommendations can be made for future practice and research.

- 1) For Educational Practice: Educators should consider incorporating collaborative learning activities that involve distinct roles to help students develop key critical thinking skills. Encouraging students to work in structured group settings with clearly defined responsibilities can promote deeper engagement with content and enhance problem-solving and reflective abilities.
- 2) For Organizational Practice: In professional settings, teams can benefit from adopting similar collaborative structures to improve their ability to solve complex problems and make informed decisions. Organizations should foster environments where roles are

clearly established, and open communication and reflective practices are encouraged to enhance team performance and decision-making.

- 3) For Future Research: Future studies should expand on this research by exploring the impact of collaborative learning on larger, more diverse groups. Additionally, it would be valuable to examine how factors such as individual personalities, prior knowledge, and group dynamics influence the collaborative process and its outcomes. A more comprehensive understanding of these factors will help in refining collaborative learning strategies for both educational and professional contexts.

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