

**The Effectiveness of Critical Evaluation
and Questioning Techniques
to Increase Students' Critical Thinking Skill:
A Case Study**

Jacqueline I. Espina

(Leyte Normal University, Philippines)

*(jacqueline.espina@lnu.edu.ph)

ABSTRACT

This is a case study involving twenty-six (26) freshman Bachelor of Science in Social Work students of Leyte Normal University who are taking Purposive Communication in Semester 2, SY 2019-2020 as its subject. Based on the teacher-researchers observation and result of informal interviews with the students, they were generally quiet and seldom or never asked critical questions during class discussions because they were shy and did not know what questions to ask. It explored the effectiveness of Verderber, et.al.'s critical evaluation and questioning techniques in enhancing critical evaluation and questioning behaviour or performance of the students, as well as its other positive impacts on them as students. The researcher has not encountered any studies that specifically utilized the said techniques. The intervention had positive results. Based on the students' responses, their critical questioning behaviour or performance was improved in the sense that they learned to ask questions for clarification, to express contradiction or opposition, and to test the credibility of information and validity of the speaker's contention. It also helped them transform into active learners, confident speakers, and critical thinkers. Hence, teaching students' critical evaluation and questioning techniques can enhance their critical thinking skills and increase their engagement as well.

Keywords: Critical thinking; Critical evaluation; Questioning techniques.

INTRODUCTION

In this present age characterized by modernization and globalization, education systems must prepare students to confront these realities as they enter into the world

of work. The Organization for Economic Cooperation and Development or OECD (2008) explains that “in the knowledge economy, memorization of facts and procedures is not enough. Educated workers need a conceptual understanding of complex concepts and the ability to critically evaluate what they read [and hear], and be able to express themselves clearly both verbally and in writing.” This means that learners should not be simply fed with information and told what to do by the teacher. Instead, they should be held responsible for their learning by giving them the liberty to access all sources of information and utilize this information in various ways.

Trilling & Fadel (2009) categorize such ability as a critical thinking skill, which includes the ability to analyze, interpret, evaluate, summarize, and synthesize information. Further, Warren and Fasset (2015) suggest that the best critical thinker knows how to critically question and evaluate information. It means he or she can tear something apart in such a way as to build it up. In this sense, critical thinkers can discern the structure and scope of someone’s argument, as well as what in that argument is already strong or limited and how it might be otherwise. This can be manifested through critical questioning of the information received and of others’ opinions or contentions (Verderber, et.al. (2015).

Such was not the case with the freshman college students, all belonging to one class, who were taking GE 105 Purposive Communication during Semester 2, SY 2019-2020. Although they were attentive during classroom discussions and their classmates’ oral presentations, most of them were passive learners in the sense that they did not question or challenge others’ opinions and premises but just accept everything as true and correct. If ever they asked questions, they were on the literal comprehension level.

An informal inquiry on the reason for this reveals that aside from being shy, they also did not know what questions to ask. One of the students shared, “I was afraid someone might mock me for asking simple questions. I didn’t know then how to evaluate a statement so I was doubtful if my question was relevant or not.”

The students lacked the training and skill in critically evaluating information and critically questioning others’ opinions and assumptions. Thus, there was a perceived need to help them build this skill. Unless this is addressed, they may leave school not fully prepared for 21st-century life and work.

Participants in this study were exposed to critical evaluation and questioning techniques. In this sense, they were taught how to evaluate the credibility of information, how to discern the structure and scope of someone’s argument, as well as what in that argument is already strong or limited and how it might be otherwise. Enough practice in evaluating information, such as in distinguishing facts and fallacies, and in critical questioning was given to students. Each lesson also concluded with a task, which allowed the students to demonstrate proficiency in the skill taught to them.

Alwehaibi (2012) found that critical thinking and overall student success could be improved if institutions of higher learning adopt and integrate these strategies and techniques that have been identified as helpful in developing critical thinking into various courses. He also concluded that critical thinking programs using multiple teaching techniques, strategies, and questioning that promotes deeper thinking of cause/effect relationships, parts-whole relationships, the reliability of sources, and prediction effectively help students develop critical thinking skills.

Hence, this study was undertaken to find out how the students' critical evaluation and questioning behaviour or performance would be improved if they would be taught critical evaluation and questioning techniques; and how would such skills or techniques help them as students.

METHOD

This is a case study, which is an approach commonly used for addressing the "how" or "why" questions concerning a phenomenon of interest and relies on multiple sources of evidence (Yin, 1994).

It involved the twenty-six (26) college students of Leyte Normal University (LNU), all belonging to one class, who were taking GE 105 Purposive Communication, which is a mandatory English course in college, during Semester 2, SY 2019 – 2020.

The teacher-researcher found out, through observation, that the students seldom or never asked questions at all during discussions and oral presentations. They seemed to accept everything as true since they did not ask questions to clarify or test the credibility of the speaker's statement or to push the speaker to provide valid arguments and proofs to his or her contention.

An interview was conducted before the implementation of the intervention to investigate the reasons for their apparently poor critical evaluation and questioning behaviour or performance. Themes were developed from the responses of the participants to explain their overall concerns. A final action plan with implementation steps was drawn up.

Shortly after the interview, the intervention lessons were prepared, which aimed to help the students develop critical thinking skills, particularly the ability to critically evaluate information, opinions, and assumptions, by way of critical questioning. The teacher-researcher carefully observed and documented their critical questioning behaviour or performance during the intervention sessions.

At the end of the intervention, the students were requested to write down their answers to the following questions: *How did the critical questioning techniques taught in the classroom help enhance your critical thinking skills? How did your knowledge and skill in critically evaluating information and questioning others' opinions and assumption help you as students?*

The use of observation and questionnaire was deemed as an effective method by the researcher because she felt that interviewing individuals would be more time-consuming and that a diversity of opinion was important in addressing the problem.

Their responses served as the primary source of data as well as a basis in judging the effectiveness of the intervention in improving the students' critical evaluation and questioning behaviour or performance.

The collected data were treated and analyzed using Braun and Clarke's (2006) method of thematic analysis. The first step is Data Familiarization, which means knowing the data collected before starting to analyze individual items. This involved reading through the text taking initial notes and generally looking through the data to get familiar with it. The second step is coding, which means highlighting sections of the text – usually phrases or sentences – and coming up with shorthand labels or "codes" to describe their content. Next is identifying themes, which means looking over the codes created and identifying patterns among them. This is followed by reviewing themes to make sure that the themes are useful and accurate representations of the data. The last step is defining themes, which involves

formulating exactly what is meant by each theme and figuring out how it helps in understanding the data. It also involves coming up with a succinct and easily understandable name for each theme.

RESULTS AND DISCUSSION

RESULTS

How was the students' critical questioning behaviour or performance improved after they were taught critical evaluation and questioning techniques?

After teaching them critical questioning techniques or how they can question or challenge their classmates' statements, practically all of the students gained the confidence to ask questions for clarification, to express opposition or contradiction, and to push the speaker to prove the acceptability of his or her contention. Ultimately, this habit of philosophical exploration in an open environment kindled students' critical thinking and resulted in the enhancement of their receptive and expressive language skills.

1. Ask questions for clarification

The students were able to overcome their shyness and started to express themselves more openly during class discussions to demonstrate understanding of the topic and to show that they were listening attentively. They asked questions when they could not make sense of the speaker's statement when they thought the speaker uttered ideas that were complex, confusing, and contradictory. One student shared,

"I listen well and analyze/process what I heard and ask questions to clarify information that seems to be confusing or vague for me."

This was confirmed by another student who stated,

"I just don't hear but listen. I become curious of the information I hear and ask for evidence and supporting ideas to believe the information."

This shows the students' interest in the topic and their intent to acquire a deep and clear understanding of the lesson, which is indeed commendable. This is evident in the statement of another student.

"I ask questions to clarify the topic for me to understand the topic more deeply."

2. Ask questions to express opposition or contradiction

The students also became keen at noticing problematic arguments and felt free to express their protest or disagreement with these points. They started to ask questions that identify the factual, ethical, and logical flaws in the speaker's arguments, thus pushing the speaker to explain his or her point further to clear out misinterpretations. They also realized that they could argue without being

argumentative, or without offending others. This is how one of the participants put it:

“I learned to ask questions on things that are not clear in my mind and contrary to my beliefs.”

Likewise, some students expressed having gained competence in identifying a weak argument or making a point that is wanting in persuasive appeal.

“I always look for loopholes in someone’s speech in terms of relevance and reliability/truthfulness.”

In such cases, they openly express their critical analysis of the points or information given. Two students shared,

“It helped me to ask the right questions. It helped me become more critical and analytical of the information presented to us;” and I critically analyze the ideas of the speaker and distinguish the facts from fallacies.”

Hence, students ask questions to let the speaker know that his or her idea is either unbelievable or unimportant and thus, make the facts straight.

3. Ask questions to test the credibility of information and validity of the speaker’s contention

The students tended to be slow in accepting everything that they hear as true and in pointing out an opinion that they thought was based on weak grounds. They became particular with the sources of data, the currency of information, facts, and statistics. They demanded accuracy and pushed the speaker to back up his or her statement with factual information or to speak from experience. They learned that having an idea is one thing; being able to support or explain those ideas is another thing.

This was attested by one of the students.

“It enabled me to carefully scrutinize the statement of the speaker, and with that, we can test the validity and credibility of the speaker.”

Another said,

“It enabled me to interact with the speaker and push the speaker to provide proof or evidence to his arguments.”

They added that a speaker loses credibility if he or she fails to do so. They also deemed it appropriate that the speaker uses only credible sources. This was pointed out by one of the students.

"I pay attention to the speaker and validate its authenticity and the reliability of its sources."

How did the participants' knowledge and skill in detecting fallacies and verifying the credibility of information help them as students?

An analysis of the responses of the participants regarding how their knowledge and skill in detecting fallacies and verifying the credibility of information helped them as students resulted in the identification of the following themes.

1. Active learner

Students were gradually transformed into more active learners. To be an active learner means giving undivided attention to and being participative in any classroom undertaking, listening intently and asking relevant questions during lectures and oral presentations, and contributing one's ideas to the discussion.

When asked about their take on the lesson that teaches critical thinking, all of the participants were one in saying that it helped them become active learners, as evidenced by their responses.

"It made me become more participative and more motivated and no longer hesitant to ask someone if there is something that confuses me."

"I am more drawn to listening intently and not passively and understanding information. I think I am a more critical, smart, and active student."

"I became a more active learner. As a learner, I play two roles –speaker and listener. Being a speaker entails doing research, reading articles, applying the lessons that were taught to us. Being a listener, we scrutinize the information that the speaker presents to us."

All these points to the fact that the incorporation of critical thinking and evaluation skills can increase students' motivation and cause them to learn more.

2. Confident speaker

Likewise, activities requiring critical evaluation of information, arguments, and beliefs maximized participation as students felt more confident to put forth their views and opinions. To attest to this, one student said,

"It boosted my confidence to participate in class and ask questions without being shy or without worrying of being embarrassed in front of my classmates."

Further, the students were able to prove to themselves that they do not lose anything, but rather gain a lot of learning when they ask questions. The practice to do critical questioning provided to them in class helped them to feel confident with their ability, as expressed by one of the students.

"I realized that as a student, I should not be afraid to ask questions, to discover or clarify things. It is an effective technique to clearly understand the lesson."

Another student added that the newfound knowledge and skill are applicable not just in English but also in other learning areas.

"I now have the confidence to ask questions and use the critical questioning techniques daily, even in other subjects."

3. Critical thinker

The intervention was also found to be effective in developing learners who are critical thinkers. The students learned how to evaluate information in terms of credibility, as well as gained skill in determining whether their classmates' arguments were logical or not, and in distinguishing fact from opinion. This, according to P21 and other organizations that advocate 21st-century skills-based learning, is an important critical thinking skill that everyone is encouraged to acquire.

The following specific response of one participant clearly supports this contention.

"It influenced me to become more inquisitive and think thoroughly about what the speaker is talking about before believing or being persuaded."

The students also mentioned that besides applying the skill in classroom situations when they had to guard themselves against fallacies, they can also capitalize on this to monitor their own language and in accessing and utilizing various sources of information such as internet sources, books, and the like.

"I became a critical thinker. I am more careful with what I say in class. I learned to select trusted and credible sources of information before I share it with my fellow students or peers."

DISCUSSION

The critical questioning techniques empowered the students and served as their guide in critically evaluating the validity and credibility of others' ideas, opinions, and assumptions. Their eyes were opened to the fact that not all information that they hear may be factual or based on truth and, therefore, they should not immediately accept them as true. Armed with the critical questioning techniques learned in class, they were able to conquer their shyness, timidity, and lack of confidence in speaking their mind. They learned how to ask challenging questions that require higher-order thinking skills.

All these points to the fact that students' critical thinking skill was enhanced after they were taught the critical evaluation and questioning techniques. Moreover, they learned to ask intelligent and sensible questions.

From being quiet and non-critical of others' opinions and ideas, the students started to interact more often with the other speakers in the classroom. They learned

how to ask challenging and intelligent questions. They ask not only for the sake of asking questions but to show that they process the information received and that they are interested to learn more.

This bears semblance to the study of Ritchhart and Perkins (2008), which provides evidence of the effectiveness of thinking routines, which are classroom tools designed to help students practice and perfect deeper thinking. Thinking routines lead students into deeper reflection on questions needing further exploration by asking how and why.

The findings of the study are also congruent to the idea of active learning, which is a constructivist approach that states that "it is what a student does during a teaching and learning episode that has the most value for learning. It requires "intellectual effort, encouraging high-order thinking (analysis, synthesis, evaluation) and provides learning opportunities for the student to assimilate, apply and retain learning" (Tan, 2007, p. 47). Further, students who are encouraged to ask critical questions become analytical and effective critical thinkers. Since language learning is a complex process, activities that promote active learning basically increase motivation and cause learners to learn more.

CONCLUSION

Teaching the students critical evaluation and questioning techniques have been found effective in enhancing their critical thinking ability, such that they are able to learn how to formulate critical questions and acquire the confidence to raise these questions during classroom discussions. Hence, students were transformed from being passive listeners into active learners, confident speakers, and critical thinkers who are capable of interacting with other speakers in the classroom.

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