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# Evaluating Critical and Creative Thinking (CRITHNK): Student Perspectives on General Education Competencies Through Mixed Methods Analysis

**Marilyn Pescasio**

Professor Lecturer, De La Salle - College of Saint Benilde

**Abstract**

In an era marked by evolving educational demands, cultivating cognitive skills is imperative for students to navigate contemporary society's complexities. This study explores the significance of critical thinking (CT) in higher education, reflecting the increasing emphasis by educators, policymakers, and employers. Drawing from seminal works like those by John Dewey, which highlight reflective thinking as a precursor to CT, this study integrates quantitative and qualitative methodologies within a descriptive-evaluative research design to assess a Critical and Creative Thinking (CRITHNK) course at De La Salle - College of Saint Benilde, an institution known for its initiatives in inclusion and innovation.

Numerous studies, including those by Abrami et al. (2015), Arum and Roksa (2011), and Huber and Kuncel (2016), suggest that post-secondary students often fail to significantly improve their CT skills during their undergraduate years. Quantitatively, this study examines how students perceive the CRITHNK course's contribution to developing CT skills, aligning with the general education outcomes set by the Commission on Higher Education (CHED). Qualitatively, it investigates the course's impact on students' intellectual growth, personal and civic responsibility, and practical skills, while also gathering student recommendations for course enhancement.

Findings indicate that students perceive the CRITHNK course as highly effective in developing CT and related competencies, with high mean scores across various skill sets. These perceptions align with CHED's general education outcomes, though moderate variability in responses suggests individual differences. Addressing these through targeted interventions can enhance the course's impact.

By identifying areas for curriculum enhancement, this study offers valuable insights for faculty professional development and fosters continuous improvement in teaching practices. It contributes to the broader discourse on critical and creative thinking in higher education, emphasizing its role in preparing learners to address global challenges and drive necessary change in their communities.

**Keywords:** critical thinking, higher education, intellectual growth, personal and civic responsibility, practical skills

## 1. Introduction

### 1.1.Background of the Study

In an era of rapid educational evolution aimed at meeting the dynamic challenges of the contemporary

world, the cultivation of cognitive skills stands as a paramount objective in preparing students to meaningfully engage with society's complexities. Educators, policymakers, politicians, and employers increasingly emphasize the pivotal role of critical thinking (CT) as a foundational skill (Facione, 1990; Huber & Kuncel, 2016; Lilly et al., 2022). Originating in the philosophical works of John Dewey in the 1910s, 'reflective thinking' emerges as a cornerstone concept, defined as the deliberate and persistent evaluation of knowledge in light of supporting evidence and its implications (Dewey, 1933). Recognizing its significance, colleges and universities commonly integrate CT into their educational objectives (Association of American Colleges and Universities, 2015).

Despite this emphasis, numerous studies spanning recent decades suggest a concerning trend: many post-secondary students struggle to significantly enhance their CT skills during their undergraduate years (Abrami et al., 2015; Arum & Roksa, 2011; Huber & Kuncel, 2016). Paradoxically, institutions increasingly designate CT as a core competency, underlining the urgency to address this disparity (Lilly et al., 2022).

Ennis (2011) underscores the critical role of implementation in determining the efficacy of courses designed to nurture critical and creative thinking. He highlights that pedagogical approaches lacking rigor and systematicity, or led by inadequately prepared instructors, often fail to yield substantive improvements in students' cognitive abilities. Such inconsistencies across educational institutions yield variable outcomes in the effectiveness of these courses. Conversely, Ghanizadeh's (2017) investigation illuminates the interplay between higher-order thinking skills, self-monitoring, and academic achievement among university students. His findings underscore the predictive power of critical and reflective thinking in academic success, alongside the catalytic role of self-monitoring in augmenting critical thinking abilities.

Building upon this scholarly discourse, this research embarks on a comprehensive evaluation employing both quantitative and qualitative methodologies. The study aims to assess the outcomes of the Critical and Creative Thinking (CRITHNK) course at De La Salle - College of Saint Benilde, an institution recognized for its initiatives in inclusion and innovation. Quantitatively, it examines how students perceive the CRITHNK course's contribution to developing CT skills, aligning with the general education outcomes set by the Commission on Higher Education (CHED). Qualitatively, it investigates the course's impact on students' intellectual growth, personal and civic responsibility, and practical skills, while also gathering student recommendations for course enhancement.

The implications of this research extend beyond refining the CRITHNK course. By identifying effective pedagogical practices within the realm of general education, this study seeks to inform broader educational strategies. Through its dual-method approach, the research contributes nuanced insights to the ongoing discourse surrounding the cultivation and evaluation of critical and creative thinking skills in higher education. Ultimately, it emphasizes the role of these skills in preparing learners to address global challenges and drive necessary change in their communities.

**1.2. Statement of the Problem:**

This study aims to assess the effectiveness of the Critical and Creative Thinking (CRITHNK) course integrated into the general education curriculum at De La Salle - College of Saint Benilde (DLS-CSB). Specifically, the research seeks to address the following research inquiries:

1. To what extent do students perceive the CRITHNK course as contributing to the development of critical and creative thinking skills, and how does this perception align with the general education outcomes outlined by the Commission on Higher Education (CHED)?
2. How does participation in the CRITHNK course influence students' intellectual growth, personal and

civic responsibility, and practical skills?

3. What recommendations do students offer to enhance the CRITHNK course and its content? How can these suggestions contribute to the cultivation of critical and creative thinking skills among students?

### 1.3. Significance of the Study

**For DLS-CSB Administrators:**

This study offers valuable insights into the efficacy of the CRITHNK course in fulfilling general education objectives at DLS-CSB, providing essential feedback for curriculum refinement and improvement.

**For Faculty:**

By identifying areas for curriculum enhancement and innovation, this study serves as a valuable resource for faculty members, offering opportunities for professional development and fostering a culture of continuous improvement in teaching practices.

**For Students:**

The findings of this study are crucial for students as they highlight the significance of the CRITHNK course in equipping them with essential skills such as critical thinking, problem-solving, and ethical reasoning. These skills are indispensable for academic success and preparation for their future professional endeavors.

**For Future Research Studies:**

This study lays the groundwork for future research endeavors by providing a comprehensive understanding of the effectiveness of general education courses, not only at DLS-CSB but also in other disciplines and institutions. It serves as a catalyst for further investigation into the efficacy of similar courses and their impact on student learning outcomes.

### 1.4.Scope and Delimitation of the Study

The scope of the study focuses on two main objectives: evaluating the alignment between the outcomes of the CRITHNK course and the competencies outlined by CHED for the General Education Curriculum, and assessing the influence of the course on students' intellectual, personal, and civic responsibilities, as well as practical skills. The study targets college students who enrolled in the CRITHNK course during the second term of School Year (SY) 2023-2024.

The study delimits its focus on evaluating the outcomes and influence of the CRITHNK course within specific boundaries. Geographically and institutionally, it confines its examination to college students enrolled in either a single institution or multiple institutions within a defined geographical area. Temporally, the research centers on students who undertook the CRITHNK course exclusively during the second term of School Year 2023-2024, excluding data from other academic terms or years. Moreover, the study strictly concentrates on the CRITHNK course itself, omitting any analysis of the outcomes or influences of other courses within the curriculum. Lastly, participant demographics are restricted to college students, potentially limiting the diversity of perspectives by excluding contributions from individuals of different educational levels or demographic groups. These delimitations provide a clear framework for the study, delineating the specific parameters within which the research is conducted.

## 2. Review of Related Literature

### 2.1.Why critical thinking?

UNESCO, the OECD and the Change Leadership Group at Harvard University have all identified critical thinking as a key skill necessary for future-proofed education, which prepares learners to live in the twenty-first Century (Ananiadou and Claro; Luna Scott; Wagner,2009). The purpose of critical thinking,

promoted within the context of twenty-first Century Skills, is to enable learners to have a constructive and positive influence in addressing evolving problems and enact necessary change in responding to new and evolving challenges faced by communities globally (Luna Scott ,2015). The twenty-first Century Skills framework focuses on supporting learners to pre-empt and respond to evolving challenges such as migration, changing markets, new technologies or transnational environmental and political challenges (Luna Scott ,2015).

Creativity and critical thinking are key skills for the complex and globalized economies and societies of the 21st century. There is a growing consensus that higher education systems and institutions should cultivate these skills with their students. However, too little is known about what this means for everyday teaching and assessment practices. This project at the OECD Centre for Educational Research and Innovation (CERI) aims to support higher education institutions to innovate in their teaching and nurture students' creative and critical thinking. The project builds an international community of practice around teaching, learning and assessing creativity and critical thinking. It seeks to identify the key contextual factors and effective approaches to foster these skills in higher education settings, develop and implement exemplary instructional practices and assess the effects of innovative pedagogies on students and faculty members.

What is critical thinking?

Critical Thinking *"Critical thinking is thinking about your thinking while you're thinking in order to make your thinking better."*—Richard W. Paul

When students think critically, they are encouraged to think for themselves, to question hypotheses, to analyze and synthesize the events, to go one step further by developing new hypotheses and test them against the facts. Questioning is the cornerstone of critical thinking which in turn is the source of knowledge formation and as such should be taught as a framework for all learning. Students are frequently conditioned in their approach to learning by experiences in teacher-cantered, textbook-driven classrooms(Sharma & Elbow 2000). This situation is a disturbing case for contemporary educators, and for this reason they would rather choose the latest models and methods which are more effective in directing students to thinking. Critical thinking occurs when students are analyzing, evaluating, interpreting, or synthesizing information and applying creative thought to form an argument, solve a problem, or reach a conclusion. Critical Thinking is to promote independent thinking, personal autonomy and reasoned judgment in thought and action. This involves two related dimensions:1. the ability to reason well and 2. the disposition to do so. Critical thinking involves logic as well as creativity. It may involve inductive and deductive reasoning, analysis and problem-solving as well as creative, innovative and complex approaches to the resolution of issues and challenges (Iyer, 2019).

In a study titled "Critical Thinking and its Importance in Education". This study explained critical thinking skills in education processes and the importance of thinking critically for a student who attends any education program. Developing the ability to think critically is an important element for modern education approaches and models. This study intends to give a framework on the concept of thinking critically while teaching or learning. The world is getting both more technical and more complex day by day life environment, that's why the necessity for education increases for each growing generation. The skill of thinking critically is generally accepted as a very vital stage in every field of learning, particularly in the last decades (Iyer, 2019).

**2.2.Outcomes Based Education**

In the Philippines, Commission on Higher Education (CHED) ventured into outcomes-based education

approach quality assurance monitoring and evaluation because it can significantly increase the effectiveness of quality assurance systems and higher education quality, efficiency, and energy. Mature evaluation systems are based upon outcomes, looking particularly into the intended, implemented, and achieved learning outcomes (CMO No. 46, series of 2012). Outcomes-Based Education is also known as standards-based education that is centered on goals. This theory is centered on learning outcomes, which means that we are shifting from our focus on outcomes, unlike the old perspective which focus on inputs or contents such as how many hours students would spend on class and what textbooks are provided, outcomes may include a range of skills and knowledge that is concretely measurable. Outcomes-Based Education is focused on the needs of the students and focused on helping the students reach the goals or outcomes of a particular course. It encourages faculty to be more responsible for teaching, assessing program outcomes, and motivating participation from students. In the CHED Handbook on Typology Outcomes-based Education (2014), assessment is explained as one or more processes that identify, collect, analyze, and report data that can be used to evaluate the achievement of learning outcomes. This implies that there is no single best type of assessment. The primary consideration is that the assessment reflects the learning outcomes: the review should be aligned with the learning outcomes. CHED Handbook (2014) continues that the alignment of learning outcomes, content, methodology, and assessment cannot be overemphasized. Whether the evaluation is direct, indirect, quantitative, qualitative, formative, or summative, it is essential to remember that it should be appropriate to the learning outcomes (Pescasio, 2023).

CHED's "A Handbook on Typology, Outcomes-Based Education, and Institutional Sustainability Assessment" This handbook discusses horizontal and vertical typologies of HEIs since their type will be the basis of their quality outcomes (Part II). It also guides HEIs on implementing outcomes-based education (Part III) and outcomes-based quality assurance, specifically institutional sustainability assessment (Part IV). Finally, it contains terms relevant to quality, quality assurance, outcomes-based education, and others (Part V). The outcomes-based approach is entirely student-centered, which focuses on what students know and can do. Sharpening the focus onto student learning outcomes goes beyond mere tinkering with traditional structures and methods; it constitutes a paradigm shift in educational philosophy and practice (Tam, 2014).

**2.3.The General Education Competencies/Outcomes**

CMO 20 s. 2013 specifies the General Education Outcomes. Student learning outcomes are categorized into intellectual competencies, personal and civic responsibilities, and practical skills. Commission on Higher Education (CHED) wanted all HEIs to develop the following competencies-based outcomes across courses.

Table 1. *General Education Competencies/Outcomes (CMO #20 s-2013)*

**INTELLECTUAL COMPETENCIES:**

1. develop an extraordinary level of comprehension (textual, visual, etc.).
2. become competent and effective communicator (writing, speaking, and using new technologies).
3. understand fundamental concepts across the domain of knowledge.
4. enhance critical and creative thinking.
5. use variety of analytical modes (quantitative and qualitative, artistic and scientific, textual and
6. visual, experimental, observation, etc.) in addressing problems methodically.

**PERSONAL AND CIVIC RESPONSIBILITIES:**

1. acknowledge the human condition.

2. utilize my capacity to describe the human experience personally.
3. view the contemporary world from both Philippine and global perspectives.
4. become confident in knowing and being a Filipino.
5. improve my ability to reflect critically on shared concerns and think of new creative solutions guided by ethical standards.
6. develop my capacity to reflect on moral norms as they affect individuals and society.
7. use my gift to acknowledge artistic beauty
8. develop my understanding and respect for human rights.
9. contribute personally to the development of our country

**PRACTICAL SKILLS:**

1. work efficiently in a group.
2. use information technology in doing research.
3. handle technology responsibly.
4. enhance my ability to solve problems (including real-world situations).
5. advance basic work-related skills and knowledge.

*Note*. General Education Learning Outcomes.

The main goal of higher education, is to develop not only knowledgeable and competent graduates in a particular field but also well-rounded individuals who appreciate knowledge in a general sense, are open-minded because of it, secure in their identities as individuals and as Filipinos, and cognizant of their role in the life of the nation and the larger community (CMO- No.20-s2013).

Drawing from my expertise in the fields of philosophy and education, the following approach is deemed necessary for fostering critical thinking in the classroom:

a. Employ various instructional strategies such as Socratic questioning, case studies, debates, problem-solving exercises, and role-playing scenarios to nurture students' critical thinking skills. Additionally, utilize interactive teaching methods like group discussions, collaborative projects, and technology-enhanced learning experiences to actively engage students in the learning process.
b. Emphasize the importance of reflection by incorporating reflective practices such as journaling, self-assessment exercises, and structured debriefing sessions into classroom activities to deepen critical thinking. Furthermore, address the crucial role of feedback and assessment in fostering critical thinking by offering strategies for providing constructive feedback and designing assessments that measure higher-order thinking skills effectively.
c. Lastly, create a supportive learning environment conducive to critical thinking by fostering a culture of inquiry, promoting open-mindedness and intellectual humility, and encouraging risk-taking and experimentation among students.

Furthermore, incorporating both formative and summative assessment strategies allows for a comprehensive evaluation of students' critical thinking skills throughout the learning process. Formative assessments, such as quizzes, peer evaluations, and classroom discussions, provide ongoing feedback to students, enabling them to reflect on their thinking processes, identify areas for improvement, and refine their critical thinking skills in real time. Conversely, summative assessments, including exams, projects, and research papers, offer a holistic evaluation of students' overall critical thinking abilities at the culmination of a learning period or course.

In accordance with the intended learning outcomes (ILOs) of the CRITHNK course, the final course requirement serves as a pivotal component for students to demonstrate their mastery of key concepts and

skills. By creating an innovative project aligned with the ILOs, students are challenged to develop a concept design that addresses the theme of "AI with a Heart: Bridging the Digital Divide" (ILO1), while showcasing human-centered design solutions that leverage technology and artificial intelligence (AI) to tackle pressing societal issues while upholding ethical considerations (ILO2). Additionally, students are encouraged to explore the profound impact of AI on our world by developing prototypes of products, processes, or concepts that utilize AI to bridge gaps in inclusive education, well-being, sustainability, and promote social equity in the 21st Century digital age (ILO3). Through this final course requirement, students not only apply their critical thinking skills but also demonstrate their ability to innovate, problem-solve, and contribute to meaningful advancements in the field of AI and societal well-being.

## 3. Theoretical Framework

While each academic degree program focuses on the program outcomes, General Education has no specific concentration. Still, it has its outcomes developed by the Commission on Higher Education (CHED), which are categorized into (1) Intellectual competencies – Knowledge, (2) Practical Skills, and (3) Personal and Civic Responsibilities – Values. Therefore, General Education lays the groundwork for developing a professionally competent, humane, and moral person (CMO No. 20, S-2013). Thus, Bloom's Taxonomy of Educational Objectives. Bloom's Taxonomy provides a hierarchical framework for categorizing educational goals and objectives based on cognitive complexity. It is widely used in educational research to assess and evaluate the depth of student learning outcomes. In the context of the proposed research on assessing the effectiveness of the CRITHNK course, Bloom's Taxonomy can be utilized to structure the analysis of students' critical and creative thinking skills. The taxonomy consists of six levels, arranged from lower-order thinking skills to higher-order thinking skills:

1. Remembering: Recall facts, information, or basic concepts.
2. Understanding: Explain ideas or concepts in one's own words.
3. Applying: Use knowledge and concepts in new situations or contexts.
4. Analyzing: Break down information into component parts and identify relationships between them.
5. Evaluating: Make judgments about the value of ideas, information, or solutions.
6. Creating: Generate new ideas, products, or solutions based on existing knowledge and understanding.

By applying Bloom's Taxonomy to the analysis of student responses, researchers can assess the extent to which the CRITHNK course facilitates the development of critical and creative thinking skills at each level of cognitive complexity. This theoretical framework provides a systematic approach for evaluating student learning outcomes and identifying areas for improvement in the course curriculum and instructional methods.

### 3.1. Conceptual Framework

The IPO (Input-Process-Output) framework breaks down a system into three key components: inputs, processes, and outputs.

**Input**

Inputs are the resources, data, or information that are fed into the system at the beginning of the process. The inputs of the study include the CRITHNK course content, which encompasses the curriculum, teaching methods, and resources provided to students. Additionally, student demographics such as their background, prior knowledge, and learning styles are considered as inputs.

**Processes**

Processes refer to the activities, operations, or transformations that occur within the system to convert

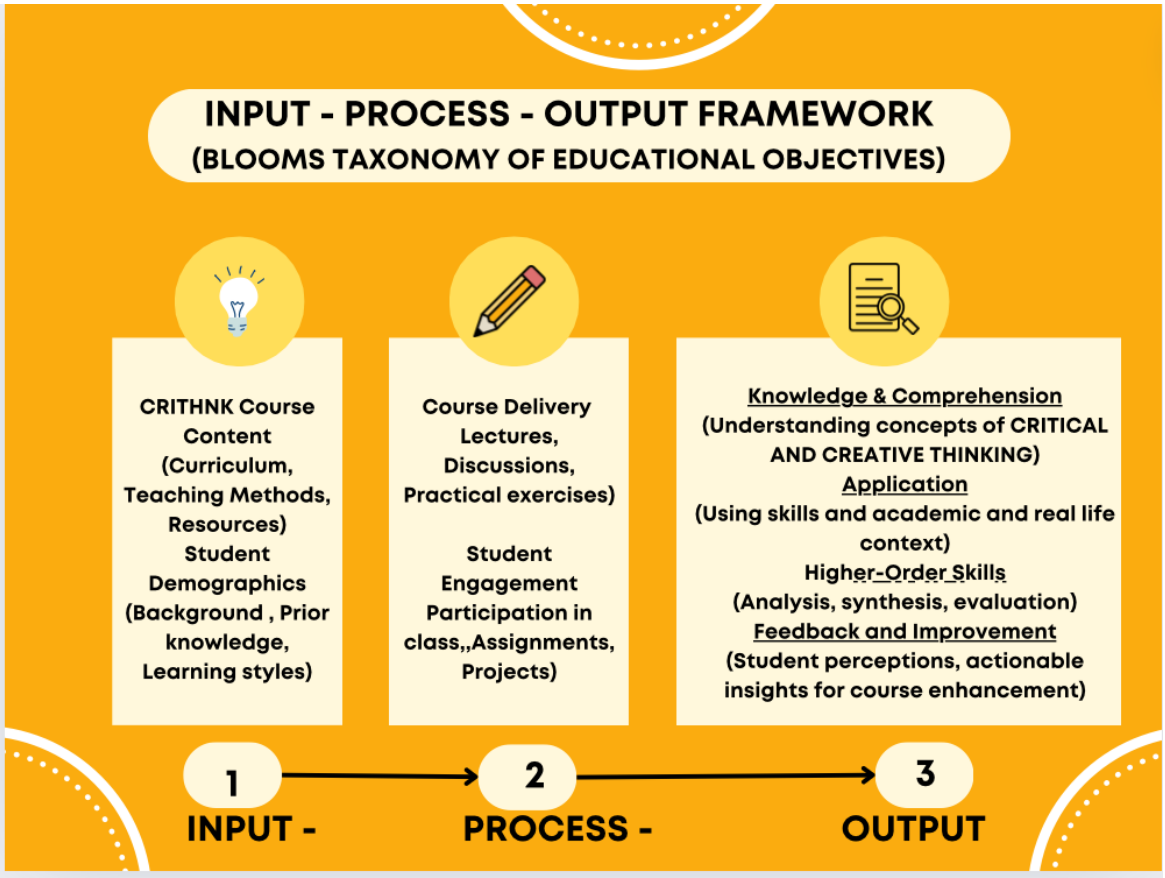
inputs into outputs. These processes are the mechanisms by which the system functions and achieves its goals. The process involves the delivery of the CRITHNK course through various teaching methods such as lectures, discussions, and practical exercises. It also includes student engagement, which pertains to their active participation in class activities, assignments, and projects.

**Outputs**

Outputs are the results, products, or outcomes generated by the system as a result of the processes applied to the inputs. These outputs represent the tangible or intangible deliverables that the system produces. The outcomes are assessed at multiple levels based on Bloom's Taxonomy. These include the students' knowledge and comprehension of critical and creative thinking concepts, their ability to apply these skills in academic and real-life contexts, and the development of higher-order thinking skills like analysis, synthesis, and evaluation. Additionally, student feedback provides insights for course improvement and curriculum enhancement.

This framework allows for a structured evaluation of the CRITHNK course, examining the interplay between course content, delivery methods, student engagement, and the resulting educational outcomes (Cohen, 1994).

**Figure 1.** ***Note.*** **Input, Process, Output Framework**




## 4. Methodological Analysis

### 4.1 Research Method

This study used the descriptive-evaluative research design. It evaluated to what extent have the Intended Learning Outcomes identified by the Commission on Higher Education (CHED) for the General Education

realized in CRITHNK (Critical and Creative Thinking) course at De La Salle- College of Saint Benilde. It is descriptive because it does not intend to manipulate variables as in experimental research or explain the cause and effect as in the correlational study. It is evaluative because it seeks to evaluate how the Intended Learning Outcomes identified by the Commission on Higher Education (CHED) for the course CRITHNK have been realized. As the term suggests, descriptive research methods describe situations, explain conditions, and make reasonable predictions. In addition, in terms of the qualitative part, the respondents will be answering the following questions, how does participation in the CRITHNK course influence students' intellectual growth, personal and civic responsibility, and practical skills? And what recommendations do students offer to enhance the CRITHNK course and its content? How can these suggestions contribute to the cultivation of critical and creative thinking skills among students?

**4.2.Participants**

The participants in this research are college students taking the course CRITHNK in a full online modality, they were enrolled during the 2nd term of SY2324. Sampling is purposive because it includes only students enrolled in the General Education Institutional Requirement course CRITHNK during the second term of SY2324. Furthermore, the researchers include the School of Deaf Education and Applied Studies (SDEAS) since there is a mainstreaming done in their area.

**4.3.Data Collection Procedure**

Data gathering was done towards the end of the second term, SY2324. The researchers sought permission to conduct this research from the Theo/Philo Area Chairperson and the students enrolled during the 2nd Term of SY2324. The teachers will give the students enough time to read the informed consent and decide whether to participate in the research.

**4.4.Data Analysis Procedure**

A researcher-made instrument for students was used as the main data-gathering tool in this research. This was patterned after Commission on Higher Education (CHED's) nineteen competencies or outcomes for the Revised General Education. The questionnaire was validated by experts and tested for validity and reliability. Content validators are three senior faculty of the Theology-Philosophy area teaching the course and two research experts from the School of Multidisciplinary Studies. The questionnaire is in Likert scale form composed of nineteen statements with five-under intellectual competencies, nine under personal and civic responsibilities, and five for practical skills. A scale of zero (0) to four (4), with the following choices were used: 4 (to a very great extent-VGE); 3 to a (to a great extent-GE); 2 (to a moderate extent-ME); 1 (to a slight extent-SE); and 0 (not applicable). The statements in the instruments are the nineteen competencies or outcomes developed by CHED as stipulated in CMO #20 s-2013; In addition to these statements, there is an open-ended question asking about how does participation in the CRITHNK course influence students' intellectual growth, personal and civic responsibility, and practical skills? And what recommendations do students offer to enhance the CRITHNK course and its content? How can these suggestions contribute to the cultivation of critical and creative thinking skills among students?

## 5. Presentation and Analysis of Data

### 5.1. Presentation of Findings

#### 5.1.1. The Respondents

The study encompassed students enrolled in CRITHNK during the second term of SY2023-24, meticulously selected through a rigorous random sampling procedure from thirty-five sections. Despite the participation of three hundred seventy-three students, constituting approximately 28.98% of the total

population, the chosen sampling method was deliberately implemented to ensure the validity and representativeness of the collected data. This meticulous approach enhances the reliability and generalizability of the study's findings, thereby positioning it as a credible contribution to scholarly discourse in relevant fields. There are five programs that participated in the online survey. They are the following: School of Management and Information Technology (SMIT). School of Hotel and Restaurant Institution Management (SHRIM), School of Design and Arts (SDA), School of Diplomacy and Governance (SDG) and the School Deaf Education and Applied Deaf Studies (SDEAS). They are mostly eighteen years old and freshmen students. The online survey was open from March 12, 2024, to April 7, 2024.

**5.1.2. The Research Problems**

**Research Problem 1.** To what extent do students perceive the CRITHNK course as contributing to the development of critical and creative thinking skills, and how does this perception align with the general education outcomes outlined by the Commission on Higher Education (CHED)?

**Table 2. Summary of the results for all schools (School of Design and Arts (SDA), School Diplomacy and Governance (SDG), School of Hotel and Restaurant Institution Management (SHRIM), School of Management and Information Technology (SMIT) and School Deaf Education and Applied Deaf Studies (SDEAS).**

| Skill Category | Skill Number | Mean | Standard Deviation (SD) | Interpretation |
|---|---|---|---|---|
| **Intellectual Skills** | 1 | 3.60 | 0.627 | High rating, moderate agreement. Most respondents rated this skill between "to a great extent" and "to a very great extent," with some variation. |
| | 2 | 3.51 | 0.672 | High rating, highest variability among intellectual skills. Diverse opinions suggest some rated it lower or higher than the average. |
| | 3 | 3.65 | 0.566 | High rating, most agreement among respondents. Responses are closely clustered, indicating similar perceptions of this skill. |
| | 4 | 3.66 | 0.591 | Highest rating, moderate agreement. Many rated highly, but some variation exists. |
| | 5 | 3.54 | 0.642 | High rating, moderate variability. Opinions are somewhat diverse, with some lower and higher ratings. |
| | **Average** | **3.59** | **0.520** | Generally high ratings with moderate variability, indicating a positive perception of intellectual skills with some individual differences. |

| Skill Category | Skill Number | Mean | Standard Deviation (SD) | Interpretation |
|---|---|---|---|---|
| **Personal and Civic Skills** | 6 | 3.63 | 0.608 | High rating, moderate agreement. Most respondents rated this skill highly, with some variation. |
| | 7 | 3.60 | 0.599 | High rating, moderate agreement. Responses are relatively similar, showing consistent perceptions. |
| | 8 | 3.52 | 0.659 | High rating, moderate variability. There is a slightly broader range of responses, showing some diverse opinions. |
| | 9 | 3.45 | 0.761 | Slightly lower rating, highest variability among personal and civic skills. More diverse opinions, with some lower ratings pulling down the mean. |
| | 10 | 3.64 | 0.588 | High rating, moderate agreement. Most respondents rated this skill highly with some consistency. |
| | 11 | 3.62 | 0.578 | High rating, moderate agreement. Responses are tightly clustered around the mean, showing high consistency. |
| | 12 | 3.52 | 0.695 | High rating, higher variability. Diverse opinions with some respondents rating this skill lower or higher than the average. |
| | 13 | 3.65 | 0.593 | Highest rating, moderate agreement. Perceived very positively with consistent ratings. |
| | 14 | 3.54 | 0.683 | High rating, higher variability. This indicates varied perceptions, with some outliers influencing the overall score. |
| | **Average** | **3.58** | **0.519** | Generally high ratings with moderate variability, indicating a positive perception of personal and civic skills with some individual differences. |
| **Practical Skills** | 15 | 3.55 | 0.728 | High rating, moderate to high variability. Diverse opinions, indicating some rated it lower or higher than the average. |
| | 16 | 3.60 | 0.617 | High rating, moderate agreement. Responses are relatively similar, showing consistent perception. |

| Skill Category | Skill Number | Mean | Standard Deviation (SD) | Interpretation |
|---|---|---|---|---|
| | 17 | 3.56 | 0.640 | High rating, moderate variability. Slightly broader range of responses, showing some diverse opinions. |
| | 18 | 3.62 | 0.597 | High rating, moderate agreement. Responses are closely clustered, indicating high consistency in perception. |
| | 19 | 3.61 | 0.625 | High rating, moderate agreement. Most respondents rated this skill highly with some consistency. |
| | **Average** | **3.59** | **0.531** | Generally high ratings with moderate variability, indicating a positive perception of practical skills with some individual differences. |
| **Overall** | | **3.59** | | |

*Note.* Competencies, Mean, and Interpretation.

The results of the survey reveal generally high ratings across all skill categories, namely Intellectual, Personal and Civic, and Practical Skills. In terms of Intellectual Skills, respondents consistently rated these competencies highly, with most indicating agreement ranging from "to a great extent" to "to a very great extent." While there was some variability in opinions, particularly in the second skill, the overall perception remains positive. Similarly, for Personal and Civic Skills, respondents provided high ratings, indicating agreement with the effectiveness of the CRITHNK course in developing these skills. However, there was slightly more variability in responses, especially evident in the ninth skill, which had the highest variability among personal and civic skills. Practical Skills also received high ratings, with respondents generally agreeing on their development through the course. Nonetheless, some variability in opinions was observed, particularly in the fifteenth skill, indicating diverse perceptions among respondents. Overall, the average mean scores for each skill category reflect positive perceptions, with moderate variability suggesting some individual differences in opinion.

**Table 3. Summary of the Mean Competencies and their Interpretation:**

| Competency | Mean Score | Interpretation |
|---|---|---|
| **Intellectual Skills** | 3.59 | The high mean score indicates that students perceive their intellectual skills positively. This suggests that the CRITHNK course effectively fosters critical and creative thinking abilities. |
| **Personal and Civic Skills** | 3.58 | With a mean score of 3.58, students perceive their personal and civic skills as highly developed through the CRITHNK course. This suggests that the course promotes personal growth and civic engagement. |

| Competency | Mean Score | Interpretation |
|---|---|---|
| **Practical Skills** | 3.59 | The mean score of 3.59 for practical skills indicates that students perceive the CRITHNK course as effectively developing practical competencies. This suggests that the course prepares students for real-world applications of their knowledge and skills. |
| **Overall** | **3.59** | The overall mean score reflects a positive perception of the CRITHNK course's effectiveness in developing a comprehensive set of skills among students. This aligns well with the goals of general education curriculum outlined by the Commission on Higher Education (CHED). |

*Note.* Competencies, Mean, and Interpretation.

The mean scores across the three competency categories—Intellectual, Personal and Civic, and Practical Skills—highlight a consistent positive perception among students regarding the effectiveness of the CRITHNK course. Intellectual Skills received a high mean score of 3.59, indicating students' favorable perception of their critical and creative thinking abilities fostered by the course. Similarly, Personal and Civic Skills garnered a mean score of 3.58, showcasing students' recognition of the course's role in promoting personal growth and civic engagement. Practical Skills also obtained a commendable mean score of 3.59, signifying students' belief in the course's efficacy in preparing them for real-world applications. The overall mean score of 3.59 further confirms the course's success in cultivating a well-rounded skill set among students, aligning closely with the objectives outlined by the Commission on Higher Education (CHED) for general education.

**Research Problem 2:** How does participation in the CRITHNK course influence students' intellectual growth, personal and civic responsibility, and practical skills?

The discussions which follow are the answer to Research Problem 2. How does participation in the CRITHNK course influence students' intellectual growth, personal and civic responsibility, and practical skills are categorized?

The nineteen General Education competencies were divided into three, intellectual competencies, personal, and civic responsibilities and practical skills.

### 5.2 Intellectual Competencies

**Analytical Thinking and Problem Solving:**

1. Engagement in Real-world Problem-Solving Activities, Students emphasized the significance of engaging in activities like analyzing complex problems, dissecting case studies, and applying theoretical knowledge to real-world scenarios. These hands-on experiences fostered analytical thinking and problem-solving skills.

**For example, one student stated:**

- "Engaging in activities such as analyzing complex problems through case studies, applying theoretical knowledge to real-world scenarios, and exploring multidisciplinary perspectives has helped us move from understanding the basics to solving complex problems."

These activities required students to apply theoretical concepts in practical contexts, enhancing their understanding and problem-solving abilities.

**2. Progression from Basic Understanding to Complex Problem Solving**

The progression from basic understanding to tackling complex problems was a recurring theme. Students reported starting with foundational concepts and gradually advancing to more intricate problem-solving tasks, reflecting intellectual growth and maturation of critical thinking skills.

**A student remarked:**

- "Participating in structured debates and creating innovative solutions exemplifies intellectual growth, leading to achievements like successful research and effective problem-solving experiences."

This progression underscores the development from foundational knowledge to higher-order thinking.

**3.** Enhancement of Logical Reasoning Skills - The course significantly improved students' logical reasoning abilities, enabling them to evaluate information, identify patterns, and draw logical conclusions.

**This enhancement is critical for effective problem-solving, as illustrated by one student:**

- "By being more analytical and evaluating arguments, I have become more adept at analyzing information and spotting dogmatic fallacies, leading to a more informed perspective on topics like the Israeli-Palestinian conflict."

The development of logical reasoning skills was integral to navigating complex challenges and making informed decisions.

**Critical Thinking and Evaluation:**

**1.** Evaluating Arguments, Analyzing Information Objectively, and Examining Reliability, students reported an increased ability to critically assess information and arguments. They emphasized the importance of evaluating evidence, reasoning, and the credibility of sources to determine validity.

**A student noted:**

- "The CRITHNK course likely influenced intellectual growth by encouraging participants to engage with complex issues at various cognitive levels of understanding. For example, participants may have started by simply comprehending the basic concepts discussed in the course materials."

**2.** Developing Awareness of Biases and Learning to Identify Fallacies, Recognizing and mitigating biases, along with identifying logical fallacies, were key outcomes. This awareness allowed students to approach information more objectively and critically.

**One student reflected:**

- "I now recognize my biases and know which ones to mitigate."

This awareness is crucial for objective analysis and critical evaluation of information.

**3.** Considering Multiple Perspectives Before Forming Conclusions. Critical thinking involves examining diverse viewpoints to gain a comprehensive understanding of issues. Students highlighted the importance of considering multiple perspectives, fostering intellectual humility and openness.

**Some students commented:**

- "Engaging with diverse perspectives in the CRITHNK course widened my understanding and improved my ability to consider different viewpoints before forming conclusions, ultimately leading to a more practical and informed approach to critical thinking."
- “The course has boosted my intellectual growth by encouraging me to deeply analyze various situations, problems, and more it gave me a new sense of view in life.”

**Application of Knowledge"**

1. Applying Learned Concepts to Real-life Situations, students demonstrated the practical application of acquired knowledge in real-world contexts. This transfer of theoretical knowledge into practical action was a key outcome.

**Some examples of comments:**

- "Using the understanding gained from the CRITHNK course, I propose practical solutions, such as advocating for renewable energy sources."
- "By applying cognitive levels of understanding to my relationship with my loved ones".
- "CRITHINK has allowed me to understand my mental health better through an intellectual lens instead of an emotional lens. When trying to understand my emotions, I use logic and reasoning to find out what is the root of it all. That way, I'm able to take better care of my mental health".

2. Integrating Insights Gained from Various Sources to Create New Solutions or Ideas. Synthesizing information from diverse sources to generate innovative solutions was a prominent theme. Students combined insights from different disciplines to address complex problems.

**A student illustrated this by saying:**

- "Integrating insights from various sources to create new solutions or ideas has been a significant outcome of my learning experience."

3. Utilizing Knowledge Gained from Courses like CRITHNK in Practical Scenarios. Applying critical thinking skills and concepts from the course in various contexts, such as professional and personal decision-making, was frequently mentioned.

**For instance, a student stated:**

- "I leverage my understanding of logical reasoning and argumentation from the CRITHNK course to evaluate persuasive messages in advertising or public discourse."

**Self-awareness and Reflection:**

1. Becoming Self-aware of One's Own Biases and Thought Processes. Self-awareness of biases and cognitive processes was a key theme. Students noted how recognizing their biases enabled more objective decision-making.

**One student remarked:**

- "The CRITHNK course has made me self-aware of what's happening in my mind. I now recognize my biases and know which ones to mitigate."

2. Reflecting on Personal Growth and Intellectual Development. Reflecting on intellectual growth and development was emphasized. Students critically evaluated their learning experiences, noting improvements in critical thinking skills.

**An example commented by a student:**

- "Reflecting on my intellectual progress session by session, I have seen improvement in my level of understanding, demonstrating the impact of self-awareness on intellectual growth."

3. Questioning Oneself to Stimulate Critical Thinking and Decision-making. Engaging in self-questioning to challenge assumptions and deepen understanding was highlighted. This introspection fostered critical thinking and informed decision-making.

**One student explained:**

- "Questioning my assumptions and beliefs has led to deeper insights and better decision-making."

**Adaptability and Perspective-taking:**

1. Adapting to Different Learning Styles Recognizing and accommodating diverse learning styles was crucial for optimizing learning experiences. Students mentioned adapting to various approaches to enhance comprehension.

**One student mentioned:**

- "Adapting to different learning styles has helped me understand complex concepts more effectively."

2. Developing Empathy and Understanding Different Viewpoints. Cultivating empathy and openness to diverse perspectives was a significant outcome. Students emphasized understanding different viewpoints to gain broader insights.

**A student stated:**

- "Developing empathy and understanding different viewpoints has broadened my perspective and fostered mutual respect."

3. Looking at Problems from Different Perspectives to Find Solutions. Approaching problems from multiple angles to identify innovative solutions was a key theme. This flexibility enhanced problem-solving skills.

**For instance a student commented:**

- "Looking at problems from different perspectives has enabled me to find creative solutions to complex issues."

**Progression of Learning:**

1. Moving from Basic Understanding to Higher Cognitive Levels. The progression from basic comprehension to advanced cognitive tasks was a common theme. Students reported developing deeper levels of analysis, synthesis, and evaluation.

**A student commented:**

- "Engaging in activities like analyzing complex problems through case studies has facilitated my progression from basic understanding to higher cognitive levels."

2. Mastery of Subjects and Successful Research Endeavors. Achieving mastery and success in research were significant outcomes. Students demonstrated advanced understanding and made meaningful contributions through their research efforts.

**One student stated:**

- "Continuous improvement through experience and exploration has been instrumental in my intellectual growth, allowing me to master subjects and successfully tackle complex research endeavors."

3. Continuous Improvement Through Experience and Exploration. Ongoing learning and development through active engagement and exploration were emphasized. Students embraced new opportunities to expand their knowledge and skills.

**A student noted:**

- "Continuous improvement through experience and exploration has driven my intellectual growth and adaptability."

### 5.3 Personal Civic Competencies

The following themes came out in the comments;

**Self-Improvement and Critical Thinking:**

Students emphasized the importance of self-improvement through critical thinking, highlighting how it enables them to reflect on their own beliefs and actions.

Some comments given by students: - "By taking the critical thinking course, I've learned to question my assumptions and strive for personal growth."

- "Critical thinking could help us by helping the community and teaching the children so that they would be able to grow up and become future leaders."
- "Participating in a critical thinking course can have a significant impact on personal and civic responsibility since it promotes self-awareness, ethical reasoning, social engagement, civic participation, empathy, tolerance, and ethical leadership."

This theme reflects the students' recognition of the role of critical thinking in fostering personal development. It suggests that the course encourages introspection and continuous self-improvement. This aligns with theories of reflective practice, which emphasize the importance of self-awareness in personal development (Schön, 1983).

**Time Management and Responsibility**

Students discussed the necessity of managing their time effectively and taking responsibility for their actions.

Some students noted: -"The course helped me realize the importance of managing my time better and being more responsible in my studies."

- "CRITHNK helped me to be more conscious of my responsibilities and actions and how they contribute to society."
- "CRITHNK manages to help me navigate different roles that I can do in society."

Effective time management is a crucial aspect of personal responsibility. The students' reflections indicate that the course has helped them develop better organizational skills, which are essential for academic success and personal accountability. This theme can be linked to the concept of self-regulation in educational psychology, where effective time management is a key component (Zimmerman, 2000).

**Community Engagement and Social Awareness**

Students expressed a heightened sense of social awareness and a desire to engage more actively in their communities.

Some students commented: -"I now feel a stronger need to contribute to my community and be more socially aware."

- "CRITHNK made me reflect on moral norms and biases' impact on individuals and society."
- "It has led to heightened awareness of ethical dilemmas within society, thereby motivating individuals to actively engage in addressing them."

These statements emphasize how critical thinking promotes social awareness and motivates individuals to actively address ethical dilemmas, fostering a sense of civic responsibility and community engagement. This finding is consistent with the concept of civic engagement, which involves active participation in public life and community service (Putnam, 2000).

**Ethical Considerations and Civic Duty**

Students reflected on their ethical responsibilities and the importance of acting with integrity in their civic duties.

Some students stated: - "The course has made me think more about my ethical responsibilities and how I can contribute positively to society."

- "Because of CRITHNK, I have avoided biases and been more fair, utilizing facts and equality at all times."
- "CRITHNK made me reflect on moral norms and biases' impact on individuals and society."

Ethical considerations are central to the concept of civic duty. The students' reflections indicate that the course has heightened their awareness of ethical issues and the importance of acting with integrity. This theme relates to the broader discourse on ethics in education, which emphasizes the role of education in fostering moral and ethical awareness (Noddings, 2002).

**Advocacy and Social Justice**

Advocacy involves speaking up for causes or issues to influence public opinion or policy decisions, while social justice focuses on achieving fairness and equality within society.

Some comments of the students are: - "Engaging in civic duties promotes the health of democracy, ensures representation, and fosters a sense of community and belonging."

- "Participating in CRITHNK discussions and assignments has made me more aware of the impact of my actions on others."

These comments underscore the role of critical thinking in promoting civic engagement and advocating for social justice, highlighting the importance of individual actions in shaping societal norms and addressing systemic issues.

**5.4. Practical Skills**

The following themes came out in the comments;

**Effective Communication and Collaboration:**

Many respondents emphasized the importance of communication and collaboration within a group setting. Collaborative activities, such as group projects and discussions, have provided opportunities to practice active listening, delegate tasks efficiently, and navigate diverse perspectives. By honing these skills, individuals can contribute meaningfully to group processes and achieve common goals more effectively.

Some comments given: - "Clear, concise, and respectful communication is vital for effective group work."

- "CRITHNK improved my teamwork and communication skills through group projects. Learning to listen and provide constructive feedback enhanced my problem-solving abilities."

Through CRITHNK, students not only learn to express their ideas clearly but also develop the ability to engage with diverse perspectives, actively listen, and provide constructive feedback. These skills foster a supportive and inclusive group environment, where every member feels valued and heard. As a result, individuals become better equipped to navigate group dynamics, resolve conflicts, and achieve shared objectives collaboratively.

**Leadership and Responsibility:**

Students mention taking on leadership roles, delegating tasks, and promoting teamwork to ensure productivity and consistency in group projects. The course emphasizes the importance of active participation, accountability, and effective work delegation, ultimately enhancing students' ability to lead, motivate, and influence others positively.

Some comments stated: - "I aim to be an asset of the group... I always try to do things excellently for God's glory."

- "The course improved my practical abilities, especially with group tasks. Working together on projects and participating in group discussions enhanced my leadership, cooperation, and communication skills."

CRITHNK provides students with opportunities to lead by example, delegate tasks based on individual strengths, and foster a collaborative team environment. By taking ownership of their roles within the group, individuals not only contribute to the overall success of the project but also inspire trust and confidence among their peers. These experiences lay the foundation for effective leadership in both academic and professional settings.

**Adaptability and Flexibility:**

Adaptability and flexibility in managing diverse schedules and working with different personalities were highlighted.

**One student commented:** "Being able to adapt to working with others... helped me learn to navigate working in a group of people even if we're not close enough."

Being adaptable entails adjusting to changing circumstances, while flexibility involves openness to new ideas and willingness to compromise for the collective benefit. The highlighted comments reflect on the challenges of managing different schedules and the importance of being able to work with various personalities effectively.

**Problem-Solving and Critical Thinking:**

Students mention analyzing complex issues, evaluating evidence, and synthesizing ideas to reach informed decisions. The course encourages students to question assumptions, explore alternative perspectives, and develop innovative solutions to real-world challenges, thereby enhancing their ability to think critically and address complex problems effectively.

Some commented: - "I learned to think critically and efficiently while in a group... apply them to the task at hand."

- "Through our group works I've been able to now be more open and initiative in group settings. CRITHNK has not only brought me out of my shell but also made me a better groupmate and student."

CRITHNK provides students with tools and frameworks to analyze issues from multiple perspectives, identify underlying assumptions, and evaluate evidence critically. By engaging in group discussions and collaborative projects, individuals learn to apply these skills in real-world contexts, ultimately enhancing their ability to make informed decisions and contribute meaningfully to group processes.

**Empathy and Understanding:**

Students mention adjusting to different paces of group members, managing conflicting schedules, and adapting to changing circumstances during group projects. CRITHNK provides students with opportunities to practice flexibility, resilience, and open-mindedness, ultimately enhancing their ability to work effectively in diverse group settings.

Some stated comments are: - "I learned to be more understanding and patient for my group members... I remind them always since I thought they would be the first one to initiate the activity."

- "I progress through various cognitive stages in their intellectual development, beginning with simple recall and comprehension, then moving to practical application, critical analysis, and finally creative thinking. Each stage enhances my understanding, critical thinking skills, and ability to apply empowering them to address complex challenges..."

CRITHNK equips students with the mindset and skills to embrace change, manage ambiguity, and pivot when necessary to achieve group objectives. By fostering a culture of adaptability and flexibility, individuals become more resilient, resourceful, and collaborative, ultimately enhancing their capacity to thrive in dynamic group environments.

**Creativity and Innovation:**

Collaborative group work was seen as an opportunity to express creativity and innovate.

**One student commented:** "CRITHNK helped me come up with creative ideas to use for groupworks... I was able to get the hand of it."

Creative thinking involves thinking outside the box, challenging assumptions, and generating novel concepts that push the boundaries of conventional thinking. Innovation emerges when diverse perspectives converge to inspire new insights and breakthrough solutions. The standout comments underscore the role of group work in stimulating creativity and fostering innovation through collaborative endeavors.

**Time Management and Organization:**

Learning effective time management and organizational skills within a group context.

**One student noted:** "With different schedules, I could say that I improved my communication skills so that our group can execute our goals."

It involves setting priorities, allocating resources efficiently, and staying organized amidst competing demands. Strong time management skills enable group members to optimize productivity, minimize procrastination, and maintain a balanced workload. The selected comments reflect on the challenges of managing time within a group context and the importance of effective communication to coordinate tasks and deadlines.

**Research Problem 3:** What recommendations do students offer to enhance the CRITHNK course and its content? How can these suggestions contribute to the cultivation of critical and creative thinking skills among students?

The discussions which follow are the answer to Research Problem 3. What recommendations do students offer to enhance the CRITHNK course and its content? How can these suggestions contribute to the cultivation of critical and creative thinking skills among students? The following are the themes under suggestions and recommendations.

**5.5. Suggestions and Recommendations**

The following themes came out in the comments;

**Desire for Face-to-Face Interaction:**

Many students express a preference for face-to-face classes over online ones. They believe that in-person interaction would enhance engagement and understanding of the course material. This theme underscores the importance of physical presence in learning environments for some students.

**One Student commented:** "I would suggest face to face classes to better grasp and absorb the lessons... I think that so far CRITHNK has nothing that needs to be changed." This comment succinctly captures the sentiment of many students who feel that face-to-face interaction would improve their learning experience.

The desire for face-to-face interaction highlights the limitations of online learning, particularly in subjects like critical thinking where active engagement and discussion are crucial. It reflects a preference for traditional classroom settings and underscores the value of interpersonal connection in the learning process.

**Desire for More Interactive and Creative Learning Activities:**

Several students recommend incorporating more interactive learning activities, such as group discussions, simulations, and games, to promote engagement and practical application of critical thinking skills. They believe that hands-on activities would enhance the learning experience and make the course more enjoyable.

**A student commented:** "Incorporating more real-world examples and interactive things, I think, could make our learning experience more engaging and practical." This comment emphasizes the importance of real-world relevance and interactivity in enhancing learning outcomes.

The call for more interactive activities reflects a desire for experiential learning and active participation in the classroom. It underscores the need to move beyond passive instruction and provide opportunities for students to apply critical thinking skills in diverse contexts.

**Suggestions for Content Enrichment:**

Some students suggest diversifying course content by incorporating real-world case studies, guest speakers, and examples from different industries. They also recommend exploring global perspectives and ethical decision-making frameworks to broaden students' understanding of critical issues.

**One student commented:** "To improve the CRITHNK course, incorporating certifiable contextual analyses, visitor addresses, and intelligent exercises like discussions could give reasonable application valuable open doors and different points of view." This comment highlights the potential benefits of incorporating diverse perspectives and practical applications into the curriculum.

The suggestions for content enrichment demonstrate a desire for a comprehensive and relevant learning experience. By integrating real-world examples, ethical considerations, and global perspectives, the course can better prepare students to navigate complex challenges and make informed decisions.

**Integration of Real-World Examples:**

Many students emphasized the importance of incorporating real-world case studies and examples to illustrate the relevance of critical thinking skills in various industries and contexts. By grounding the course material in authentic experiences, educators can enhance student engagement and promote deeper learning.

**Some students commented:** - "Incorporating guest lectures from professionals in the subject or industry experts can add interesting views and insightful analysis to the course material. Students may benefit from making the connection between academic understanding and real-world applications as well as contemporary business trends."

**Ensuring Diversity of Perspectives:**

Students highlighted the need for diverse perspectives and voices in course content to foster inclusivity and broaden their worldview. Incorporating readings, guest lectures, or multimedia resources from diverse authors and experts can enrich the learning experience and encourage critical reflection.

**One student commented:** "Include diverse real-world examples and case studies to show how critical thinking skills are applied across various industries and contexts."

**Implementing Peer Review and Feedback:**

Several students suggested incorporating peer review activities and feedback sessions to promote collaborative learning and constructive criticism. Peer assessment can provide valuable insights into different viewpoints and enhance students' ability to evaluate arguments critically.

**One student commented:** - "I think that there are not many things that need changing, if anything maybe adding more materials to read up on or watch."

## 6.Summary, Conclusion, and Recommendation

### 6.1. Summary of Findings

The high mean scores across intellectual (3.59), personal and civic (3.58), and practical skills (3.59) indicate that students perceive the CRITHNK course as significantly contributing to the development of

general education competencies, particularly critical and creative thinking. These findings align with the stated outcomes of the general education curriculum developed by CHED, reflecting the course's effectiveness in meeting educational standards. However, the moderate variability in responses suggests individual differences in perception, highlighting the need for targeted interventions to standardize proficiency levels across all students. Further qualitative research is recommended to explore these differences, providing deeper insights that can inform the continuous improvement of the CRITHNK course. By addressing these areas, the course can more effectively develop critical and creative thinking skills, aligning closely with CHED's educational goals.

**6.2. Conclusion**

The findings of this study demonstrate that students perceive the CRITHNK course as highly effective in contributing to the development of general education competencies, particularly in critical and creative thinking. The high mean scores across intellectual, personal and civic, and practical skills indicate a positive perception of the course's impact on various skill sets. These perceptions align well with the stated outcomes of the general education curriculum developed by the Commission on Higher Education (CHED). However, the moderate variability in responses suggests that while there is overall agreement on the course's effectiveness, there are individual differences in perception. Addressing these variations through targeted interventions and continuous assessment can further enhance the course's impact on skill development.

**6.3. Recommendation for Future Research:**

It is through the results of this study that earlier validations presented in various OBE focused research is proven true: with that, the following suggestions and recommendations were given.

For the Theology and Philosophy Area of the DLS-College of Saint Benilde:

Faculty members should regularly assess and align course content with the evolving outcomes outlined by the Commission on Higher Education (CHED) to ensure continued relevance and effectiveness in meeting educational goals. Proposed interventions could include the implementation of outcome-based assessment strategies, such as rubrics or portfolio assessments, to measure student attainment of desired learning outcomes. Methodologies for further research may involve longitudinal studies tracking student performance and engagement over time, with stakeholder involvement from faculty, administrators, and students to ensure the validity and reliability of findings. Additionally, integrating relevant theoretical frameworks, such as constructive alignment or transformative learning theory, could provide a conceptual basis for curriculum development and assessment practices.

**Continuation of CRITHNK Course:**

The CRITHNK course should continue to be offered as part of the general education curriculum, highlighting its significance in nurturing critical and creative thinking skills among students. Proposed interventions may include the integration of experiential learning activities, such as case studies or simulations, to enhance student engagement and application of critical thinking skills in real-world contexts. Methodologies for further research could involve qualitative inquiries, such as focus groups or interviews, to explore student perceptions of the course and its impact on their intellectual and personal development. Stakeholder involvement from students, faculty, and employers could provide valuable insights into the effectiveness of the course in preparing students for future academic and professional endeavors.

**For the Students:**

Actively engage with course materials, seek feedback, apply learning in real-world contexts, embrace

diverse perspectives, and reflect for continuous improvement in the CRITHNK course. Proposed interventions may include the development of student support resources, such as online tutorials or peer mentoring programs, to enhance learning outcomes and promote student success. Methodologies for further research could involve mixed-methods approaches, combining quantitative surveys with qualitative interviews or focus groups, to assess student engagement and satisfaction with the course. Stakeholder involvement from students, faculty, and parents could facilitate the co-creation of support services tailored to diverse student needs and preferences.

**Targeted Interventions for Diverse Needs:**

Implement targeted interventions to address individual differences in perception and standardize proficiency levels across all students. Proposed interventions may include the provision of accommodations or alternative instructional strategies for students with diverse learning needs, such as deaf students. Methodologies for further research could involve action research or participatory approaches, engaging stakeholders in the co-design and evaluation of inclusive teaching practices. Integrating relevant theoretical frameworks, such as Universal Design for Learning or Culturally Responsive Pedagogy, could inform the development and implementation of targeted interventions to support diverse student populations.

**Further Qualitative Research:**

Conduct further qualitative research to explore the underlying reasons for variability in perceptions among students. Proposed methodologies may include phenomenological or narrative inquiries, aiming to uncover the lived experiences and perspectives of students in the CRITHNK course. Integrating existing literature on outcomes-based education and inclusive pedagogy could provide a theoretical foundation for the research design and analysis. Stakeholder involvement from students, faculty, and administrators could ensure the relevance and applicability of findings to educational practice. Potential outcomes may include recommendations for curriculum refinement, instructional design, or student support services to enhance the overall quality and effectiveness of the CRITHNK course.

**Further Study for Deaf Students:**

Conduct a comprehensive study to assess the extent to which the Intended Learning Outcomes identified by CHED for General Education are realized in the CRITHNK course for deaf students. Proposed methodologies may include mixed-methods approaches, combining quantitative assessments of learning outcomes with qualitative inquiries into students' experiences and perceptions. Stakeholder involvement from deaf students, faculty, administrators, and representatives from the deaf community is essential to ensure the validity and relevance of the study findings. Potential outcomes may include recommendations for curriculum adaptations, instructional strategies, or support services to address the unique needs and challenges faced by deaf students in higher education.

**Recommendation for Other HEI'S:**

Other Higher Education Institutions (HEIs) in the country should consider adapting their general education curricula to include courses similar to CRITHNK, emphasizing critical and creative thinking skills development. Proposed interventions may include faculty development initiatives to enhance educators' capacity to design and deliver inclusive pedagogies that meet the diverse needs of students. Methodologies for further research could involve comparative studies, examining the effectiveness of different curricular approaches in fostering critical thinking skills across various institutional contexts. Stakeholder involvement from HEI administrators, faculty members, and students is essential to ensure the relevance and applicability of recommendations to the broader higher education landscape.

**References:**

1. Ananiadou, K., & Claro, M. (2009). 21st century skills and competences for new millennium learners in OECD countries. OECD Education Working Papers, (41). OECD Publishing. https://doi.org/10.1787/218525261154
2. Association of American Colleges and Universities. (2015). Committing to Equity and Inclusive Excellence: A Campus Guide for Self-Study and Planning. Washington, DC: Association of American Colleges and Universities.
3. Cohen, E., & Manion, L. (1994). Research Methods in Education (4th ed.). Routledge.
4. Dewey, J. (1933). How We Think: A Restatement of the Relation of Reflective Thinking to the Educative Process. D.C. Heath.
5. Ennis, R. H. (2011). The Nature of Critical Thinking: An Outline of Critical Thinking Dispositions and Abilities. University of Illinois. Retrieved from https://education.illinois.edu/docs/default-source/faculty-documents/robert-ennis/thenatureofcriticalthinking_51711_000.pdf
6. Facione, P. A. (1990). Critical thinking: A statement of expert consensus for purposes of educational assessment and instruction. Research findings and recommendations.
7. Ghanizadeh, A. (2017). The interplay between reflective thinking, critical thinking, self-monitoring, and academic achievement in higher education. Higher Education, 74(1), 101-114. https://doi.org/10.1007/s10734-016-0031-y
8. Golden, B. (2023). Enabling critical thinking development in higher education through the use of a structured planning tool. Irish Educational Studies, 42(4), 949–969. https://doi.org/10.1080/03323315.2023.2258497
9. Huber, R. A., & Kuncel, N. R. (2016). Does college teach critical thinking? A meta-analysis. Review of Educational Research, 86(2), 431-468.
10. Iyer, L. (2019). Critical Thinking and Its Importance in Education.
11. Lilly, T., Darr, P., Schmolesky, M., Lindley, T., Ludolph, P., Schilpzand, M., Shim, Y., Higgins, R., Weinstein, A., Burko, L. M., & von Deutsch, D. (2022). Intending to Teach Critical Thinking: A Study of the Learning Impacts over One Semester of Embedded Critical Thinking Learning Objects. Journal of the Scholarship of Teaching and Learning, 22(3), 34-54. https://doi.org/10.14434/josotl.v22i3.31801
12. Luna Scott, C. (2015). The futures of learning 3: What kind of pedagogies for the 21st century? UNESCO Education Research and Foresight Working Papers, (15). UNESCO. https://unesdoc.unesco.org/ark:/48223/pf0000243126
13. Noddings, N. (2002). Educating Moral People: A Caring Alternative to Character Education. Teachers College Press.
14. OECD Centre for Educational Research and Innovation (CERI). (2021). Innovation Strategy for Education and Training - Call for Participation. Retrieved from https://www.oecd.org/education/ceri/innovation-strategy-for-education-and-training-call-for-participation.htm
15. Pescasio, M. (2023). Extent to which the Competencies for the General Education Realized in BIBCHUR. European Journal of Teaching and Education, 4(4), 802.
16. Putnam, R. D. (2000). Bowling Alone: The Collapse and Revival of American Community. Simon & Schuster.
17. Schön, D. A. (1983). The Reflective Practitioner: How Professionals Think in Action. Basic Books.

18. Sharma, P., & Elbow, P. (2000). The Power of Peer Feedback. In C. M. Anson (Ed.), Changing classroom practices: Resources for literary and learning (pp. 65-80). National Council of Teachers of English.
19. Wagner, T. (2008). The global achievement gap: Why even our best schools don't teach the new survival skills our children need—and what we can do about it. Basic Books.
20. Tam, M. (2014). Outcomes-based approach to quality assessment and curriculum improvement in higher education. Quality Assurance in Education, 22(2), 158-168. https://doi.org/10.1108/QAE-09-2011-0059
21. Zimmerman, B. J. (2000). Attaining Self-Regulation: A Social Cognitive Perspective. In M. Boekaerts, P. R. Pintrich, & M. Zeidner (Eds.), Handbook of Self-Regulation (pp. 13-39). Academic Press.