Profile of Students' Critical Thinking Skills in 21st Century Skills-Based Learning

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Abstract. The 21st century demands that collage as an educational institution significantly sharpen the student's critical thinking skills. The problem found in the lecturing process is that the lecture does not maximize students' critical thinking skills. Students' Analytical Power, creativity, literacy, interest in information and technology, and problem-solving are still relatively weak. The approach used in this research was qualitative using the case study method. Furthermore, techniques in collecting data were interviews, observation, and documentation studies. The results showed that students of the Department of Christian Religious Education, STAKPN Sentani, actively tested and compared arguments, were able to conclude, assess the quality of arguments, solve problems, and use internet technology to find additional references for lectures. The conclusion can be drawn is that students' critical thinking skills have been by 21st-century skills. Critical thinking skills, initiative, problem-solving, adaptability, agile communication, and ability to collaborate with others.

Keywords: Critical thinking skills profile · Lectures · 21st-century skills · Students of PAK Department of STAKPN-Sentani

1 Introduction

The 21st-century requires internationally competitive, high-quality human resources. High-quality human resources possess the capacity to manage, apply, and cultivate critical thinking skills. Each student's critical thinking skills must be honed to a high degree by an educational institution.

21st-century abilities are those required to address future advancements and challenges in a society that has experienced a substantial shift [1]. In addition, this transformation necessitates the establishment of education as a way of fostering students' mastery of 21st-century skills [2]. According to a 2016 Ontario Ministry of Education research, 21st-century competencies must span the cognitive, interpersonal, and intrapersonal domains. Conventionally, cognitive abilities such as critical thinking, analysis, and problem-solving are considered significant indicators of success. In the 21st century, however, developments in the economy, technology, and social backdrop make interpersonal and intrapersonal competence increasingly crucial to one's success.

The Assessment and Teaching of 21st Century Skills (ATC21S) describe the competencies required for the 21st century, including (1) way of thinking, consisting of creativity and innovation, critical thinking, problem-solving, and decision making; (2) ways of working, consisting of communication and collaboration; (3) working tools, consisting of information literacy and information communication technology literacy; (4) relating to life in the world, consisting of global awareness and understanding; and (5) working tools, consisting of information literacy and information communication technology literacy.

According to the book P21 (P21, 2014), critical thinking involves (1) practical reasoning, (2) systemic thinking, (3) decision-making, and (4) problem-solving skills. It is crucial that instructors and students recognize, acquire, and comprehend 21st-century competencies. Therefore, a student's critical thinking abilities must be continuously honed and enhanced. Students who can think critically will be able to effectively address challenges [3], 4.

A person with the ability to think critically will be highly influential in his daily life, constantly making the correct and best choices. Critical thinking is rational and reflective thinking that focuses on deciding what to believe or do [4]. Thinking is a mental process that aids in issue formulation, resolution, and decision-making. Critical and creative thinking are examples of distinct thinking talents [5]. Students who can blend attitudes, knowledge, and skills by the 21st century are stated to have the ability to think critically to create their surroundings better.

Critical thinking is a structured procedure that enables students to analyze the facts, assumptions, logic, and language underlying the reasoning of others [6]. This competency further trains students to answer problems logically and precisely. According to Hassoubah, critical thinking is an activity of reasoned and reflective thought that emphasizes deciding what to believe and do [7].

Critical thinking is not a skill that can develop independently alongside physical growth. This skill must be trained by providing a stimulus that requires a person to think critically [8]. In the study conducted by Inch et al., critical thinking was defined as the process by which a person attempts to respond intelligently to difficult problems without pertinent knowledge [9]. Complex processes necessitate higher-order thinking skills, which include critical thinking.

To enhance students' critical thinking, learning innovations must be implemented. Students are expected to become critical thinkers through innovative learning, as evidenced by their skills in interpreting, analyzing, evaluating, and concluding, explaining what they think and making decisions, applying the power of critical thinking to themselves, and enhancing critical thinking skills about the opinions they have formed.

If a person possesses all six cognitive skills, his critical thinking capacity is considerably superior to those who can interpret, analyze, and evaluate. Thus, it is possible to assess an individual's critical thinking abilities. Everyone's critical thinking capacity varies, and this variation can be regarded as a progression from the lowest to the highest level [10]. All students require the ability to think critically because the ability to think is one of the most important skills that directly affect the academic and professional performance of students in the future [11].

A person capable of critical thinking will be able to study complicated ideas systematically to comprehend the difficulties that occur or their future ramifications, allowing them to make sound decisions. Elder identified five characteristics of a person with critical thinking skills: a) can raise important questions and problems and formulate them clearly and precisely; b) can collect and evaluate relevant information and use abstract ideas to interpret it effectively; c) can conclude and provide good solutions, and test them based on relevant criteria and standards; d) have an open mind to other thoughts, recognitions, and values; and e) can communicate effectively [12].

Research indicates that students critical thinking abilities are still lacking [13]. Universities that will produce the nation's future educators have a greater responsibility to teach their students critical thinking skills. Students majoring in Christian Religious Education, STAKPN Sentani, also face the problem of inadequate critical thinking skills.

Less emphasis is still placed on high cognitive qualities, such as analytical and evaluative acuity and the development of creativity, in the lecture process; consequently, students are rather inactive during lectures and lack the necessary material resources to attend college. Some findings in the field indicate that high-level cognitive and affective domains are still underdeveloped, despite the significance of these domains to the future lives of students in the scientific community.

This should not be allowed to run on since it would lead to a degradation in the quality of education and human resources. Before attempting to solve these issues, it is best to understand students' critical thinking skills. The profile of students' critical thinking habits at the Department of Christian Religious Education STAKPN Sentani is one technique to track and characterize students' critical thinking abilities.

2   Method

This study employs a qualitative methodology based on case studies. The researchers selected this methodology to study in-depth and fully the profile of students' critical thinking skills in lectures based on 21st-century skills among students of the Department of Christian Religious Education STAKPN Sentani.

Creswell argues that a case study is a research technique in which the researcher studies a program, event, activity, process, or group of people in depth [14]. According to Yin, a case study is an empirical examination that places current phenomena in real-world contexts, particularly when the borders between phenomena and contexts are fuzzy [15].

The duration of this study was five months, from March to July 2022. The researchers employed in-depth interviews, observation, and documentation studies as a type of data gathering linked to the topic of this study. STAKPN Sentani Christian Education Department students were selected for this study because the researcher reasoned that people participating in the lecture process must be actively building 21st-century skills-based critical thinking abilities.

Data analysis procedures according to the processes employed by Miles and Huberman, namely (1) data reduction, (2) data presentation, and (3) conclusion drawing [16], to explain study data on student critical thinking skills profiles in lectures based on 21st-century abilities.

3   Results and Discussion

3.1   The Importance of Student Critical Thinking Skills Based on 21st Century Skills

One category of 21st-century abilities is the ability to think critically [17]. In lecture activities, 21st-century skills are classified into three categories: life and career skills, innovation skills, and information media and technology skills [18]. The paradigm of lectures in the twenty-first century is more rigorous regarding critical thinking, identifying connections between class theory and the actual world, information technology proficiency, and communicating and working together. Universities are supposed to generate graduates with the ability to think critically and master technology in the 21st century through their lectures.

The findings of this study about the significance of students' critical thinking based on 21st-century abilities are as follows: First, students with critical thinking skills tend to compare the lecturer's arguments and theories with information from other sources, such as scientific articles, news stories, the Bible, and books.

Occasionally, lecturers make errors in expressing pertinent theories in light of contemporary demands—the significance of acquiring critical thinking abilities to rectify erroneous lectures and supply feedback consistent with theory. Students in tertiary institutions are required to develop critical thinking abilities in order to acquire accurate knowledge.

Critical thinking is the intellectual process of conceptualizing, applying, analyzing, synthesizing, and evaluating diverse knowledge gathered from observations, experiences, and reflections to be utilized as a decision-making basis [19]. Students with critical thinking skills can consider the scientific method and logical reasoning in depth [20]. Students capable of critical thought may accurately analyze the arguments of others and construct their own valid and persuasive arguments [21].

Second, students with critical thinking skills tend to evaluate the lecturer's explanations and arguments during the lecture. It is essential to do so because students have the right to investigate the origin of a lecturer-explained theory, evaluate its applicability to the advancement of society, and determine the theory's source.

Students with critical thinking skills will interpret, analyze, evaluate, and make conclusions and explanations based on facts, concepts, approaches, criteria, and contextual considerations that serve as the basis for consideration [22]. A person capable of critical thought will formulate questions pertinent to the issue and search for valid explanations [23].

Thirdly, students with critical thinking skills tend to evaluate the quality of the lecturer's arguments during the lecture. It is crucial to determine the theoretical foundation and references lecturers utilize in their lectures. Through debate, students can dispute with the professor so that the resulting theory applies to future demands. People capable of critical thought do not simply accept or reject information as true or false. Before deciding whether to accept or reject the information, the individual will inspect, analyze, and assess it. If they do not yet have sufficient comprehension, they should postpone making a decision based on this information [24]. Students with critical thinking abilities can decide what to believe or do based on logical and realistic considerations [25].

Fourthly, students with critical thinking abilities are more likely to use facts and data while discussing with lecturers. The most recent occurrences in the community and information released by official entities to connect lecture materials obtained from lecturers. A person with critical thinking abilities strives to determine the justifications for actions based on relevant data and facts, whether they are supported or rejected [23]. The ability to objectively and logically comprehend concepts, laws, propositions, facts, and principles is crucial to the lecturer's interactions with students. Analyzing information and facts is one measure of critical thinking ability. Students are capable of determining the outcomes of thoughts based on facts.

Intelligent lecturers will employ problem-solving or question-answering to stimulate student thought. Collect information from students regarding their degree of comprehension in order to remove student misunderstandings. They educate students to value and comprehend the reasoning process and apply evidence when solving problems.

Fifth, students with critical thinking abilities are more likely to seek knowledge from various sources, such as scientific articles, the news, the Bible, and books, to improve their thinking skills during lectures. Collecting diverse reading materials from many sources might enhance students' classroom learning. A person with critical thinking skills can acquire fundamental skills, such as determining whether sources can be trusted or not [23].

3.2 Profile of Students' Critical Thinking Skills Based on 21st Century Skills

Critical thinking is a crucial topic in contemporary education. All lecturers are interested in educating students to think critically [26]. Critical thinking involves analytical and evaluative cognitive processes, particularly the analysis of arguments based on logical consistency that seeks to discover biases and logical fallacies [27]. Assessment of critical thinking skills is essential, with the following objectives: being able to evaluate students' critical thinking skills, providing feedback on student's critical thinking skills, and motivating students to become better critical thinkers [28].

The research showed that STAKPN Sentani Christian Religious Education students possess the following critical thinking skills: First, students use various sources such as downloading Google Scholar articles, and reading online news, Bibles, and books to assess explanations or arguments related to lecture topics. As part of their effort to develop critical thinking skills, students who think critically are receptive to new ideas [29]. Critical thinkers can locate additional information necessary to solve problems [26].

Students who utilize multiple sources, such as downloading articles from Google Scholar and reading online news, the Bible, and books, are skilled in critical thinking and have an open mind for absorbing new ideas. Second, during the lecture process, students observe scientific truths explained by lecturers and compare them to the knowledge they have acquired from books, scientific articles, and societal facts.

Analyzing opinions or arguments and seeking information to solve problems are indicators of critical thinking abilities [23]. The lecture process will be high quality if students actively seek scientific information from books, scientific articles, and community-derived facts related to the subject matter. This action further directs Christian Religious Education STAKPN Sentani students to be able to solve problems precisely and logically.

Thirdly, students filter the correct knowledge by discussing lecture topics with their peers and comparing the material's relevance to facts and literature from Google Scholar, books, and the Bible. Skills in critical thinking include identifying and evaluating fundamental assumptions and trusting what is accomplished with a solid knowledge base. Analyzing and evaluating the quality of arguments using considerations from multiple sources is the proper way to develop critical thinking abilities [22]. Critical thinking includes identifying the main elements and assumptions of arguments and their relationships, drawing conclusions based on available information and evidence, and correcting a thinking mistake [30].

Fourth, the best way for students to develop arguments for discussion with lecturers is through collaboration with classmates in collecting all facts and data related to the lecture topic from scientific articles, books, and the Bible.

Collaboration and communication are two models of 21st-century skills, practiced by students majoring in Christian Religious Education, STAKPN Sentani. They openly collaborate with friends to collect all facts and data pertinent to the lecture topic from scientific articles, books, and the Bible and then communicate with lecturers about the subject matter.

The demands of the twenty-first century are looking for people who have modern skills, such as critical thinking, initiative, problem-solving, adaptability, agility, communication, and the ability to collaborate with others [31-33].

4   Conclusion

Critical thinking skills are one of the 21st-century competencies included in the lecture process. Students majoring in Christian Religious Education STAKPN Sentani have critical thinking skills; this can be seen from how they test and compare theoretical lecturers' arguments obtained from scientific articles, news in the media, Bibles, and books.

During the lecture, students assess the quality of the lecturer's arguments. Determine the theoretical foundation and references utilized by lecturers in their lectures. Through discussion, students can argue with the lecturer to apply the obtained theory to future life requirements. People capable of critical thought are not content to accept or reject information. Before deciding whether or not to accept or reject information, the individual will examine, analyze, and locate it.

Students with critical thinking skills tend to use facts and data for knowledge with lecturers and take the time to search from various sources such as scientific articles, news in the media, Bibles, and books to increase their thinking skills during the lecture process. Students have an open attitude toward new ideas to develop thinking skills.

Students analyze opinions or arguments and seek information to solve problems. The lecture process is high quality because students actively seek scientific information from books, scientific articles, and facts extracted from the community and related to the material. This action is directing students majoring in Christian Religious Education STAKPN Sentani to be able to solve problems logically and precisely.

Students work with colleagues to collect all the facts and data related to the lecture theme from scientific articles, books, and the Bible as the best way for students to

develop arguments for discussion with lecturers in class. The twentieth-century demands finding people with critical thinking skills, and students majoring in Christian Religious Education STAKPN Sentani have fulfilled these demands.

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