

STUDENTS' AWARENESS TOWARD 21ST CENTURY SKILLS

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ABSTRACT

Understanding 21st-century skills is crucial for students to thrive in the rapidly evolving digital and information age. These skills, categorized into learning, literacy, and life skills, encompass critical competencies such as ways of thinking, working, and living in a globalized world. This study examines students' comprehension and awareness of 21st-century skills, employing descriptive analysis to measure their awareness levels using a five-point Likert scale, ranging from strongly agree to strongly disagree. The data collection framework is based on the theory of 21st-century skills, organized into five parts to systematically present the findings. Results indicate that most students fall within the moderate or neutral category in application (practice) levels for Parts I, III, and V. Similarly, in Part II, which focuses on Critical Thinking and Problem-Solving, students are at the understanding (comprehension) level, suggesting the need for improvement in these areas. Interestingly, the highest level of awareness is observed in Part IV, where students demonstrate advocacy (internalization) of collaboration and teamwork skills. This indicates that Indonesian students excel in teamwork and collaborative efforts but require further development in critical thinking and problem-solving. These findings highlight the importance of enhancing students' knowledge and competencies in 21st-century skills to address current challenges effectively. By fostering these abilities, students can better navigate the demands of a rapidly changing world and contribute meaningfully to society.

Key Words: Students' Awareness, 21st century skills

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INTRODUCTION

Essential competencies known as 21st century skills help students meet the demands of workforce, education and modern society (Dariyono, Rusman, 2023). Nowadays, in the digital and information era, students need to comprehend and practice 21st century skills to face the new challenges in society (Griffin, P., McGaw, B., & Care, E. (Eds.), 2012). To effectively navigate the challenges of the digital and information age, students need to gain a thorough understanding of and practice essential 21st century skills (Trilling, B., & Fadel, C, 2009). These competencies enable them to prosper in a swiftly evolving workforce and society marked by technological innovation, globalization and a wealth of information.

In 21st century skills, students should comprehend the core components of 21st century skills such as learning and innovations skills including ways of thinking, ways of working and tools for working, information, media, and technology literacy, life and career goal, access to digital resources and tools, opportunities for experiential learning, development of ethical and social responsibility, access to supportive learning environments, lifelong learning mindset, and the last comprehensive

assessment and feedback (Partnership for 21st Century Learning (P21), 2019). Understanding these abilities is essential for students to recognize, cultivate, and use them in social, professional, and academic settings.

Moreover, to thrive in the modern workforce, students must acquire a combination of digital literacy, soft skills, and technical knowledge. Students who comprehend and put 21st-century skills into practice will be able to succeed in a more technologically advanced and connected world, manage the changing workplace, and make significant contributions to their organizations (World Economic Forum, 2016).

However, Indonesian students still have a poor grasp of 21st century skills. Based on Ni Putu Parmini, et all stated that most students still do not empower with information literacy and 21st-century skills. The findings of the examination of the course material, assignments, and subject matter also show that 21st-century skills and information literacy have not yet been covered (Ni Putu Parmini, Ida Bagus Rai Putra, Mukhamdanah, Ida Ayu Putu Aridawati, & I Wayan Sudiarta, 2020).

Then, numerous Indonesian students continue to exhibit a lack of thorough comprehension of 21st-century abilities

(Farid Mutohhari, et al, 2021). There are some primary reasons and evidence supporting the limited understanding of 21st-century skills among Indonesia students; (1). Limited integration of 21st century skills in Education such as the Indonesian curriculum emphasizes holistic education but the implementation of 21st- century skills is inconsistent across schools (Yuwono, I., & Hayati, I, 2020), (2). Teacher often focusses on the rote learning and standardized test preparation, leaving little room for fostering critical thinking, creativity, and collaborative problem-solving, (3). Students in urban areas may have access to advanced digital tools and resources, but those in rural or remote regions often lack reliable internet, technological devices, and digital literacy programs, (4). Many students are proficient in basic digital tools (e.g., social media) but lack the deeper technological proficiency required for problem-solving, coding or data analysis. The explanation above gives the fact of the low students' comprehension of 21st century skills in Indonesia. According to the issues above, this research is investigated to analyze the students' awareness level toward 21st century skills in one of public vocational schools in Tangerang Municipality.

METHOD

In this study, descriptive qualitative research was employed. The use of descriptive analysis as a research methodology is common, especially in qualitative research paradigms. To provide a thorough and accurate description of a phenomenon, it comprises the systematic collection, analysis, and interpretation of data.

The respondents of the research were the students in vocational school at Tangerang Municipality. There were 160 students who filled in the questions which were distributed online by using Google Form.

The instrument used in this study to gather data was a questionnaire with a five-point Likert scale. There were fifteen questions on the survey, and the response options were Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree.

In describing the data, the level of students' awareness is adapted from the theory of Anderson, L. W., & Krathwohl, D.R. (Eds.), (2001) to measure students' awareness of 21st- century skills using a Likert Scale. The responses range from Strongly Agree to Strongly Disagree to capture the degree of awareness as follows.

Level	Indicators
1 Basic Awareness (Recognition)	Represents surface-level familiarity with the concepts, often without understanding their practical relevance or implementation
2 Understanding (Comprehension)	Indicates comprehension of skills' significance and theoretical concepts, but with limited practical use.
3 Application (Practice)	Focuses on practicing skills in guided or structured activities, showing that students are beginning to apply what they have learned.
4 Integration (Adaptation)	Reflects the ability to incorporate skills seamlessly into various contexts, demonstrating adaptability and higher-order thinking.
5 Advocacy (Internalization)	Represents the highest level of awareness where students internalize and actively promote 21st-century skills as part of their identity and lifelong learning.

Table 1 Level of Students' Awareness

Then, those levels above are integrated into the range of Likert Scale as follows.

Likert Scale	Level of Students' Awareness	Description
Strongly Agree	5 Advocacy (Internalization)	Students demonstrate a high level of awareness and actively practice 21st-century skills.
Agree	4 Integration (Adaptation)	Students show good awareness and occasionally apply 21st-century skills in relevant contexts.
Neutral	3 Application (Practice)	Students have basic awareness but are unsure about the importance or application of the skills.
Disagree	2 Understanding (Comprehension)	Students have limited awareness or rarely apply 21st-century skills in their studies or activities.
Strongly Disagree	1 Basic Awareness (Recognition)	Students lack awareness and do not recognize or apply 21st-century skills in any context

Table 2 Likert Scale and Students' Awareness Level

The collected data was quantitatively calculated and qualitatively analyzed based on the respondents' responses, which reveal their preferences and perceptions. Following that, the data was presented as a percentage in tables and figures as the discussion's findings and point of reference.

FINDINGS AND DISCUSSION

Findings

A questionnaire was utilized in this study to collect data. The questionnaire

is used to distribute fifteen questions to the respondents. Using a five-point Likert scale, the students' awareness was measured.

In analyzing the students' awareness level toward 21st century skills, fifteen questions are distributed to the students in Vocational School. Before giving the questionnaire to respondents, the theory about 21st century skills are concepted from some theory such as Trilling, B., & Fadel, C. (2009), Griffin, P., McGaw, B., & Care, E. (Eds.). (2012), Binkley, M.,

Erstad, O., Herman, J., Raizen, S., Ripley, M., & Rumble, M, (2012). From the theory, the fifteen questions were divided into five parts such as (1). Awareness of Communication Skills, (2). Awareness of Critical Thinking and Problem-Solving skills, (3). Awareness of Creativity and Innovation, (4). Awareness of Collaboration and Teamwork Skills, and (5). Awareness of Digital Literacy.

The results of the questionnaire were illustrated as follows.

A. Part I-Awareness of Communication Skills

In this part, there are three questions which were formulated to define the student's awareness in communication skills, the questions are as follows.

"I understand the importance of clear and effective communication in achieving success in school and the workplace"

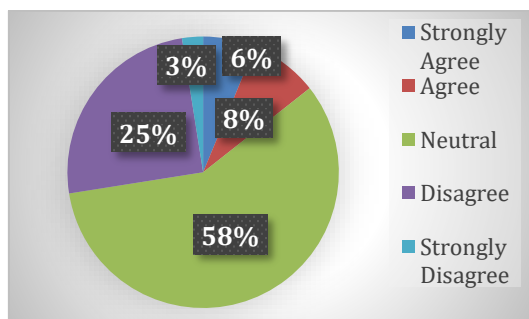


Figure 1- 1st Question

From the figure above, it illustrated that most of students responded 58% in

Neutral Category and there are 3% students in Strongly Disagree Category. It can be inferred that students can comprehend or understand how to build effective communication in school.

The second question for the respondents is as follows.

"I am aware of how to use digital tools (e.g., emails, messaging platforms, social media) to communicate effectively"

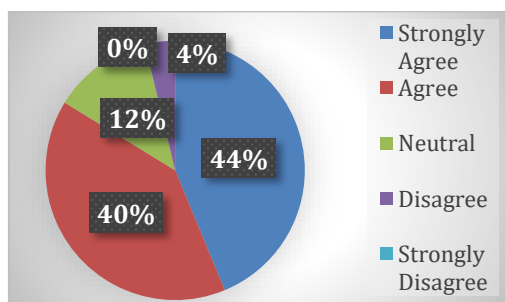


Figure 2- 2nd Question

This figure illustrated that 44% of students in Strongly Agree Category which means that most of students aware how to use the digital tools (e.g., emails, messaging platforms, social media) to communicate effectively.

Furthermore, for the last question in this part such as *"I recognize the value of active listening in teamwork and collaboration"* stated that 50% students were Agree that listening becomes the important part in teamwork and collaboration.

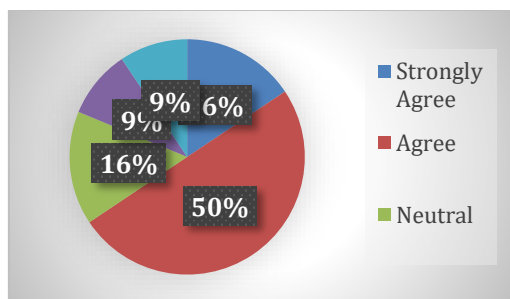


Figure 3- 3rd Question

From the three questions in the first part of Awareness of Communication Skills, the result illustrates as follows.

Questions	Result	Level
1 st	58% Neutral Category	3 rd Level-Application (Practice)
2 nd	44% Strongly Agree	5 th Level-Advocacy (Internalization)
3 rd	50% Agree	4 th Level-Integration (Adaptation)

Table 4- The result of Part I- Awareness of Communication Skills

Those scores above are categorized from the highest percentage from the respondents and ranged it into the level of students' awareness. From the table above it can be inferred that students' awareness level in Communication skills in the third level namely Application Level in which students can apply their understanding in specific context in building effective communication skills in school.

B. Part II Awareness of Critical Thinking and Problem-Solving skills

The second part of the questionnaire refers to the theory of Ways of Thinking, however, it only measures two thinking skills such as critical thinking and problem-solving that should be comprehended by students. There are three questions in this part as follows.

In the fourth questions about critical thinking skills with the question "I understand how critical thinking helps in making informed decisions". From this question, most of students 38% disagree that critical thinking skills help in making informed decisions.

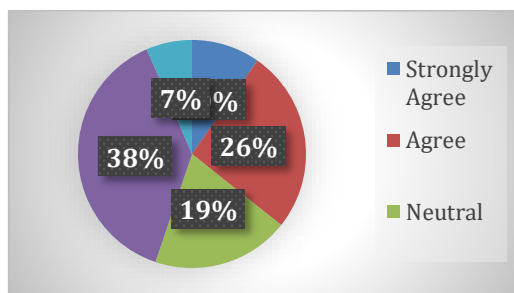


Figure 4- 4th Question

Moreover, in the fifth question such as "I know how to approach complex problems using logical reasoning" states 50% disagree that students know and comprehend how to approach complex problems using logical reasoning.

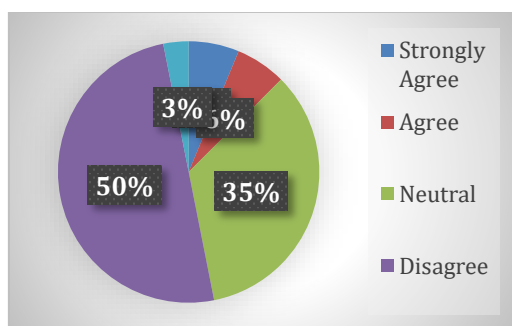


Figure 5- 5th Question

In the sixth question, namely “I am aware of strategies for evaluating the reliability of information I find online” stated that 40% students strongly disagree with the statements.

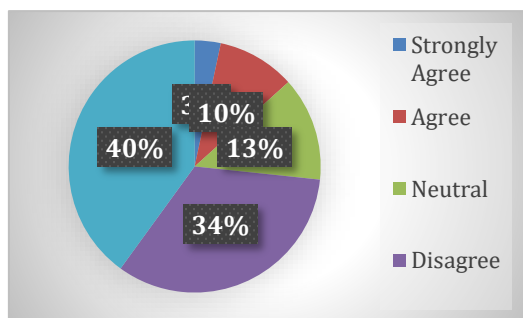


Figure 6- 6th Question

From the result of second part of students’ awareness of critical thinking and problem solving as follows.

Questions	Result	Level
4 th	38% Disagree	2 nd level- Understanding (Comprehension)
5 th	50% Disagree	2 nd Level - Understanding (Comprehension)
6 th	40% Strongly Disagree	1 st Level- Basic Awareness (Recognition)

Table 4- The result of Part II- Awareness of Critical Thinking and Problem-Solving Skills

C. Part III Awareness of Creativity and Innovation

The next part is creativity and innovation in which both as part of ways of thinking. The result for the third part is as follows.

The seventh question, namely “I believe creativity is a valuable skill for solving real-world problems” illustrates such as.

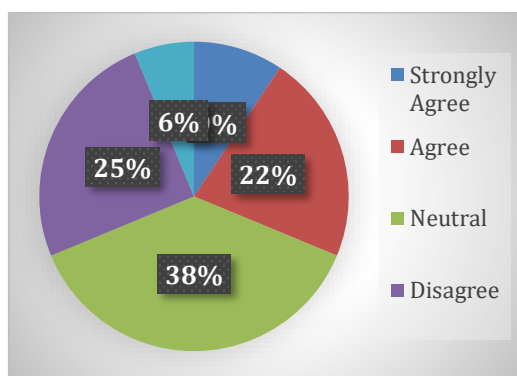


Figure 7- 7th Question

The result illustrated that 38% of students answered that in Neutral Category creativity is a valuable skill for solving real-world problems. Then, the next question is “I am aware of how to express ideas creatively using various media or tools” as the eighth question. The result showed that 44% of students took Neutral Category of how to express ideas creatively using various media or tools.

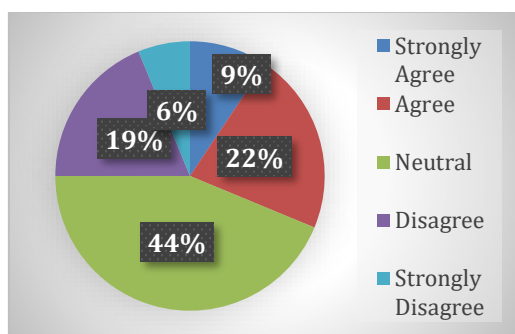


Figure 8- 8th Question

The last question in part three is “I recognize the importance of thinking outside the box in adapting to challenges” as the ninth question. The result showed that 50% of students recognize the importance of thinking skills out of the box in adapting to challenges in Neutral Category.

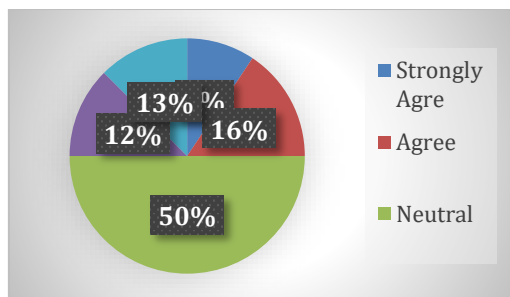


Figure 9- 9th Question

In short, the result of the third part is as follows.

Questions	Result	Level
7th	38% Neutral	3 rd Level-Application (Practice)
8th	44% Neutral	3 rd Level-Application (Practice)

9 th	50% Neutral	3 rd Level-Application (Practice)
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Table 5- The result of Part III

D. Part IV Awareness of Collaboration and Teamwork Skills

In getting the data about awareness of collaboration and teamwork skills as part of ways of working in 21st century skills, there were three questions that were distributed into the questionnaire.

The tenth question is “I understand the importance of working collaboratively with others to achieve common goals”. Surprisingly, the result showed that there were 31% disagree category with this statement.

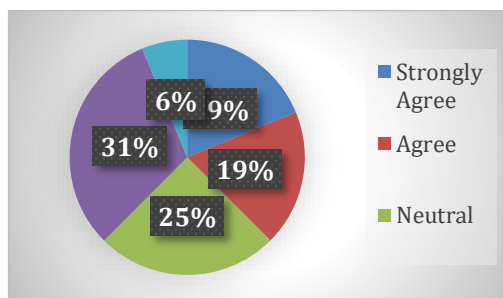


Figure 10- 10th Question

Furthermore, the eleventh question is “I am aware of how diversity in a team can contribute to better problem-solving.” The result illustrated that 31% of students in Neutral Category.

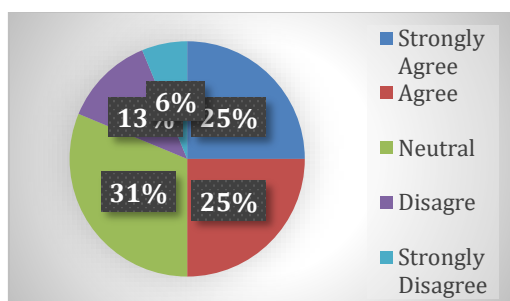


Figure 11- 11th Question

Next question is twelfth question “I recognize the need to compromise and resolve conflicts in teamwork situations”. The result showed that 38% of students answered in the Strongly Agree category.

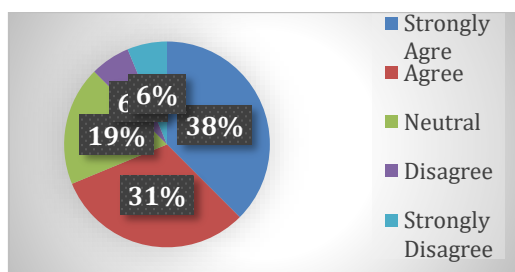


Figure 12- 12th Question

In short, the result of the fourth part is as follows.

Questions	Result	Level
10th	31% disagree category	2 nd Level- Understanding (Comprehension)
11th	30% Neutral	3 rd Level- Application (Practice)
12 th	38% Strongly Agree	5 th Level- Advocacy (Internalization)

Table 6- The result of Part IV

E. Part V Awareness of Digital Literacy.

The last part is students’ awareness of digital literacy. The thirteenth question “I understand the importance of using technology responsibly and ethically”. Most of the students answered in Neutral Category by 50%.

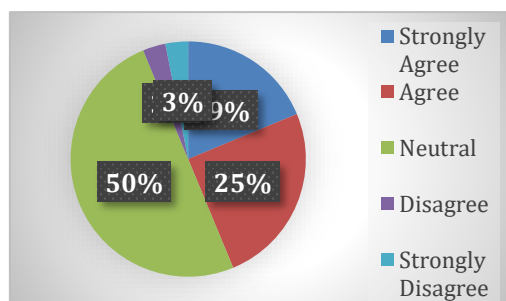


Figure 13- 13th Question

Then, the fourteenth question, “I am aware of how to use digital tools to access and analyze information effectively” illustrated 56% students in Neutral Category.

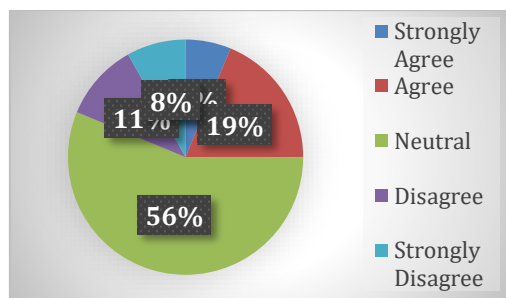


Figure 14- 14th Question

The fifteenth question is “I know the importance of protecting my personal information when using online platforms”. The result illustrated that 63% of students were in neutral category.

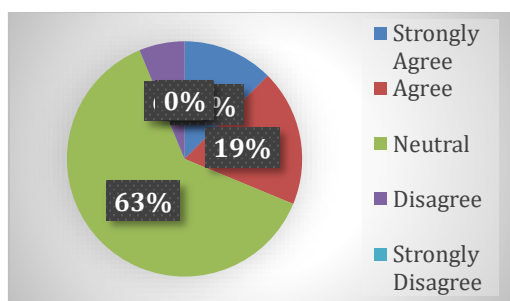


Figure 15- 15th Question

In short, the result of the fifth part is as follows.

Questions	Result	Level
13th	50% Neutral	3 rd Level-Application (Practice)
14th	56% Neutral	3 rd Level-Application (Practice)
15 th	63% Neutral	3 rd Level-Application (Practice)

Table 7- The result of Part V

Discussion

The research findings confirm and disconfirm some components related to students' awareness toward 21st century skills. It confirms from the theory that there are some 21st century skills that should be comprehended and mastered by students. Trilling, B., & Fadel, C. (2009), Griffin, P., McGaw, B., & Care, E. (Eds.). (2012), Binkley, M., Erstad, O., Herman, J., Raizen, S., Ripley, M., & Rumble, M, (2012) stated that there are 21st century skills that should be comprehended by students to face the challenges in the globalization era such

as ways of thinking (creativity and innovation, critical thinking, problem-solving and decision making, learning to learn/ metacognition), ways of working (communication, and collaboration or teamwork), tools for working (information literacy and ICT literacy), and living in the world (citizenship (local and global), life and career, personal and social responsibility (including cultural awareness and competence). The theories mentioned above serve as the foundation for conceptualizing 21st century skills and as a starting point for structuring the survey that is used to gauge respondents' awareness of these skills.

The questionnaire is divided into five big parts such as Part I Awareness of Communication Skills, Part II Awareness of Critical Thinking and Problem-Solving skills, Part III Awareness of Creativity and Innovation, Part IV Awareness of Collaboration and Teamwork Skills, Part V Awareness of Digital Literacy with the total questions are fifteen questions.

The finding showed that the highest percentage in students' awareness of communications skills (Part I) is in the 3rd level- application (practice) by 58%. It means that students have basic awareness but are unsure about the importance or application of the skills. It is confirmed by Bloom et al. (1956);

Binkley et al. (2012); Trilling & Fadel (2009). Then, students' awareness of critical thinking and problem-solving skills (Part II) by 50 % in 2nd Level - Understanding (Comprehension) confirms that students have limited awareness or rarely apply 21st-century skills in their studies or activities.

Furthermore, students' awareness of creativity and innovation (Part III) was 50% in the 3rd level- application (practice). It means that students have basic awareness but are unsure about the importance or application of the skills. Then, students' awareness of collaboration and teamwork (Part IV) by 38% in 5th level- Advocacy (Internalization), it means Students demonstrate a high level of awareness and actively practice 21st-century skills.

The last students' awareness in digital literacy (Part V) by 63% in the 3rd level-application (practice), It means that students have basic awareness but are unsure about the importance or application of the skills.

From the result above, most of students were in the moderate level or Neutral Category in the 3rd level- application (practice) in Part I, Part III and Part V. Then, the 2nd level Understanding (Comprehension) in Part II about students' awareness in Critical Thinking and Problem-Solving skill. From the result, it illustrates that students in Indonesia should improve their thinking skills. Then, the highest level in Part IV in the 5th level- Advocacy (Internalization), it means Students

demonstrate a high level of awareness and actively practice 21st-century skills in collaboration and teamwork which means that Indonesian students better in collaboration and teamwork.

The findings illustrated that it is important that students should improve their knowledge and competence in 21st century skill to face the current challenges.

CONCLUSIONS AND SUGGESTION

In short, the result or research by using questionnaire illustrated that Indonesian students should improve their knowledge, comprehension and competence in 21st century skills especially in thinking skills such as critical thinking and problem-solving skills. From the result above, most of students were in the moderate level or Neutral Category in the 3rd level-application (practice) in Part I, Part III and Part V. Then, the 2nd level Understanding (Comprehension) in Part II about students' awareness in Critical Thinking and Problem-Solving skill. From the result, it illustrates that students in Indonesia should improve their thinking skills. Then, the highest level in Part IV in the 5th level- Advocacy (Internalization), it means Students demonstrate a high level of awareness and actively practice 21st-century skills in collaboration and teamwork which means that Indonesian students better in

collaboration and teamwork. For further research, it will be better if the researcher employs various instruments to get comprehensive and accurate data besides only using questionnaires to measure students' awareness and knowledge toward 21st century skills. Then, to get more specific data, the researcher can break down the 21st century skills.

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