

## Exploration of 21st century skills in students SMA Negeri 1 Sungai Tebelian

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**Abstract:** Educational planning is adjusted by considering the suitability of the education system in schools so that students are ready to enter the world of work with the skills needed so that they can be useful in the future. The aim of this research is to find out students' 21<sup>st</sup>-century skills. The method that the researchers used in this study were a quantitative descriptive research method, with indirect communication techniques, with a data collection tool in the form of a questionnaire. The questionnaires distributed amounted to 41 items and were analyzed using a Likert scale. The questions and sample of this research were 71 respondents who were class XII students of SMA Negeri 1 Sungai Tebelian. The results of this study showed a score of 80.34 so which could illustrate that the students of SMA Negeri 1 Sungai Tebelian had 21<sup>st</sup>-century skills in a good category.

**Key Words:** Exploration; 21st Century Skill; Questioners.

### Introduction

21<sup>st</sup>-century skills are a hot topic these days, with technological and informational advances impacting every aspect of our lives.(Dewi et al., 2021). Since the emergence of this topic, educational discourse, policy, and curricula have emphasized the importance of 21<sup>st</sup>-century skills. Educational plans are adjusted to take into account the suitability of the educational system at the school.(Uliani & Anugrah M.N, 2022). This prepares students to enter the labor market with the skills necessary to provide useful and future opportunities. (Bailey, 2022).

Since the skills of the 21st century are the transition from an industrial society to a knowledge society, students should develop seven skills: (1) critical thinking, (2) collaboration, (3) adaptation, (4) entrepreneurship, and (5) communication. focus on skills, (6) being able to access and analyze information, and (7) always being willing to learn new things (Rifa Hanifa Mardiyah et al., 2021). 21<sup>st</sup>-century skills require not only a cognitive dimension but also an emotional and psychomotor dimension. Therefore, 21<sup>st</sup>-century skills require students to develop reasoning, logic, system, and critical thinking. This is because, as a result of the changes and transformations that have taken place at the international level this century, societies have also undergone great changes. (Sujarwo, Desy Safitri, 2022)

In today's digital age, developments in the field of technology, in particular, have a tremendous impact on social structure. Changes and transformations in this world include learning and renewal skills, critical thinking and problem-solving skills, communication and collaboration skills, knowledge insight, media, and technology literacy, social skills responsibility, cultural ills, etc. (Arnelia Dwi Yasa, 2017). We really need individuals with certain qualifications called 21st Century Skills. Universal cognitive skills, everyday life, and career orientation (van Laar et al., 2020). In addition, there are cognitive skills, initiative and self-management skills, entrepreneurial skills and self-direction, transformational change

leadership, and innovation skills. Individual training with specific qualifications can only be obtained by study. The changes and transformations of the 21<sup>st</sup>-century world are also diversifying the qualifications of those who need guidance on educational issues presented and offered in schools (Malik, 2018).

Recognizing this fact, countries have developed educational programs to train individuals with the qualifications and abilities to guide and facilitate change and transformation that will meet the developments likely to come in the next century. Given the changes and transformations happening in the world, they can provide opportunities if used properly. However, it can also be a threat if not properly predicted. 21st century skills are not innate. (Sulastri & Ahmatika, 2020)

In his previous life, it was very difficult to obtain important information. Learning to acquire knowledge requires the simple skill of memorization. Technological developments have made it very easy to access all the information you need. Individuals are therefore expected to challenge the truth of the information they receive in a constructivist approach and make changes and transformations with knowledge gained from existing knowledge (Mogashog, 2014). In addition, today it is very important for individuals to develop higher competencies. It is therefore very important to train individuals with skills such as analytical thinking, collaborative work, effective communication, leadership, science-technology-engineering-mathematics (STEM), language literacy, initiative, and entrepreneurship. At this point, various institutions, organizations, and scholars play a guiding role in educating students according to skills by human qualities in today's era. (Peters-burton & Stehle, 2019).

21st-century skills discuss skills in 3 categories: skills to learn and innovate, skills to seek information, media and technology, and skills in life. The Institute for the Study and Teaching of 21st Century Skills (ATC 21) has determined related skills in the 21st century as follows: 1)ways of thinking, including creativity and innovation, critical thinking, problem-solving and decision making, metacognition or learning,2)ways of working, including communication and collaboration or teamwork,3)tool work, discussion Information literacy and ICT literacy and4)life in the world, including citizenship, life and career skills, and personal and social responsibilities (van Laar et al., 2020). The Organization for Economic Cooperation and Development (OECD) classifies 21st-century skills into three classes; skills using interactive tools, collaborating with various heterogeneous groups, and acting independently. In addition, the OECD identifies the skills of the 21st century as the personal ability to use technology effectively, the ability to communicate and cooperate effectively with groups, self-management, self-protection, and the ability to protect one's own rights and those of others. is emphasized. (International Student Assessment Program (PISA), 2021)

Examining student skills in relation to 21<sup>st</sup>-century skills raises several questions. What skills are relevant to students, what new skills do they need, and what changes are needed to acquire skills that are considered suitable for 21<sup>st</sup>-century needs? The question is SMA Negeri 1 A method to investigate the 21<sup>st</sup>-century skills of Sintang Regency, a student of Sungai Tebelian, and aims to explain how to investigate the 21<sup>st</sup>-century skills of SMA Negeri 1 Sungai Tebelian students.

## Method

Experimental process, data collection, and data analysis. So, researchers can answer research questions, researchers use research methods that can answer research questions or problems. The method that the researcher uses in this research is a descriptive quantitative research method, with indirect communication techniques, with data collection tools using questionnaires or questionnaires made related to research problems totaling 41 question items and 71 respondents who are students and students of class XII SMA Negeri 1 Sungai Tebelian, which was calculated using a Likert scale. Questionnaires that have been distributed to respondents are then transformed to get answers from all respondents, after the questionnaires are collected then processed for interpretation so that each respondent's answer related to the question can be explained or described. In this study, detailed steps and information about the exploration of 21<sup>st</sup>-century skills in SMA Negeri 1 Sungai Tebelian students refer to the Multidimensional 21 th century skills scale instrument. (Cevik & Senturk, 2019). The instrument has been validated so that it can be used to determine the 21st Century Skills of the students of SMA Negeri 1 Sungai Tebelian.

The instrument that is being questioned in this research consists of 5 factors, namely Knowledge and Technology Literacy Skills (KTLS), Critical Thinking and problem-solving Skills (CTPSS), Entrepreneurship and Innovation Skills (EIS), Social Responsibility and Leadership Skills (SRSLs), and Career Awareness. (CA) The question items contained in the instrument are presented in the table below:

**Table 1. Questionnaire Items**

| No | Factor | Total Question | Sample Question  |
|----|--------|----------------|--|
| 1  | KTLS   | 16 Items       | a. I like to get new information by doing research on reliable sources<br>b. I realize what Kind of information I need in my Life  |
| 2  | CTPSS  | 5 Items        | a. I don't like people who criticize me.<br>b. I talk about the subject I have studied without Thingking   |
| 3  | EIS    | 10 Items       | a. I turn the negative situation I face into Opportunities<br>b. I observe an examine everything with great curiosity  |
| 4  | SRSLs  | 4 Items        | a. I think group work is a waste of time<br>b. Together with myself, I contribute to the development of the abilities of those around me                                     |
| 5  | CA     | 6 Items        | a. I take advantage of opportunities that will contribute to my future personal and career development<br>b. I have a decision regarding the profession I want in the future |

This study uses a student response questionnaire which is converted using a Likert scale with descriptive analysis that describes the data according to the actual situation and conditions. This research uses the formula:

Descriptive Rating =  $n/N \times 100$

Information:

n = Value earned

N = Quantity Overall score of Respondents

The analysis that the researcher uses is guided by the Likert scale (Sugiyono, 2013). The Likert scale guidelines that researchers use are set out in table 2 below.

**Table 2. Interpretation of students on the Likert skala scale**

| Score  | Information   |
|--------|---------------|
| 81-100 | Very good     |
| 61-80  | Well          |
| 41-60  | Pretty good   |
| 21-40  | Not good      |
| 0-20   | Very Not Good |

## Results and Discussion

### Student Skills in 21<sup>st</sup>-Century Learning

#### 1. Knowledge and technology literacy skills (KTLS)

Learning in the 21st century is transforming, reflected in the rise of new competencies such as digital literacy, information literacy and media literacy. Learning in the 21st century is geared toward activities that train students' skills in the learning process. Part of the effort to prepare students for the demands of the 21st century requires a learning and competence approach that can develop all of these students' competencies. 21st century skills expect students to apply and master knowledge to provide solutions in the real world (Elitasari, 2022).

With the rapid development of globalization, students are expected to master the technology to find the information they need. This capacity includes the ability to receive different types of information, make inferences and decisions, and use this information judiciously based on existing norms (Maliawati, 2020). In the 21st century, we find that skills are becoming more important than specific subject knowledge or learned knowledge. Life skills, career skills and innovative, project-oriented scientific research have become very important. Additionally, learners are proficient in skills such as technology use, collaboration, effective communication, digital literacy, problem solving, critical thinking, creativity and productivity, and acquiring knowledge from multiple sources. is needed.

#### 2. Critical thinking and problem-solving skills (CTPSS)

The ability to solve problems can be seen in the ability of students to be able to provide the right solution if they get a question and can relate complex information and draw a conclusion in order to provide an assessment based on a good point of view. (Suwastini et al., 2021). With 21<sup>st</sup>-century skills, students will be prepared to think, learn, work, solve problems, communicate, collaborate, and contribute effectively throughout their lives. (Haryani et al., 2021).

### 3. Entrepreneurship and Innovation Skills (EIS)

Students are expected to have learning and renewal skills, critical thinking and problem-solving skills, communication and collaboration skills, knowledge, media and technology literacy skills, social responsibility, cultural and universal awareness skills, daily life, career, and career orientation (Lemke, 2016). awareness skills, skills using initiative and self-management, entrepreneurial skills and self-direction, transformation-change leadership, and innovation skills. Conference Board of Canada (2000), lists 21<sup>st</sup>-century skills basic skills (communication, information management, use of numbers, thinking and problem-solving), personal management skills (showing positive attitude and behavior, being responsible, adaptable, continuously learning, working safely), teamwork skills (collaborating with others and participate in projects and tasks).

Success can be achieved by increasing professionalism as well as innovation skills and the spirit of creativity. Innovation and creativity will develop if students have broader thinking skills. Success will be owned by students who have creative and innovative thinking. Successful individuals can change the world into a better place for all (J. Skovsgaard et al., 2018).

### 4. Social Responsibility skills and Leadership skills. (SRSLs)

In the 21<sup>st</sup> century, skills are becoming more important than subject-specific knowledge and information. Life skills, career skills, and innovative and project-oriented academic work become very important. In addition, learners must be sufficiently competent in skills such as using technology for learning purposes and acquiring adequate knowledge of different resources (Elfi & Syarif, 2021). learners who are less proficient in this field may not be able to cope with the demands of the 21<sup>st</sup> century and the job opportunities offered by National and Multinational Enterprises (MNCs). 21<sup>st</sup>-century skills articulate several skills that pave the way and insight into the world of education in the form of creativity, innovation, adaptability, and training leadership for all students. (Rinekso, 2021). Educational institutions, especially schools, are required to find a formula to make students successful in work and life by successfully mastering problem-solving skills, being responsible, thinking creatively, and finding new ideas. (Esteve-gonzález, 2015).

### 5. Career awareness. (CA)

In a comprehensive study, American The North Central Regional Educational Laboratory (NREL) has listed 21<sup>st</sup>-century skills as digital literacy with a new perspective in relation to recent historical events, globalization and the digital age, creative thinking, effective communication, and productivity. The Asia-Pacific Economic Cooperation (APEC) states that the knowledge, skills, and attitudes needed to compete in the 21<sup>st</sup>-century workforce have become increasingly diverse and that individuals must have a participatory understanding and ability to use new technologies. It also states that individuals need to cope with rapid change. In this context, APEC (2008) identifies 21<sup>st</sup>-century skills as lifelong learning, problem-solving, self-management, and cooperative teamwork.

Educational institutions must shift their focus towards character quality training. Meta competencies that are directly related to the character will equip students with the ability to

deal with complex environments. While the importance of character qualities in education is not new, it will become more relevant to prepare future generations. Educational institutions are urged to rethink their own methods and roles to prepare learners to live and collaborate together with new forms of intelligence. (A. Kamaruddin, 2012).

The following are the results of a survey related to 21<sup>st</sup>-century skills in students of SMA Negeri 1 Sungai Tebelian, Sintang Regency. After conducting direct research or research by distributing questionnaires, data related to 21<sup>st</sup>-century skills in SMA Negeri 1 Sungai Tebelian students, Sintang Regency, obtained data related to research indicators, the following are the results of the study:

**Table 3. 21st Century Skills Data on Students SMA Negeri 1 Sungai Tebelian**

| No           | Skills  | Average      |
|--------------|---|--------------|
| 1.           | Knowledge and technology literacy Skills.         | 79.56        |
| 2.           | Critical Thinking and Problem-Solving Skills.     | 78.76        |
| 3.           | Entrepreneurship And Innovation Skills.           | 76.00        |
| 4.           | Social Responsibility Skill and Leadership Skills | 79.51        |
| 5.           | Career Awareness                                  | 87.89        |
| <b>Total</b> |   | <b>80.34</b> |

From the processed data on the statement items that were recapitulated related to the knowledge and technology literacy skills of students at SMA Negeri 1 Sungai Tebelian, Sintang Regency, an average of 79.56 was obtained, in the skilled category, students mastered critical thinking and problem-solving skills, namely 78.76, entrepreneurship and innovation skills from Respondents' statement items obtained an overall average value of 76.00, from the cumulative results related to social responsibility skills and skills, the average value was 79.51, and career awareness indicators obtained an average result of 87.89. So, from the overall score, the 21<sup>st</sup>-century skills in SMA Negeri 1 Sungai tebelian students with an average of 80.34 fall into the "Good" category, and the improvement of 21<sup>st</sup>-century skills must be considered so that students can adjust to a more challenging life in society.

#### **Education character and Instilling 21st Century Skills through Learning in Schools**

Based on these descriptions, it can be concluded that the development of 21<sup>st</sup>-century skills and the character of students is important to be applied in the world of education, especially educational units so that personal mature thinking is formed within students. The goal of 21<sup>st</sup>-century education is to produce graduates who are competent and able to compete in the outside world. In addition to being able to master technology, students are expected to have literacy skills, think critically, can find solutions and solve problems, communicate well, be able to work together, and have good character qualities. (Dwi & Putri, 2018)

21<sup>st</sup>-century skills in schools can be achieved by updating the quality of learning, guiding students to be independent in learning, focusing on problem-based learning systems, encouraging students to work together and communicate with each other, and increasing student motivation by getting students to be creative and innovative in learning. study in class. Schools also have a significant role in creating adequate facilities and infrastructure,

designing student learning activities, and growing learning activities that are relevant to the real world and presenting them in the classroom so as to create student-centered learning. (Talat & Chaudhry, 2014). Characteristics of different learning environments can develop and improve the 21<sup>st</sup>-century skills of students as a whole. The learning environment itself consists of three pillars, namely student involvement, learning environment, and learning atmosphere (climate) that supports students' creative skills (Richardson & Mishra, 2018)

There are many supporting factors that contribute to the academic performance of students, one of which is the role of educators (teachers) which is a very important supporting factor in order to achieve 21<sup>st</sup>-century skills in schools. (Hernawati S, 2017). Character education that is instilled in students cannot be separated from the role of the teacher. Like any concept of education, no matter how sophisticated digital technology is, the role of the teacher is still the central point. To improve the skills of students, the role of the teacher shifts from the pattern of previously imparting knowledge to being a mentor, directing the discussion process in class and measuring the extent to which students' learning progress at school. Teachers are role models for students to improve their skills in dealing with challenges and uncertainties in the 21st century.

Research on 21<sup>st</sup>-century skills which include knowledge and technology literacy skills, critical thinking skills in solving problems, entrepreneurship and innovation skills, having social responsibility and leadership skills as well as career awareness is shown in the following graph:

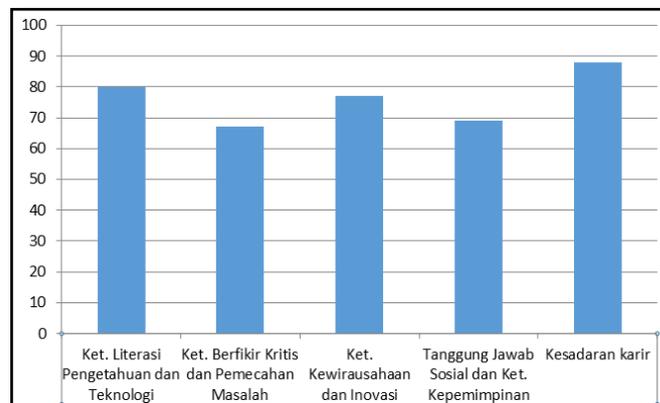


Diagram 1. 21st Century Skills Data on Students SMA Negeri 1 Sungai Tebelian

Results the assessment of 21<sup>st</sup>-century skills in this study refers to 5 indicators, namely knowledge and technology literacy skills in students, namely 79.56, students mastering critical thinking and problem-solving skills with a score of 78.76, entrepreneurial and innovation skills with a score of 77.21, social responsibility and leadership skills with a score of 69.29, and career awareness with a score of 87.89. so the 21<sup>st</sup>-century skills assessment score for the students of SMA Negeri 1 Sungai Tebelian is in the "Good" category with a total score of 80.34. Mastery of 21<sup>st</sup>-century skills is expected to be able to make students adapt to existing changes. (Yulianda Putri Rahmawati & Mohammad Salehudin, 2021).

## Conclusion

Based on the results of the study and the discussion that was adapted to the reference item, the research indicators can be seen in the results of the questionnaire showing the 21<sup>st</sup>-century skills of SMA Negeri 1 Sungai Tebelian students with an average of 80.34, thus showing the skills of students at SMA Negeri 1 Sungai Tebelian "good". In the process of learning activities in schools, 21<sup>st</sup>-century skills are very important. Students who become the center and teachers as facilitators and motivators in developing these skills can work together to maximize the learning process optimally.

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