

CREATIVITY AND INNOVATION TO COMPETE IN THE CENTURY 21

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Abstract: Competition for a decent life depends on the creativity and ability to innovate. This condition is caused by countries that have superior human resources will be more advanced than in countries with a lot of natural resources but is not reliable. In the future we will face some challenges that require changes in traditional educational paradigm that has been applied by teachers in Indonesia. To that end, students should be accustomed to searching for information themselves, able to identify and formulate problems, able to work effectively in groups and build networks, as well as high creativity dimiliki. In order for creativity and innovation with the optimal form then students must be equipped with the knowledge, attitude and skills are adequate to face the challenges of today and in the future.

Keywords: *Creativity, Century 21*

1. Introduction

Education and learning is one of the areas that can not escape the impact of information and communication technology. Almost all components of the education system and learning is influenced by the development of information and communication technology, whether it is a component of interest, material or content, learning resources, strategies, and evaluation components. All of that, obviously will have an impact on how the learning process and learning experienced by learners. That is, the process of teaching and learning for students in the 21st century must consider a variety of changes and developments.

Teachers should carry out teaching in accordance with the demands of time so that the process of learning experienced by learners in accordance with the times. We can not carry out the learning for learners us today, as we experience when we follow the learning process 10 or 20 years ago, because of the demands of a very different era. It has to be reminded by Ali bin Abi Tholib RA 15 centuries ago, and also by John Dewey. Ali bin Abi Tholib RA stated "Educate your child according to his time because he lives in a different era with jamanmu", while John Dewey warned "If we teach today's students as we taught yesterday's, we rob them of tomorrow". Wise words above requires us to know exactly what is really required on our students in the future,

An important educational role in building the civilization of a nation based on the identity and character of the nation. Education should be able to prepare golden generation to face these challenges. Students need to be successful in the context of the 21st century is the skill and knowledge (skills of the 21st century). The role of teachers in education is very important, reciprocation of a country in the hands of teachers. In preparing for the golden generation of Indonesia resilient, creative, innovative, intelligent and certainly needed a qualified teacher with the "competence of the future".

The government's efforts to prepare golden generation with the development of the field of education, including by perfecting the curriculum and improving the professionalism of teachers. Completion of the curriculum in 2006 menjadi perubahan curriculum in 2013 has consequences for national education standards graduation standards, content standards, standardized processes, and assessment standards. In the standard process that the government is necessary to apply research-based learning (discovery / inquiry learning), and based on problem solving (project based learning).

In the 21st century, the role of education is becoming increasingly important in preparing the next generation who have the skills to learn and innovate, skills in using technology and media information, and be able to work, and survive by using skills for life (life skills). Therefore, educators need to understand how to educate in the 21st century to be able to equip 21st century skills to students, but the question is how the teacher's role in the birth of the golden generation of creativity and innovation for competition in the 21st century ?. The response of each person in the subject matter varies. Some people take seriously, some people respond to mediocre, and some will not respond. The lack of response in the final group does not necessarily indicate lack of concern.

2. Method

The method used in this article is the research library (library research), a series of studies relating to the method of data collection library, or research object of research explored through a variety of information literature (books, encyclopedias, journals, newspapers, magazines, and documents). The research literature or review of the literature (literature review, literature research) is a research that examines or critically review the knowledge, ideas, or findings contained in the body of academic-oriented literature (academic-oriented literature).

The data used in this research is secondary data. Secondary data is data obtained not from direct observation. However, the data obtained from the research that has been done by previous researchers. Secondary data sources are referred to in the form of books and scientific reports on the primary or original contained in the article or journal.

3. Discussion

Teacher creativity

Understanding Creativity Teachers According to Baron (M. Ali, 2006) creativity is the ability to create something new. Something new here is not meant to be entirely new, but it can also be a combination of elements that have been there before. The teaching profession as a custom job fields are required to have a commitment to improve the quality of education. Therefore, the value of excellence that must be held by teachers is creativity.

There are several factors driving and inhibiting creativity, namely:

- 1) factor plunger
 - a. Sensitivity in viewing environment;
 - b. Freedom in the viewing environment / act;
 - c. Strong commitment to grow and succeed;
 - d. Optimistic and dare to take risks, including the risk of the worst;
 - e. Perseverance to practice;
 - f. Deal with the problem as a challenge;
 - g. A conducive environment, not rigid and authoritarian.
- 2) inhibitors of Creativity
 - a. Lazy to think, act, effort, and to do something;
 - b. Implusif;
 - c. Underestimate the work of others;
 - d. Easily discouraged, get bored quickly, do not stand the test;
 - e. Quick satisfied;
 - f. Did not dare to bear the risk;
 - g. Not confident;
 - h. Undisciplined;
 - i. Not disqualified.

So is the ability to express their creativity and realize the potential power thought to produce something new and unique or the ability to combine something that already exists into something else to make it more attractive. Creativity can also be defined as the ability to create a new product, or the ability to provide new ideas and apply them in problem solving. Teachers must race in learning by facilitating learning for all learners, in order to develop potential optimally.

Learning is a complex process and involves various aspects are interrelated. By because it is, "to create a creative learning and fun, the necessary skills. Among them is the skill of learning or teaching skills "(Mulyasa, 2009). In order to create a creative learning, professional and fun, the needed skills that must be owned and controlled by the teacher, relates to Turney (E Mulyasa, 2009) says that there are 8 teaching skills were very instrumental and determine the quality of learning, namely questioning skills, giving strengthening, holding variation, explained, opening and closing the lesson, to guide small group discussions, manage classes and teaching small groups and individuals. Hold variations referred to above, namely the variation in learning activities such as the use of methods and instructional media. Thus, (Ngainun 2011) is actually "creativity is a skill, which means that anyone who intends to be creative and he wants to do the exercises correctly, then it will be creative". Creativity is marked by the presence of "activities to create something that was not there and was not made by a person or their tendency to create something". So, In the process of learning, a teacher must be creative in order to always create a fun learning environment so that students do not feel tired and have difficulty learning. Thus, management of the learning process is well supported by the creativity of the teacher will be able to achieve the desired goal.

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The use of the term abad21 skills, because the term is more commonly used in various parts of the world. Many educators that defines the 21st century skills as skills "high-level thinking," deeper learning outcomes, "and" communication skills ". Saavedra and Opfer (in Mahanal, 2017) defines the 21st century skills into the following four categories: (1) a way of thinking: creativity and innovation, critical thinking, problem solving, decision making, and learning how to learn (or metacognition), (2) how to work: communication and cooperation within the group, (3) the tools to work: general knowledge of literacy and information communication technology (ICT), (4) life as citizens: citizenship, life and career, and personal and social responsibility, including cultural awareness and competency. Wagner (in Mahanal, 2017) proposed that students equipped with seven skills to survive in the 21st century as follows: (1) critical thinking and problem solving, (2) collaboration and leadership, (3) the agility and adaptability, (4) initiative and entrepreneurship, (5) effective communication both oral and written, (6) to access and analyze information, (7) the curiosity and imagination. Most experts emphasize 21st century skills in the mastery of technology, attitudes and values. (5) effective communication both oral and written, (6) to access and analyze information, (7) the curiosity and imagination. Most experts emphasize 21st century skills in the mastery of technology, attitudes and values. (5) effective communication both oral and written, (6) to access and analyze information, (7) the curiosity and imagination. Most experts emphasize 21st century skills in the mastery of technology, attitudes and values.

Learning 21st century skills should be centered to learner, team collaboration, and learning related to everyday life context learners (Mayasari, 2016). The 21st century is characterized as the century of openness or the age of globalization, means human life in the 21st century experienced fundamental changes that are different order of life in the previous century. It said the 21st century is the century of the requested quality in all the effort and the work of man. By itself the 21st Century asks qualified human resources, generated by institutions that are professionally managed so fruitful seed (Wijaya, 2016).

21st Century Learning

In 2013 expected to be implemented curriculum learning 21st century It is to address the demands of an increasingly competitive era. The 21st century learning reflect four issues:

1) Communication

In this character, the students are required to understand, manage, and create effective communication in various forms and contents of oral, written, and multimedia. Learners are given the opportunity to use his ability to express his ideas, be it when discussing with friends or when solving the problem of educators. The 21st century is a digital age. Communication is done crossing the boundaries of countries, using increasingly sophisticated technological devices. Internet help humans communicate. We have so many social media are used as a means to communicate. Through its smartphones, in seconds, people can easily connect to the world.

In Big Indonesian Dictionary, the definition of communication is the sending and receiving of messages or news of two or more people so that the message is meant to be understood. While Wikipedia stated that communication is "a process by which a person or persons, groups, organizations, and communities create and use information in order to connect with the environment and other people".

Communication is inseparable from the interaction between the two parties. Communication requires art, should know with whom to communicate, when the time is right to communicate, and how to communicate well. Communication can be done either orally, in writing, or through symbols that are understood by the parties communicate. Communication is done in an environment that is diverse, ranging in homes, schools, and communities. Communication can be a means to further these relations between people, but instead could be a source of problems when miscommunication or lack of communication is going well. Mastery of the language is very important in communication. Communication that goes well not be separated from their command of the language between the communicator and the communicant. The learning activities are strategic means to train and improve communication skills, good communication between students and teachers, as well as communication amongst students. When students respond to teacher's explanation, ask questions, answer questions, or express an opinion, it is a communication.

2) Collaboration

In this character, the students demonstrated in group cooperation and leadership, to adapt in a variety of roles and responsibilities, work productively with others, put empathy in place, respect for different perspectives. Learners also run personal responsibility and flexibility of personal, workplace, and public relations, setting and achieving high standards and goals for yourself and others, tolerate ambiguity. Learning in groups, cooperative trains students to collaborate and cooperate. It is also to instill the ability to socialize and to control the ego and emotion. Thus, through the collaboration will create a togetherness, a sense of belonging, responsibility, and concern among members.

Success is not only meant as a successful individual, but also succeed together, because basically humans as well as an individual, as well as social creatures. Today many people are intellectually smart, but less able to work in teams, are less able to control their emotions, and have a high ego. This will certainly impede the path to success, because according to a Harvard University study, a person's success is determined by the 20% hard skills and 80% soft skill. Collaboration is a picture of someone who has a mature soft skills.

3) Critical Thinking and Problem Solving

In this character, learners strive to provide plausible reasoning in understanding and making complex choices, understanding the interconnections among systems. Learners also use its capabilities to try to resolve the problems faced by independent, learners also have the ability to compose and reveal, analyze, and solve problems. The learning activities are designed to achieve this goal through the application of scientific approach (5M), problem-based learning, problem solving, and project-based learning.

Teachers do not feel uncomfortable or annoyed when students are critical, a lot to ask, and often issued opinions. This is as a form of curiosity is high. Things need to be a teacher is to give freely and be accountable to each student to ask questions and express opinions. Teachers encourage students to summarize and make a reflection together. Questions on HOTS level and open answers also as a form to accommodate students' critical thinking skills.

4) Creativity and Innovation

In this character, learners have the ability to develop, implement, and communicate new ideas to others, to be open and responsive to new and different perspectives. Teachers need to open up opportunities for students to develop their creativity. Develop a culture of appreciation for any small role or achievement. It aims to motivate students to continue to improve his performance. Of course we remember with Pak Tino Sidin, which fills events draw or paint in TVRI many years ago. He always said "good" against any condition of the work of his students. It needs to be emulated by today's teachers to make students feel valued. The role of teachers as facilitators and guide each student in learning, because basically every student is unique. This is consistent with that presented by Howard Gardner that human beings have multiple intelligences. There are eight types of multiple intelligences, namely; (1) The intelligence of mathematical logic, (2) intelligence language, (3) musical intelligence, (4) intelligence kinesthetic, (5) intelligence visual-spatial, (6) intrapersonal intelligence, (7) interpersonal, and (8) naturalist intelligence.

How Teacher Feature 21st Century?

According Ragwan Alaydrus, there are at least 7 Characteristics S.Psi 21st Century Teacher

- 1) Life-long learner. Lifelong learners. Teachers need to upgrade keeps his knowledge by reading and discussing with other teachers or ask the experts. It is never satisfied with existing knowledge, because the times keep changing, and teachers are required up to date in order to assist students based on their needs.
- 2) Creative and innovative. Students are creative birth of teachers who are creative and innovative. Teachers expected to be able take advantage of the variation of learning resources to develop activities in the classroom.
- 3) Optimizing technology. One characteristic of the 21st century learning model is a blended learning, a combination of face to face traditional methods and the use of digital and online media. On learning of the 21st century, technology is not something that is additional, even mandatory.
- 4) Reflective. Reflective teacher is a teacher who is able to use the assessment of learning outcomes to improve the quality of teaching. Reflective teachers taught him to know when less than optimal strategy for helping students achieve learning success. How many teachers are never sensitive even after teaching for many years that his approach is not suited to the student's learning style. Reflective teacher is able to correct his approach to suit the needs of students, rather than continue to blame the student's ability to absorb the learning
- 5) Collaborative. It is one of the unique learning 21st century teacher can collaborate with students in learning. There is always a mutual respect and warmth so that learning will be more fun. In addition, teachers also establish collaboration with parents through active communication in monitoring the development of children.
- 6) Applying student centered. It is one of the keys in the contemporary classroom learning. In this case, students have an active role in learning so that teachers could act as a facilitator. Therefore, in the 21st century classroom lecture method is no longer popular to apply for more reliant on one-way communication between teachers and students.
- 7) Applying a differentiated approach. In applying this approach, the teacher will design classes based on students' learning styles. grouping of students in the classroom is also based on interests and abilities. In assessing teachers use formative assessments to assess students based on their performance on a regular basis (not only written tests). Not only that, teachers with students trying to organize a class to become a safe and supportive environment for learning.

4. Conclusion

The quality of the nation can be seen and determined by the quality of human resources. The quality of human resources is determined by the quality of the teachers who guide and teach science to the next generation. The role of teachers also determine the development of a child. Guru is authorized and responsible for the education of students, to prepare the next generation of gold Indonesia aspired. As good as any curriculum imposed, would not be achieved if it is not offset by an increase in the quality of teachers. Therefore, a teacher must have a personality, mastering learning materials and master the ways of teaching as the basis of competence. Learning implemented by applying the values to set an example (*ing ngarso sung tulodo*), build a whim (*ing madyo Mangun Karso*) and develop the creativity of learners in the learning process (*tut wuri Handayani*). Learning is not just meant the transfer of science alone, but comes with character.

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