ENGAGING CASE STUDIES IN THE LEARNING PROCESS: BUILDING THE 21ST CENTURY LEARNING

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CASE BASE STUDY IN THE LEARNING PROCESS

Case studies is a learning concept that emphasizes students as learning centres. Active students explore their knowledge independently with educators as facilitators. This learning concept is to provide a contextual problem to students' lives, where students actively solve these problems (Angelo & Boehrer, 2002). According to Daly (2002), case studies can effectively bridge the gap between theory and practice.

Case studies emphasizes students being active in solving cases (presented in the form of contextual problems). These cases can be settled through investigative activities (research) and the evaluation of various data sources. In case studies, students must have good time management skills and team collaboration (if cases are solved collaboratively). According to the case investigation, efforts in the learning process can bring students closer to real-life situations and train them in managerial skills such as holding meetings, negotiating contracts, and giving presentations. The cases presented in the learning process are contextual, must be substantive about the concepts/material being studied, and are complex to train students to perform analysis and various interpretations.

In case studies, several principles must be carried out, including:

Case studies involves students as learning actors; extracting facts from a given case is carried out with the principle of learning by doing.

The learning process brings students to grapple with problems that are close to real life but still pay attention to the substance of the material being studied and the learning objectives that have been planned.

The cases given are as much as possible to attract students' interest in learning. Usually, this effort is carried out by providing issues which cause cognitive conflict to students.

Case studies is more inductive. Students learn through exploring cases to find knowledge (related to the material being studied), and educators are prohibited from conveying their views regarding ability/concepts at the beginning of learning to students.

Case studies is divided into six stages. These stages are carried out to facilitate students to have essential skills in the 21st century. In addition, the main goal is mastery of the material being studied. Detailed learning stages can be seen in Figure 1.

Figure 1. Developed Learning Stages

The explanation of the learning stages is as follows.

The stage of identifying the cases presented. Students are identifying the issues. Identification is made by marking the problem points given to formulating the problem.

The stage of conducting a literature study related to the case, students completing a literature study to understand the basic concepts related to the issue being investigated. At this stage, literature studies are guided by worksheets made by lecturers.

The stage of making a roadmap for solving cases, students create a roadmap in the form of steps of solving issues. The settings must be systematic and planned to achieve a settlement of the case.

The case completion stage with the road map that has been made, students take action according to the case settlement road map that has been made. Case investigation efforts can be carried out at this stage through critical analysis using literature studies, field observations, expert interviews, and experimental activities.

The stage of making a report on the results, students reporting in writing the results of solving cases. Results reports are made based on worksheets made by lecturers. Worksheets made by lecturers still provide an element of freedom to students in the systematics of their preparation.

The results report presentation stage, in which students verbally present the reports made in the previous step. At this stage, discussions were held with all groups and confirmation and reflection on case settlement activities.

An appropriate method is needed to operationalise these stages so that case study-based learning can be carried out. These methods can support the achievement of the competencies required for the 21st century. Some of these methods include the following.

Discussion Method

Discussion is a classic method that has been used since ancient times. This method is one method that can be used in case-based learning. Discussion

activities can be carried out at all learning stages, whether by small groups to investigate cases or presentations in front of the class with other groups to discuss the results of case investigations by each small group.

Debate Method

Debates used to be commonplace in the education system, especially for the education of lawyers, judges and prosecutors. The debate method is very suitable to be presented in case-based learning, especially for cases that can lead to various kinds of solutions or even issues that can lead to two or more conflicting views. This debate method can be carried out from the beginning of learning, where we determine the pros and cons of groups first. We present the problem and then identify the pros and cons. Then, the debate can be carried out during the sixth learning stage, namely, the presentation.

Public Hearings

Public hearings are a forum that allows people with different views to speak and express their opinions. In case study-based learning, this method has the added benefit of facilitating students to be in real-world events. In this hearing, some students were asked to become panellists of the audience activities, some to become presenters, and others to become audience participants who could convey the results of tracing their cases. The case investigation process can be carried out individually or in small groups in this hearing activity. In this method, educators act as facilitators. They provide conclusions and recommendations, as well as direct the process of the initial hearings.

Scientific Investigation Method

The case method usually begins with problem identification, leading to problem questions to be investigated. Most case study learning is carried out through scientific inquiry through research studies in the learning process. Learners are facilitated to practice like a scientist to solve a problem made in a natural (contextual) case related to the material being studied. Usually, this method is carried out in a hypothetical-deductive version, in which students are asked to ask questions, make hypotheses, make predictions, test predictions with observations and experiments to collect data, compare results with predictions, create evaluations, and draw conclusions. Cases caused by educators involving scientific steps will be precious for students. The more students do the scientific process in case investigation efforts, the more likely they appreciate what scientists do. In the following discussion, the author describes an example of case-based learning that focuses on scientific investigation (research) activities.

THE PRINCIPLE OF 21st CENTURY LEARNING

In the 21st century, changes are happening so massively and quickly, especially regarding information technology. Access and information are effortless to reach the global community. Technological developments that occur force people to be able to adapt to work and study (Siemens, 2005). It is because today is the global era, where people move quickly in a world that is more integrated and interconnected

The rapid technological developments that allow humans to be connected prove that humans have faced the industrial revolution 4.0. This development, unconsciously, has changed various things in human life, including education. According to predictions, changes will continue at a rapid pace.

In this era, everything can be replaced by IT-based technological innovations. So it must be ensured that in the educational process, educators must be able to

equip students with the skills and competencies needed for them to be able to live in the global era of this century. Therefore, educational practice must also follow these developments and changes.

Learning in the 21st century does not only focus on mastering subject matter content alone but must be able to have an additional impact on students as the achievement of learning objectives outside of content mastery. Another result, students become masters of the subject or the content of the lesson. These additional impacts are in the form of skills or skills that can make students capable of living in the 21st century. These other impacts are called 21st-century skills. Therefore, whatever subject is taught, educators must be able to design student learning activities to facilitate them to achieve this (21st-century skills).

Learning activities designed by educators in the 21st-century learning process must directly facilitate students to have the skills needed to live in the 21st century. So that learning in the 21st-century era, students carry out active learning activities that emphasize the principles of student centre learning where educators act as facilitators so that students succeed in the learning process by having the competencies needed by students to be able to live in the 21st century. In 21st-century learning, the learning process needs to be organized to carry out with the principles of student-centred learning, not teacher-centred learning. Educators in the 21st century must be able to operate as facilitators who can guide the teaching and learning process. It is because the main focus in 21st-century learning is to encourage students to learn while doing (learning by doing).

Based on this, some of the main principles of 21st-century learning are learning that is carried out more student-centred (student centre learning), collaborative learning, and learning that is contextual and integrated with society (integrated society) (Ahonen & Kinnunen, 2015). Contextual and integrated learning in the community is critical because it can train students in a natural environment and by the conditions. So to be able to facilitate students in achieving 21st-century skills, the learning process must be by the values that deserve to be developed in the 21st century. In addition, information and communication technology (ICT) is very closely related in the context of 21st-century learning. Information and communication technology support a student-centred learning environment in the 21st century (Sarkar, 2012). In the 21st century, learning prioritizes integrating technology to achieve the expected competencies (Boholano, 2017).

THE SKILLS NEEDED ON 21st CENTURY LEARNING

In 21st-century learning, educators and students must have several skills to succeed in the 21st-century educational environment. To acquire these skills, educators need to use an innovative learning model that can facilitate students to achieve these skills. The learning process must involve students in collaborative activities, communication, and critical, solutive, and creative thinking. These activities are vital for students because they can encourage them to achieve the abilities needed to be applied in their lives.

According to (Binkley, Erstad, Herman, Ripley, et al., 2012), there are ten main components in 21st-century skills. The ten skills are then grouped into four important parts. The four sections are:

Way of thinking

The first group of 21st-century skills are thinking skills. These skills can build concepts for higher-order thinking. Higher-order thinking is emphasized in the way of thinking to make it easier to remember a concept and draw conclusions.

According to (Binkley et al., 2014), ways of thinking consist of three skills, including the following: (1) Creativity and innovation. (2) Critical thinking, problem-solving, and decision-making (decision-making). (3) Learning to learn and metacognition (learning to understand and metacognition).

Creativity is an activity carried out to find a solution to a condition that comes from one's thinking and is not common, and the results are precise and have benefits. Creativity has different from innovation. Innovative is a person's ability to use the mind and resources in the surrounding environment to create a new work that comes from his thoughts and benefits himself or others.

Critical thinking is an intellectual process that involves activities and skills in conceptual aspects, analyzing, synthesizing, applying and evaluating information obtained from experience, reasoning, observation, communication, and reflection as problem-solving and decision-making. Meanwhile, cognitive knowledge based on awareness of one's knowledge abilities and being able to solve problems by determining a strategy, as well as knowing the basis (reasons) for choosing that strategy, is the understanding of metacognitive knowledge (Anderson & Krathwohl, 2001).

Way of working

Ways of Working are skills that are carried out by working in teams and interacting socially to work. Communication and collaboration are components of work skills (Binkley, Erstad, Herman, Raizen, et al., 2012). Communication skills are the skills to convey something using suitable language, politely adapted to local cultural conditions and easily understood by others. Meanwhile, collaboration skills include interaction, time management, leadership, guiding, and task management skills in a team, which are more directed at teamwork skills.

Tool of work

Tools for work are new skills to help think, solve complex problems, look for logical reasons, and look for issues and skills using various latest technologies and media concerning information, media, and ICT literacy (Griffin & Care, 2014). Information literacy and ICT literacy are specific skills that build tools of work.

Information literacy is done to seek information, such as skills in obtaining and evaluating information, utilizing the latest technology, and using and managing data. ICT literacy is acquiring and evaluating ICT, studying media, producing media products, and applying technology positively and effectively.

Living in the world

Life skills are individual abilities and skills to work effectively with diverse teams, set and achieve goals, think openly about different values and ideas, effectively manage projects, demonstrate good ethics, be responsible for the results obtained and oneself and society to work and live in the 21st century (Grifin, P. et al., 2014). Living in the world includes skills to live as citizens in a local and global scope, social life, career skills and responsibility both individually and in society. Based on KSAVE (domain knowledge, skills, attitudes, values and ethics), some things need to be considered in integrating 21st-century skills (Binkley, Erstad, Herman, Raizen, et al., 2012).

THE RELEVANCE OF CASE BASED STUDY TO 21ST-CENTURY LEARNING

It is undeniable that life today is very different from life 20 years ago. Changes occur so massively and complexly along with technological developments. The

problems students face today are different from what they used to meet. There are so many skills needed by students to be able to deal with these problems. In addition, in the current era, students are so thick with the nuances of technology. Learners, like it or not, must have good technical skills.

The technology that exists today must be utilized by educators so that it can be in line with the primary goals of learning. In 21st-century learning, it is hoped that the use of technology will be carried out in the framework of mastering material content and academic skills. Educators must be able to take on this role.

Learning in the 21st century focuses on efforts to achieve the important skills needed in the 21st century, as explained in the previous section. In an attempt to gain these skills, the learning process must facilitate students to practice performing skills through the stages of learning. In 21st-century learning, besides knowledge as the primary goal, educators must equip students with the skills needed to live in the 21st century. Efforts to acquire these skills are carried out in tandem with attaining knowledge. In addition to cultivating these skills, the learning process must also foster self-confidence in students to practice these skills.

Case-based learning can take on a role in 21st-century learning. In case-based learning, the goal is to develop skills in analyzing and making decisions. It is one of the characteristics of equipping students with 21st-century skills. Case-based learning facilitates students to be critical in conducting investigations so they can practice higher-order thinking skills. In the context of the 21st century, higher-order thinking skills are important achievements that students must master. In addition, in their investigation efforts, students work cooperatively/collaboratively in the final discussion and the process of solving the case in small groups. These activities are important activities that students must carry out to achieve the skills needed to live competently in the 21st century.

Some research results support the claim that case-based learning is relevant to 21st-century learning schemes. Some research results state that cases brought into the learning process make learning relevant and meaningful for students through the active participation of students in analyzing, discussing, and solving real problems (issues) in a particular field (Bonney, 2015; Carlson & Schodt, 1995; Kim et al., 2006). In addition, case-based learning also shifts the focus of learning from memorizing facts and applying concepts, theories, and techniques to solving a practical, real-world problem (Erskine et al., 1998). In this case, the effective use of issues requires students to develop and use critical thinking skills and apply them to problem-solving approaches to analyze situations and recommend a more realistic solution to achieve better knowledge. Educators act as tutors, guides, coaches, or facilitators.

Regarding technology, in case-based learning, students can use technology. Technology is one of the characteristics of 21st-century learning. Students can carry out efforts to investigate cases or search for information/references by involving technology. Therefore, by getting used to it, the ability to use technology and update knowledge is possible through case-based learning.

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