The Implementation of Case-based Learning Model in the Classroom: A Systematic Review

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Abstract

This research aimed to see how the implementation of case-based learning model in the classroom using systematic review method. Based on the analysis of 10 journal articles on the implementation of case-based learning model in the classroom, it can be seen that the highest level of implementation is to measure student learning outcomes and students' critical thinking skills. While the least level of implementation of the case-based learning model in the classroom is to measure science generic skills, learning activities, mathematical reasoning ability, and student learning motivation. Therefore, it can be concluded that the implementation of the case-based learning model in the classroom has a good influence on improving students' 21st century abilities and or skills.

Keywords: Case-Based Learning Model, 21st Century Skills, Systematic Review

INTRODUCTION

The era of society 5.0 is an era where all human life is oriented towards science and technology, the occurrence of developments in the fields of science and technology can give birth to various new challenges for today's younger generation (Rohmawati et al, 2021). One of the efforts that can be made in facing various challenges today is by improving the quality of the nation so that it can still compete in globalization. Improving the quality of a nation is largely determined by the Human Resources (HR) produced. The quality of human resources itself depends on the quality of education and the role of education to create smart and qualified students. Therefore, the components of the national education system must be developed in accordance with the needs and developments that occur (Lestari, 2018).

One of the crucial components in education is the teacher. Teachers as roll models and important elements in education have a great influence on achieving optimal learning goals. Teachers play an important role in ongoing learning, especially learning in the classroom. Therefore, a teacher is required to master various skills, especially 21st century skills that are needed when learning. One of the teacher's skills during learning is that the teacher is able to provide varied and innovative models, methods, media, and learning materials and can prepare and implement creative, attractive and fun learning so that it can facilitate students in learning (Kusumawati et al, 2019).

The use of methods and models that tend to be monotonous will be considered boring by students so that it can cause laziness in learning. Therefore, an educator (teacher) must be able

to choose and apply a learning model that is in accordance with current developments. The learning model that is suitable for use today is a learning model that can stimulate students' 21st century skills, including skills in higher-level thinking, creative, communicative, and collaborative in learning activities and problem solving in real life (Wati & Sunarti, 2019).

According to Kusumawati, et al (2019) the case-based learning (CBL) can be utilized and applied to train and improve analysis skills and problem solving. This learning model is considered to be able to train analytical and problem-solving skills because in the learning process it uses real cases that are complex in everyday life, as well as a means to train and stimulate students' ability to analyze a problem and solve the problem itself (Mirdad, 2020).

There are several studies on the use of case-based learning (CBL) related to the improvement of various abilities and skills of students. One of the studies was conducted by Dharmayanti (2022) on the use of case-based learning (CBL) in improving students' critical thinking skills on geography learning concepts at SMAN 1 Kuta Utara. In the study, there was a significant effect of the use of case-based learning (CBL) on students' learning outcomes and it was proven that the use of case-based learning (CBL) can improve students' critical thinking skills so that the use of case-based learning (CBL) is considered more effective to improve students' learning outcomes and critical thinking skills than using conventional model.

Based on this description, this research was conducted to see how the implementation of the case-based learning (CBL) in the classroom. Data analysis was conducted thoroughly on previous studies related to the use of case-based learning (CBL) in learning.

METHOD

This research was conducted using the systematic review method or systematic literature review which will provide data output. In principle, the systematic review method is a research method used to summarize the results of primary research. The systematic review method will be very useful for synthesizing various relevant research results, so that the facts presented to policy makers become more comprehensive and balanced (Siswanto, 2010., Argaheni, 2020., Andriani, 2021).

Data or literature materials from various articles are used as a strong foundation in the content or discussion. Data searches were conducted using the platform on Google Scholar by including the keywords: "Case-based learning model in learning". The keywords entered in the search page are sourced from several questions that have been compiled by the author. The articles that appeared on the search page were then sorted so that there were no articles with the same title but in accordance with the variables to be studied. Furthermore, the articles will be sorted based on the inclusion and exclusion criteria that have been determined so as to obtain articles that are relevant to the needs of the discussion in writing.

After compiling a question list, determining keywords and filtering abstracts, the next step taken by the author in the preparation of this scientific paper is the analysis of journals or articles that have been selected based on the needs in writing and drawing conclusions (Siswanto, 2010). The following is a description of the research flow:

Quation List $\Rightarrow$ Keyword $\Rightarrow$ Filtering Abstracts

$\Downarrow$

Conclution $\Leftarrow$ Analizing
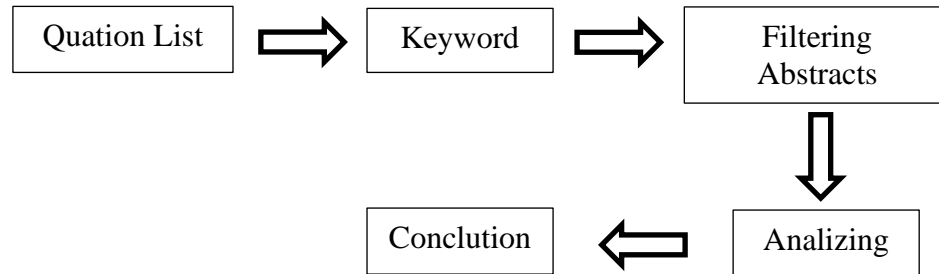
RESULTS AND DISCUSSION

This systematic review research used 10 articles in national journals through searching on the Google Scholar platform regarding the case-based learning (CBL) model in learning. The distribution of the 10 articles can be seen in the Table 1.

Table 1. Analysis Results of Case Based Learning (CBL) Model Implementation

No	Author	Year	Variable	Level	Mean pretest (control)	Mean posttest (control)	Mean pretest (experi-ment)	Mean posttest (experi-ment)
1	M.Irfan Taufan Asfar, A. M. Iqbal Akbar Asfar, Aspikal, Nurwijaya	2019	Concept understanding (which has an impact on students' mathematics learning outcomes).	Junior High School (VIII)	62,12	67,48	60,48	76,00
2	Citra Ayu Dewi & Abdul Hamid	2015	Science generic skills and students' concept understanding on petroleum materials.	Senior High School (X MIA)	-	Science generic skills 57.51 Concept understanding 57.09	-	Science generic skills 85.171 Concept understanding 76.40
3	Kamarudin	2023	Student learning activities and outcomes	Senior High School (X IPS)	-	Student activity in cycle I is sufficient, namely 65.2 and increased in cycle II is good, namely 83.03.	-	Student learning outcomes in reading the Qur'an in cycle I were 65.2 and increased in cycle II which was 83.03.

No	Author	Year	Variable	Level	Mean pretest (control)	Mean posttest (control)	Mean pretest (experiment)	Mean posttest (experiment)
4	Aisy Ghina Rihadatul & Hidayati Nani	2022	Critical thinking skill on reading comprehention	Senior High School (XI MIA)	57.89	72.22	64.17	75.11
5	Siti Nur Rohmah & Mukhayyarotin Niswati Rodliyatul Jauhariyah	2020	students' critical thinking skills	Senior High School (XI)	34.85	58.03	Experiment 1 33.68 Experiment 2 34.68	Experiment 1 82.76 Experiment 2 81.82
6	Novita Dwi Andini, Ellis Salsabila, Leny Dhianti Haeruman	2023	Students' mathematical reasoning ability	Senior High School (X IPS)	-	52.197	-	69. 857
7	Ni Putu Irma Dharmayanthi	2022	Critical Thinking Skills of students in geography learning	Senior High School (XI IPS)	-	61.27 after application of conventional model	-	74.89 after application of Case Base Learning model
8	Dedi Holden Simbolon	2022	Students' learning outcomes	S1	65.3	84.8	58.1	92.1
9	Wiwik Kusumawati, Novita Kurniasari, Zulfa Khusniyah	2019	Students' critical thinking tendencies	S1	84±7,23	Post test 1 85,58±8,37 Post test 2 87,79±7,43 Post test 3 88.89±6,97	87,57±5,99	Post test 1 90,81±7,76 Post test 2 93,24±8,88 Post test 3 94.43±9,39
10	Frengki Wospakrik, Sri Sundari, Lisa Musharyanti	2020	Students' motivation and learning outcomes	S1	Motivation 94.92 Learning outcomes 54.32	Motivation 96.00 Learning outcomes 62.58	Motivation 99.51 Learning outcomes 56.94	Motivation 113.35 Learning outcomes 77.92

Based on the data analyzed from 10 research articles with a range of years published 2019-2023, it can be seen that the implementation of the case-based learning (CBL) learning model in classroom learning can improve various abilities and skills of students at various levels of education. The results of data grouping on variables measured using the case-based learning (CBL) model found that the implementation of the case-based learning (CBL) model can

improve student learning outcomes, namely as many as four articles. The four articles were successively written by Asfar et al (2019), Kamarudin (2023), Simbolon (2022), and Wospadrik et al (2020).

Furthermore, there are two articles stating that the implementation of the case-based learning (CBL) model affects students' concept understanding in certain materials, including in mathematics learning materials also written by Asfar et al (2019) and understanding the concept of petroleum material written by Citra Ayu Dewi and Abdul Hamid (2020). In addition, the implementation of the case-based learning (CBL) model can also improve students' critical thinking skills, this is based on the results of four articles written by Aisy Ghina Rihadatul and Hidayati Nani (2022), Siti Nur Rohmah and Mukhayyarotin Niswati Rodliyatul Jauhariyah (2020), Ni Putu Irma Dharmayanthi (2022), Kusumawati et al (2019).

While the implementation of the case-based learning (CBL) model also affects science generic skills, learning activities, mathematical reasoning abilities, and student learning motivation, with each skill measurement only found in one different article. Among them are articles written by Citra Ayu Dewi and Abdul Hamid (2020), Kamarudin (2023), Andini et al (2023), and Wospadrik et al (2020).

Thus, the implementation of the case-based learning (CBL) model in classroom learning has a significant influence in improving various abilities and or skills of students. The most influence of the implementation of the case-based learning (CBL) model is on student learning outcomes and students' critical thinking skills in solving problems (cases). Whereas in this study, the implementation of case-based learning (CBL) model in classroom learning is less used to measure science generic skills, learning activities, mathematical reasoning ability, and student learning motivation.

CONCLUSION

On the results of the article analysis, this study concludes that the implementation of the case-based learning (CBL) model in classroom learning is able to increase students' 21st century abilities and/or skills and can increase student learning motivation so that students can be more active in participating in the learning activity process and can improve their learning outcomes.

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