



Hypothetical Step Analysis of Flipped Classroom-Cases Method (FC-CM) Learning to Realize Higher-Level Thinking Skills in PPkn/IPS Subjects in Rural Elementary Schools

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Abstract. This study aims to develop learning methods that can improve higher order thinking learning outcomes (HOTS) for rural elementary schools. Rural schools have not been massively touched by educational reforms, including learning oriented to high-level thinking. This study develops a new method, namely the flipped classroom-case method (FC-CM). This research uses library research method. Data analysis uses content analysis method. This study found 9 (nine) hypothetical steps in learning PPkn/IPS in rural elementary schools. The hypothetical steps of learning FC-CM consist of 1). Before class. The teacher delivers teaching materials one week before the learning process. 2). In the classroom. In the classroom there are seven steps, namely opening the lesson, giving an explanation about FC-CM, forming small groups, presenting cases, small group discussions solving cases, class discussion solving cases and reflection. In the discussion of solving cases in small groups, then followed by class discussions, encouraging students to think in an applicable, analytical, evaluating and creating. Solving a case by using applied thinking as well as creating, forcing rural elementary school students to think divergently according to their level of development. These two steps are also a place to practice and encourage students to think at a higher level or HOTS in learning. 3). Steps After class. Classes can be followed up with co-curricular or extra-curricular activities.

Keywords: FC-CM Method · Rural Elementary School · Thinking HOTS

1 Background

Education programs in Indonesia have been designed to support the formation of 21st century skills. The educational framework is called the Indonesian Partnership for 21st Century Skill Standards (IP-21CSS) [1]. The capabilities that must be developed in the framework are 4C's (Critical Thinking, Communication, Collaboration and Creativity and innovation), information technology literacy, strengthening character education (character building) and Higher Order Thinking Skills (Hots) [2].

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The success of the education program must be supported by the teacher's skills in operating creative and innovative learning models [3]. One of the learning models that can support IP-21CSS is the Flipped Classroom-Cased Method. The Flipped Classroom model is a learning designed to carry out home-based learning, and learning activities that are usually done at home can now be completed in class [4]. Meanwhile, according to Paristiwati et al., (2019) the Flipped Classroom model will be maximized if it is supported by contextual learning [5].

The development of learning innovation has not been fully proportional to the improvement and distribution of education quality in Indonesia. The results of the 2018 PISA survey showed 60%–70% of students were below the minimum proficiency standard in science, math, and reading. Gaps in the quality of education between regions also persist. According to Fitri's research, (2021) there are differences in the quality of education between rural and urban areas [6]. One of the reasons is the competence and creativity of teachers in implementing learning in rural areas. The limitations of infrastructure and access to information technology in rural areas make teachers lack of knowledge about the latest learning models [7].

Ideally, in the midst of the development of information technology, schools in rural areas are able to modernize learning by practicing the latest learning models to support the achievement of educational goals in the 21st century. However, based on observations and preliminary research conducted on February 14–16, 2022 at SD N 05 Alang Rambah, SDN 07 Tanjung Pondok, Basa Ampek District, Balai Tapan Pesisir Selatan. It can be seen that the learning carried out by the teacher only uses a teacher centered learning approach. For teachers in schools, learning models with a student centered learning approach have not been used because they think students can only be taught by means of lectures. This is what makes learning in elementary schools only provide lower order thinking skills [8].

This research is important to introduce and test the effectiveness of the flipped classroom model and the cased method. Similar studies have been carried out by previous researchers including (Fahmi et al., 2020; Garber, 2020; Tomas et al., 2019). However, research that specifically applies and tests the effectiveness of the flipped classroom model and the cased method in rural areas has not been carried out. This is what makes this research even more important [9–11].

2 Literature Review

This study assumes that the Flipped Classroom (FC)-Cased Method (CM) improves higher order thinking skills (HOTS) and active learning in elementary school students in rural areas. There is a lot of literature that reports on FC and CM separately but a combination of FC and CM has not been found. Nugraheni, Surjono and Aji (2022) reviewed 16 Flipped Classroom (FC) studies published between 2015–2020 from 11 countries including the USA, Hong Kong, Malaysia, Taiwan and Indonesia). Nugraheni, Surjono and Aji concluded that the FC method had a significant effect on improving the critical thinking skills (CT) of high school students and college students [12]. Debate and digest the material in depth in class. Jdaitawi (2019) in a study in Saudi Arabia also reported that FC significantly increases students' academic abilities because FC

increases self-regulated learning and self-connectedness in learning, thereby increasing students' academic mastery abilities [13].

Likewise the case method, a lot of research has been done and all of them conclude that the case method can improve students' academic abilities. Utkur, Rabapinar and Onder (2021) conducted a case method study to improve the professional skills of primary school teachers in Turkey. This study concludes that the case method improves the professional skills of primary school teachers in Turkey [14]. Jafar (2018) conducted a study by examining whether the case method could increase "civic engagement and critical voice" among high school students in Jakarta. Jafar concluded that the case method significantly increased student engagement and critical voice [15].

This research will combine Flipped Classroom (FC) and Case method (CM) to increase learning activity and achieve Higher Order Ranking Skills (HOTS). Nugraheni, et.al (2022), Jafar (2018) confirmed that FC learning includes three activities: before class, class and after class. Before class, students are given material in print or short videos to explore the teaching material before class. Then in class activities, students discuss, solve problems, analyze and interact with peers and teachers. FC creates an in-depth learning climate, meaningful and challenging learning for HOTS [12, 14]. Then to make teaching materials more challenging and interesting to learn, then the teaching materials that will be given in the activities before class are accompanied by real cases in society that are challenging to solve. Syafarina, Dewi and Amiyani did the case method in mathematics and the results were very significant in improving critical thinking [16].

Higher order thinking skill (HOTS) is a learning achievement from application to creativity at the level of Taxonomy Bloom (1956) and Bloom and Anderson & Krathwol (2002) [17] Pebriyeni, Muslim, Sumarni and Ananda (2021) explain that HOTS is a learning outcome that describes the achievement of high-level thinking starting from application, analysis, evaluation and creation which is described in detail by Taxonomy Bloom revision [18]. In this case, it is illustrated that learning outcomes are not just remembering or recalling, but a learner performs high-level operations in himself mentally and high-level thinking so as to produce something new whether it is a concept, finding or creating something. Pebriyeni et.al also explained that to achieve HOTS learning methods and climate must encourage students to be active and creative in thinking, discussing, dialogue between students and teachers, students with students and students with learning resources. Pebriyeni et.al concluded that the HOTS assessment cannot be separated from the HOTS learning process in the classroom.

Then Vygotsky & Edi (2013) discussed comprehensively the revision of Taxonomy Bloom by Krathwol [19]. He conducted a series of in-depth studies and found that the knowledge and synthesis aspects needed to be revised, because these two issues in the old edition were not comprehensive [19]. So he describes the revised Bloom's Taxonomy as follows (Table 1).

So this research refers to HOTS by using the revised Bloom's Taxonomy as a reference starting from Application to Creating. It is assumed that the Flipped Classroom-Case Method (FC-CM) is significantly correlated with active learning and HOTS learning outcomes in grade 5 elementary schools in rural areas.

Table 1. Comparison of Taxonomy Bloom Original and Revised

No.	Old Bloom's Taxonomy	Revised Bloom's Taxonomy
1.	Knowledge	Remember
2.	Comprehension	Comprehension
3.	Application	Application
4.	Analysis	Analysis
5.	Synthesis	Evaluation
6.	Evaluation	Create

Source: Darmawan & Sujoko 2013

2.1 Roadmap of Research

Research on the Effectiveness of the Flipped Classroom-Cased Method to Improve Active Learning and Higher-Level Thinking in PPKn/Social Studies Learning in Elementary Schools in Rural Areas is a follow-up study from various previous studies. The basis of this research is some previous research on values education models that researchers have done before. These studies include (Ananda & Indrawadi, 2015; Asrizal et al., 2018; Effendi et al., 2020; Suasti, 2019) [20–23]. This study wants to further develop and test the flipped Classroom – Case Method model as a value learning model whose effectiveness is tested in elementary schools in rural areas. In the future, it is hoped that the research carried out will produce a value learning model in civic education (Fig. 1). The roadmap for this research can be described in the following diagram:

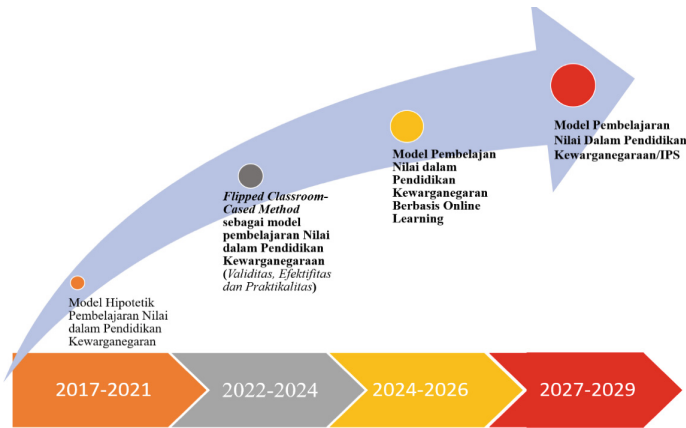


Fig. 1. Roadmap of Research

3 Methodology

The method used in this research is the library research method. According to Luo [7], the value of research in academic libraries is well-documented in the literature. Kaelan [8] in library research sometimes has descriptive and also has historical characteristics since a lot of this kind of research has a historical dimension, and so on. Therefore, library research will face data sources in the form of books that are very large in number so that they require adequate methods. For this reason, in library research, collecting books must be gradual; there will be difficulties if not so.

Data collection techniques, in this case the author will identify discourse from books, papers or articles, magazines, journals, web (internet), or other information related to the writing title to look for things or variables in the form of notes, transcripts, books, newspapers, magazines, etc. related to the study of increasing citizen literacy in the revolutionary era 4.0. Then the steps are as follows:

1. Collecting existing data through books, documents, internet magazines (web).
2. Analyze the data so that the researcher can conclude the problem being studied.

The data analysis technique used in this study is the data analysis introduced by the Miles and Huberman models with the following steps: data reduction (data reduction), data display and description of conclusions or verification the literacy needed by Indonesia citizens to regionally, nationally, and internationally live in the 21st century.

4 Findings and Discussion

The FC-CM method is also based on constructivist learning theory. In the 1970-1980s, a new paradigm in learning was born, namely the Constructivism Paradigm. This paradigm says learning is the process of forming knowledge within a person. Knowledge is in someone who knows something. Therefore, learning is an active process of constructing through active thinking, drafting concepts and giving meaning to what material is being studied. Teachers in constructivists only help how to make the efforts and processes of constructing within the students run well through the provision of an adequate environment. Nowadays, for example, teachers and schools must provide learning facilities including books, articles, models, internet connections, computers, laboratory equipment and others.

Vygotsky argues that learning is a process of building knowledge within a person and assisted by others [19]. Vygotsky is very well known for his theory of mental development called the Zone Proximal Development (ZPD). Vygotsky explained that ZPD is the area of a person's psychological domain that lies between the zone of actual development and the zone of potential. If the learning process brings someone to think, digest, find and seek meaning from the material being studied, then the knowledge construction process will occur. So the ZPD zone is a measure of the shallowness and depth of a learning process carried out by a teacher or lecturer. Constructivism focuses on four main components in learning, namely:

1. Students build their own knowledge so they don't just accept what is transferred to them.

2. Learning new things is very dependent on students' prior knowledge.
3. Learning will be greatly influenced by social interaction between students.
4. Authentic learning tasks will support meaningful learning.

Constructivism fundamentally changes the way we view learning and learning. As opposed to passive recipients of information, students become active meaning makers in constructing new knowledge. To facilitate this process the teacher must design learning situations in which students will be able to work with their friends on meaningful assignments. For this reason, it is necessary to design various teaching strategies based on the principles of constructivism. The following will discuss the constructivist perspective in viewing learning and learning and its application in the classroom.

The Flipped Classroom-Cased Method (FC-M) method was developed based on a literature review. There is a lot of literature that discusses the Flipped-Classroom method and the Cased-method separately. Based on these two methods, the FC-M method was developed with logical steps and according to learning principles.

The steps of the FC-CM method are divided into three stages and each stage also has several steps of activities. First, before class. One week before the implementation of the learning activities, the teaching materials are delivered to the students to be studied. This step is important to give students the opportunity to master the teaching material before class activities.

The second stage of activities in the classroom. There are seven activities in the class. First, the teacher opens the class this activity is very important. Second, carry out a pre-test. Third, explain the FC-M method. Third, form small groups of 4 or 5 people. Fourth, provide text that contains cases that will be solved through discussion. Fifth, small group discussion. Small group discussion is a very important activity in FC-CM. Sixth, class discussion. Seventh, class discussion.

The third stage is the after-class activity. At this stage the teacher plans co-curricular and extra-curricular activities to strengthen mastery of the material that has been studied (Table 2).

The steps of the FC-CM method which will be implemented in the classroom to achieve maximum results are shown as follows:

According literatures, among these steps that trigger students to achieve higher order thinking skills and high activities in the classroom process are small group discussion and reflection. In small group discussion members of the group must complete a task that have provide in teaching material. Students involved strong activities mentally and physically. Students ask question each other, write group report to solve problem had been given to them. Moreover, in reflection activities, students and teacher discuss the material being learned. Students asks some question to the teacher dan teacher answer the question. Teacher gives reinforcement to the student and to make sure some points that students still have problem in understanding the material.

Moreover, in line with that statement, a small private course (SPOC) support blended learning on a small scale, enabling students to have a more comprehensive and deeper learning experience, Zhang et al., 2019 [25]. The flipped learning was found to facilitate students to become active learners and participants, while teachers acted as instructors and promoters as well, He, 2017 [26]. The utilization of flipped classroom can help

Table 2. Steps of the FC-CM method

No	Learning Steps	Teacher Activities	Student Activities
Activities Before Class			
1.	Submission of teaching materials to students in the form of written material one week before the discussion of the material.	The teacher conveys teaching materials to students with clear instructions	Read, study and do assignments according to the instructions contained in the teaching materials.
Activities in Class			
Opening of Learning			
2.	Open learning as usual, pray, fill out the attendance list and others	The teacher opens the lesson.	Students listen to the teacher's instructions and ask if something is not clear.
3.	Carrying out the Pretest	The teacher does the Pretest	Students do the pretest questions well.
4.	Provide an explanation of the learning activities that will be carried out	The teacher explains the activities that will be carried out during the learning process	Students listen and ask if something is not understood
Learning Core Activities			
5.	Form small groups by dividing students into several groups of 4 or 5 people (group members must be varied, students learn fast, medium and slow)	Form a group	Divide yourself and sit into groups that have been formed by the teacher.
5.	Delivering cases that will be solved in learning that is relevant to the teaching material that has been given	The teacher distributes the text containing the cases and instructions what to do.	Students read the case and understand it well and ask the teacher if something is not clear.
6.	Small Group Discussion and question and answer in small groups.	The teacher asks students to solve the case by writing the solution to the problem on paper.	Students discuss in groups and before the discussion democratically chooses a group leader and secretary.

(continued)

Table 2. (continued)

No	Learning Steps	Teacher Activities	Student Activities
7.	Class discussion and question and answer between groups.	The teacher organizes class discussions and each group reads the case solutions made in groups	Delivering in front of the class the results of the group discussion and conducting a question and answer session with the group
8	Reflection	The teacher makes conclusions, strengthens and asks questions with students to strengthen the material.	Students pay attention and ask things they don't understand
9	Post Test	Doing Post Test	Answer all the questions in the post test well

Learning Closing Activities

After Class Activities (Follow Up).

(Can be in the form of co-curricular or extra-curricular activities to strengthen the use of teaching materials through various activities).

students internalize and transfer knowledge through affective interaction with teachers and peers in the classroom, thus reducing students' cognitive load, Ye et al., 2014 [27].

5 Conclusion

Based on the results of the literature review, learning in the 21st century must move from traditional rote learning to inquiry based learning. One form of inquiry learning, active and challenging, is through the flipped classroom-case method. This research was conducted in rural areas, which so far have received less attention from researchers who tend to take research locations in urban areas. So it can be assumed that the higher order thinking learning outcomes (HOTS) for rural elementary schools.

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