

RADEC LEARNING MODEL: PERCEPTION AND IMPLEMENTATION IN PROSPECTIVE PRIMARY SCHOOL TEACHERS

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Abstrak: Penelitian ini bertujuan untuk mengetahui persepsi mahasiswa calon guru sekolah dasar yang telah mengalami secara langsung penerapan model RADEC dalam pembelajaran. Pendekatan yang digunakan yakni kualitatif dengan metode studi kasus. Pengumpulan data dilakukan dengan cara wawancara terhadap lima orang responden yang diambil secara acak dari 39 mahasiswa. Kemudian, analisis data yang dilakukan yakni reduksi data, pemaparan data, menggambarkan dan memverifikasi kesimpulan. Lalu, verifikasi data dilakukan dengan cara peer debriefing. Berdasarkan persepsi serta implementasi yang dilakukan terhadap mahasiswa calon guru sekolah dasar, model RADEC merupakan model pembelajaran yang mampu membantu untuk meningkatkan pemahaman materi, kolaborasi, dan mendorong untuk meningkatkan kreatifitas melalui pembuatan sebuah karya. Kemudian, berdasarkan pengalaman yang telah dirasakan oleh mahasiswa, mereka memiliki keinginan untuk menerapkan model RADEC dalam memberikan pengajaran di sekolah dasar.

Kata-kata Kunci: Model RADEC; Persepsi; Implementasi.

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Abstract: This study aims to determine the perceptions of prospective elementary school teaching students who have directly experienced applying the RADEC model in learning. The approach used is qualitative with the case study method. Data collection was carried out by interviewing five respondents who were taken randomly from 39 students. Then, data analysis was carried out, namely data reduction, data presentation, describing, and verifying conclusions. Then, data verification is done through peer debriefing. Based on the perceptions and implementation carried out on prospective elementary school teacher students, the RADEC model is a learning model that can help improve understanding of the material, collaborate, and encourage creativity through doing work. Then, based on students' experiences, they desire to apply the RADEC model in teaching elementary schools.

Keywords: : RADEC Model; Perception; Implementation.

INTRODUCTION

Education in the 21st century is not just about transferring knowledge from teachers to students. (Davidovitch, 2013) In this

century, students are required to have 6C abilities, namely character, citizenship, critical thinking, creativity, collaboration, and communication (Nadiroh, Zulfa, & Yuliani, 2021).

So, learning in the classroom must also

transform in that direction. Teachers as the spearhead of student learning success in the classroom are required to be able to provide innovation and creativity in teaching, so that matters related to learning support must also be a concern. Learning planning in which contains objectives, content, strategies, and evaluation of learning must be designed in such a way that it is able to achieve the expected goals. The learning model is one thing that cannot be separated from the implementation of learning in the classroom.

Various learning models have been developed by experts, such as problem-based learning models, project-based learning models (N, Sunardi, W, & Gunarhadi, 2018) (2021) - 2021(Sujana & Sopandi, 2020) (Savery & Duffy, 1995) (Hanney & Savin-Baden, 2013), contextual learning models (Williams, 2017), and others. In Indonesia, there is one learning model initiated directly by experts who have expertise in the field of basic education, namely the RADEC model (Read, Answer, Discuss, Explain, Create) (Sopandi, et al., 2021).

The RADEC model has a different syntax from other models, where students are given initial knowledge through reading activities before carrying out other learning stages. The provision of this initial stage is very important so that students have the basis or provision to carry out the next stage of learning. Various studies on the RADEC model have also been conducted, such as the RADEC model is able to improve student learning outcomes on human respiratory system material (Sukmawati, Sopandi, & Sujana, 2020).

Then, the influence of the RADEC model on the learning outcomes of elementary school students with the theme of our friend's environment (Andini & Fitria, 2021). The approach to learning by teachers plays a role in improving critical thinking skills. Teachers need to use learning models that can stimulate students' critical thinking skills. Furthermore, (Pratama, Sopandi, & Hidayah, 2019) the RADEC learning model has a more positive effect on increased student HOTS in the Elementary Science Material Deepening course rather than the Inquiry learning model. Then, the (Agustin, Pratama, Sopandi, & Rosidah, 2021) RADEC learning model is able to bring out aspects of

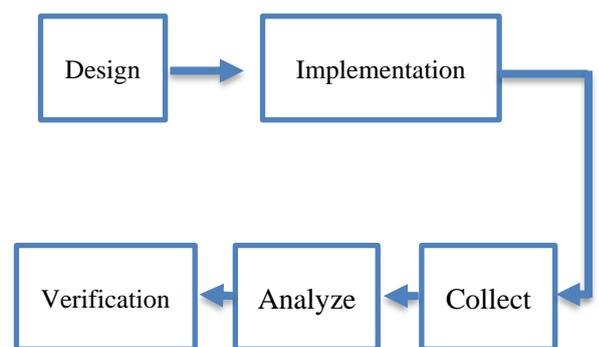
the character of elementary school students such as religious, nationalist, independent, and gotong-royong attitudes (Sukmawati, Sopandi, Sujana, & Muharam, 2021).

However, these studies only focus on students and are still very rarely carried out on prospective elementary school teacher students who will later teach in elementary schools, so this study will examine how the implementation and perception of the RADEC model in prospective elementary school teacher students. This is important to do so that it can be known how prospective elementary school teachers perceive this model, and it is hoped that through its implementation it will be able to provide new references / knowledge for prospective elementary school students related to the model that can be used when teaching in elementary schools.

This research involved five prospective elementary school teacher students at one of the universities in Sumedang City who had experienced firsthand learning using the RADEC model.

RESEARCH METHODS

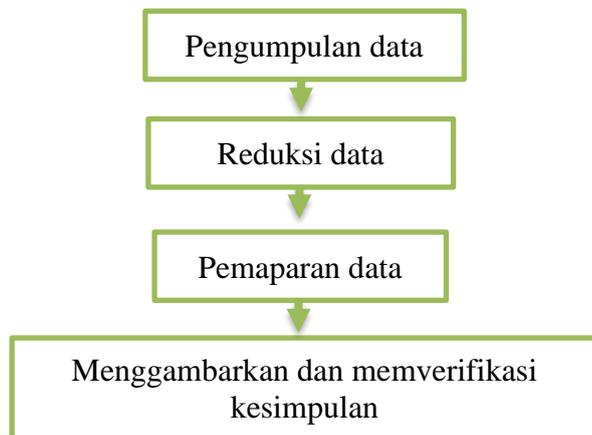
This research uses a qualitative approach using the case study method. Then, the research design used adopted from the Yin (2018) case study research design as follows:



Picture 1. Research Design

Based on Figure 1, the first step taken is to design a research design. Then, the next step is the implementation of the RADEC model carried out on prospective elementary school teacher students at one of the universities in Sumedang City. Then, data collection was carried out by interviewing five respondents randomly drawn from 39 students.

Then, the data analysis carried out is



data reduction, data exposure, describing and verifying conclusions with the following stages (Malik & Hamied, 2016):

Picture 2. Data Analysis

Based on Figure 2, the first step is data collection. Data collection is carried out by referring to the instrument used, namely the interview sheet. Furthermore, the reduction stage, this stage is carried out to select, classify or classify data, through this stage only the data needed to answer research questions will be selected. After the data is reduced, then the data is arranged systematically so that it is easy to understand, thus providing the possibility of generating conclusions.

The last step is to describe and verify conclusions, this stage aims to find the meaning of the data collected by looking for relationships, similarities, or differences to draw conclusions as answers to existing problems. Then, data verification is carried out by means of peer debriefing, where researchers explore the research design, data collection process, and data analysis with the parties involved, namely five respondents (Figg, Wenrick, Youker, Heilman, & Schneider, 2010).

RESULTS AND DISCUSSION

The RADEC learning model is one of the models that is expected to facilitate students to be able to develop critical thinking skills and produce something (work) from the results of their thoughts through collaboration. Based on the results of interviews with respondents, the following responses were given regarding the effectiveness and collaboration

capabilities built through the RADEC model:

"This model is effective in building student collaboration" (Respondent 1, 2022).

"With this learning model, the ability to understand the material and student collaboration can be established" (Respondent 2, 2022).

"Yes, because one of the syntax of the RADEC model is discuss, which is discussing with a group of friends" (Respondent 3, 2022).

"With the RADEC model, of course, I better understand the material taught because the syntax is very structured. In addition, it also builds collaboration skills between students through the process of discussing a correct, complete, and appropriate answer as well as in pouring creative ideas to produce interesting work which can then be expressed in the form of reports" (Respondent 4, 2022).

"Yes, because we are trained to collaborate from various answers and ideas into one" (Respondent 5, 2022).

Based on information from respondents, the RADEC model is considered effective and able to facilitate students to better understand the material learned and be able to develop collaboration skills, this is very important because collaboration is one of the abilities that must be possessed in the 21st century. (Siahaan, Dewi, & Suhendi, 2020)

The RADEC model has five stages in its implementation, namely Read, Answer, Discuss, Explain, and Create. Here are the views of respondents who have experienced firsthand the five stages:

Read

Before carrying out learning, students have been given Student Worksheets (MFIs) which contain several pre-learning questions. To answer these questions, students are given reading resources, and encouraged to look for other relevant reading sources. Here are their views on it:

"The benefit of reading reading resources before learning is to add literacy and insight of students about the topic of the material to be studied, so that students have knowledge of learning topics when coming to class, and by reading reading resources, able to make students understand and able to

discuss the material that each has understood. It helped me understand the learning. I came to understand what the concept of land is and all kinds of things about land before I came to class" (Respondent 1, 2022).

"The benefits of reading before starting learning make it easier for me to do MFI (Student Worksheets), because I have read and studied it first, by reading before starting learning makes me have material before learning takes place" (Respondent 2, 2022).

"By reading before lectures can add insight in the brain because my brain can be filled with the material to be learned so that it facilitates learning." (Respondent 3, 2022).

"The benefits felt from reading activities before starting learning are that it can improve critical thinking of existing problems, namely by answering questions, and can increase understanding of the material to be learned during learning, and can be used as a provision of knowledge when learning takes place in other words the brain is not too empty when learning because it is filled with understanding obtained from filling MFI activities (Student Worksheet) pre-learning questions. This method is a suitable way of understanding learning, because this way can provide conceptual understanding and can develop skills in answering questions." (Respondent 4, 2022).

"The benefit is that I feel that when working on the MFI (Student Worksheet) I have understood the material because I have read it first, because it has an idea of the material to be studied" (Respondent 5, 2022).

Habituation to reading before starting learning is very important, this will support the ability to form quality human resources in accordance with the development of modern society information (Garvanova & Eftimova, 2021).

Answer

After reading, students are asked to fill in pre-learning questions contained in the MFI (Student Worksheet). Here are their views on it:

"It helps to know things I don't know yet like examples about Subsoil, how to form soil, and how to maintain soil fertility. This activity helped me understand the content of

the reading. Every material must be read first and this activity makes me read and look for the main content of the reading I read." (Respondent 1, 2022).

"There are many things that I just know more deeply because reading, I know my level of understanding, to what extent I can understand the content of the reading and then remember it." (Respondent 2, 2022).

"The questions contained in the MFI (Student Worksheet) can add analytical power & insight and new knowledge because in these questions there are questions that require analysis, so we try to solve these problems, For example, by reading various references from journals, etc. so that I can find things that I don't know. In MFIs, there are questions that require accuracy in understanding the content of the reading. Thus, if there is a difficult question then we must read it with carefully to understand the content of the reading for the correct answer" (Respondent 3, 2022).

"With this activity I look for information or lessons about related material to fill in pre-learning questions. So, what I didn't know much about the material before, with this activity I became more aware and understood. With this activity, the ability to understand the content of the reading becomes more trained. Because this activity begins with reading first. The more you read, the more comprehension you read." (Respondent 4, 2022).

"In my opinion, by doing questions like that, we can better understand the material, because to be able to answer the questions we are required to read various sources, so that knowledge increases who initially did not know to know, because indirectly when filling in pre-learning we are invited to conclude our reading results" (Respondent 5, 2022).

Answering pre-learning questions is one step that can be taken to give students an idea of the material to be studied. This also helps students improve their understanding of the material taught (Glass & Kang, 2022).

Discuss

After answering the pre-learning questions contained in the MFI (Student Worksheet), students are asked to discuss the answers with group mates. Here are their

views on it:

"I can discuss my answers in groups well. We unify perceptions by combining all individual answers and then rewriting them in the group answer column. I think this activity develops the ability of each individual to communicate their own answers because we one by one express opinions and answers." (Respondent 1, 2022).

"My group discussed which answer I felt was appropriate, whether it was by choosing an answer from one of the group members or adding it. Because by discussing group members with each other express the contents of their respective thoughts or answers with the aim of getting answers that feel appropriate, so communication between members with one another can develop." (Respondent 2, 2022).

"I give scientific reasons so as to strengthen the opinion I issued. In discussions, communication is needed that is easy to understand and for students who are afraid to discuss with lecturers or lecturers, this activity can be a forum to express their opinions." (Respondent 3, 2022).

"I managed to understand and answer the questions, then I communicated them in the group and discussed with the group to get a more complete group answer. Discussion activities carried out can facilitate everyone to develop their ability to communicate, because here everyone in a group is required to convey their individual answers to other group friends well so that other group friends can understand the material." (Respondent 4, 2022).

"I and the group discussed the answers one by one and agreed on them together, because with such discussions it can help quiet people to speak even if they have to" (Respondent 5, 2022).

Discussion activities are one of the syntax in this model, at this stage students are encouraged to be able to improve their ability to think critically by discussing the most appropriate answers among existing answers. Based on previous research, discussion activities in small groups were able to lead to the highest student satisfaction and the highest scores in critical thinking skills. In addition, based on student opinions, this activity is able to improve the communication skills of students. (Hamann,

Pollock, & Wilson, 2012)

Explain

After the discussion, an explanation activity was carried out or presented the results of the discussion. Here are their views on it:

"This activity provides a thorough understanding because when there is a presentation, we listen and give responses, so that the whole class understands and equalizes perceptions." (Respondent 1, 2022).

"By presenting the results of each group's discussion, it will an even more complete answer was produced" (Respondent 2, 2022).

"In the presentation, there must be an audience. Well, there must be an audience that is not the same opinion as us, so this opinion can increase our understanding of what is right & wrong" (Respondent 3, 2022).

"This explain activity is for each group representative to deliver material in front of the class and then everyone is given the freedom to give questions, rebuttals, or suggestions for what is conveyed by the group representative. This provides a thorough understanding of learning. Thus, in the end one answer will be obtained that benar, lengkap dan sesuai dengan pertanyaan melalui kesepakatan kelas atau kelompok besar." (Responden 4, 2022).

"Yes, that way we can know the more precise answer" (Respondent 5, 2022).

The explain activity provides an opportunity for students to find the best answers to the questions that have been given. Through this activity, students are encouraged to be able to provide rational reasons for the answers that have been given.

Create

After presenting the results of the discussion, the next activity is create, at this stage students are assigned to create or create something based on the material that has been learned. Here are their views on it:

"This activity increases creativity because we have to design, look for content, and create posters or infographics that are educational but interesting. This activity can improve collaboration skills because this is a group task so we equate everyone's ideas and this is called collaboration" (Respondent 1,

2022).

"We work together to get answers that feel appropriate" (Respondent 2, 2022).

"We are provided with a place to be creative according to what we have, because in making creations on the same google slide link, collaboration is needed so that the slides are not messy" (Respondent 3, 2022).

"This create activity can increase creativity. Using the knowledge gained, my group and I poured it into innovative and creative digital poster works. In this activity, my group and I discussed how the design was suitable and in accordance with the material that had been studied. In this activity, each group must have a creative idea to make something with an attractive design and in accordance with the material and the results of these thoughts are united into one work. This can improve group collaboration capabilities." (Respondent 4, 2022).

"This create activity can increase creativity. Using the knowledge gained, my group and I poured it into innovative and creative digital poster works. In this activity, my group and I discussed how the design was suitable and in accordance with the material that had been studied." (Respondent 5, 2022).

The last stage of the RADEC model is create. This stage encourages students in order to be able to be creative based on the understanding he already has. Through this stage, students are encouraged to be able to create a work that is felt to be a solution to existing problems.

Model RADEC

Comprehensively, here are students' opinions about the RADEC learning model:

"This model helps me understand the learning material, this medium is effective build student collaboration." (Respondent 1, 2022).

"By explaining the findings of the MFI's answers and then making outputs in the form of works can make me understand better, because with this learning model, the ability to understand the material and student collaboration can be established." (Respondent 2, 2022).

"Using this model can increase my understanding of the material, because this

model can increase the ability and activeness of students during lectures so that my understanding of the material increases, because one of the syntax of the RADEC model is discuss, which is discussing with their group mates. It requires collaboration between group mates. In addition, in the create section when editing slides, collaboration between friends is needed so that the slides are not messed up, for example, the background is all the same." (Respondent 3, 2022).

"With these five activities, it becomes more structured in understanding the material taught. Learning with the RADEC model is very challenging and fun. The experience gained is of course in the cognitive realm, namely I get a lot of knowledge and insight gained from digging information myself and from others. For the affective realm, which is to be responsible and respect the opinions of others and be more careful in answering questions, especially when the questions and answers are written in the form of google slides because if you are not careful it will harm others. Furthermore, in the realm of psychomotor is that we can collaborate with other group friends and classmates in discussing an answer. With the RADEC model, of course, I better understand the material taught because the syntax is very structured. In addition, building collaboration skills between students through the process of discussing a correct, complete, and appropriate answer and expressing idea creative to produce interesting work which can then be expressed in the form of reports." (Respondent 4, 2022).

"With this learning, our minds become more open, we are given space to discuss answers to get more appropriate answers. It is very pleasant because we can discuss together so that it helps understanding the material become easier, because we are trained to collaborate from various answers and ideas into one" (Respondent 5, 2022).

Based on respondents' perceptions, it can be concluded that the RADEC model is able to help to increase material understanding, collaboration, and encourage to increase creativity through making a work.

Here are students' views regarding the RADEC learning model if they teach in elementary schools:

"I think I can apply this model in elementary school, but use

Simpler methods such as print out questions make it easier for students to work on them. Because if we use a laptop or cellphone device, not necessarily all students have the device." (Respondent 1, 2022).

"I will use it occasionally, then if the learning is going on effectively and the learners feel interested, then I will use it more often. However, if you use it continuously, it doesn't seem to be." (Respondent 2, 2022).

"It can be one of the models that I will use, for example in the material of the ability to write explanatory texts because the model has proven effective" (Respondent 3, 2022).

"I'll probably try using the RADEC learning model. However, if in the implementation of learning students experience difficulties so that learning is less effective, I will not use it continuously. However, if with the RADEC learning model students can gain knowledge easily and students become more active in learning activities, it seems that I will use this learning model more often adapted to the subjects given." (Respondent 4, 2022).

"Maybe occasionally I will try to use the model, if the model in reality in the field can run effectively and does not make students bored in learning then I will continue to apply the model." (Respondent 5, 2022).

Referring to the views given by the respondents, the RADEC model is considered able to facilitate and assist students in understanding the material more deeply. In addition, this model is also considered capable of developing collaboration capabilities through the stages carried out. Then, based on the experience that has been felt by students, they have the desire to apply RADEC model in providing teaching in primary schools.

CONCLUSION

The learning model is one aspect that cannot be separated from learning. Therefore, using the right learning model is

the key to the success of a learning. Based on perception As well as the implementation carried out on prospective elementary school teacher students, the RADEC Model is a learning model that can help to increase material understanding, collaboration, and encourage creativity through making a work. Then, based on the experience that has been felt by students, they have the desire to apply the RADEC model in providing teaching in elementary schools.

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