

## Analysis of RADEC Learning Model in Improving Students Learning Outcomes at SD Negeri Karangjengkol 01, Kesugihan, Cilacap

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### ABSTRACT

*This study aims to analyze the application of the RADEC (Reading, Answering, Discussing, and Explaining) learning model in improving student learning outcomes at SD Negeri Karangjengkol 01, Kesugihan, Cilacap. The approach used in this study is descriptive qualitative research, which focuses on understanding the learning process and its impact on student learning outcomes. Data were collected through interviews with teachers, direct observation of learning activities, and document analysis in the form of student learning outcomes. The results of the study indicate that the application of the RADEC model can improve student learning outcomes, especially in terms of understanding subject matter and communication skills. Through reading, answering, discussing, and explaining activities, students more active and involved in the learning process, which leads to improved learning outcomes. In addition, the application of this model can also increase students learning motivation, making them more interested and enthusiastic in participating in learning. Based on these findings, it is suggested that the RADEC learning model can be applied more widely in elementary schools to improve the effectiveness and quality of learning.*

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## 1. INTRODUCTION

Education is one of the important aspects in producing a quality next generation of the nation. Effective and quality learning will have a direct impact on improving student learning outcomes. In designing learning activities, a teacher should understand the characteristics of students, the learning objectives to be achieved or the competencies that students must master, the teaching materials to be presented, and the methods used in packaging the presentation of materials and the use of forms and types of evaluation to measure the achievement of learning objectives.

It is important to understand that each learning approach has a different view on the concept and meaning of learning, views on teachers, and views on students. These differences then result in different learning strategies and models being developed, so that the learning process will be different even though the learning strategy is the same. Learning models are usually arranged based on various principles or theories as a basis for their development. The innovative learning model implemented should be in accordance with conditions in Indonesia because not all learning models are suitable for implementation in Indonesia.

To achieve this goal, various approaches and learning models need to be applied appropriately in the education process. One of the learning models that can improve student learning outcomes is the RADEC learning model. The RADEC learning model is an innovative learning model developed and intended for education in Indonesia. The RADEC (Read, Answer, Discuss, Explain, and Create) learning model is an approach that emphasizes understanding, discussion, and creativity of students in learning subject matter.

This approach encourages students to actively participate in the learning process and develop critical thinking skills and effective communication. The advantages of the RADEC learning model (Agustin et al., 2021<sup>1</sup>; Handayani et al., 2019)<sup>2</sup>, include:

1. Teachers are able to design the models used to make the learning process interesting,
2. Can improve students' critical thinking performance,
3. Students' analytical and reading abilities increase,
4. Improving group cooperation, the advantage of the RADEC model is that the syntax is easy for an educator to understand.

In addition to the models applied in learning, the application of interesting media in learning can also make students interested and happy in learning, one of the interesting media and increasing student activity that can be used in learning is quizizz (Nurhayati, 2020<sup>3</sup>; Gusvita, 2021)<sup>4</sup>. Learning is not only centered on the teacher but also the students themselves must be active or understand the material itself, then it can be said that learning is optimal. To make learning more optimal, teachers must be facilitators so that students are skilled and use media as a supporting tool for learning in explaining the material.

Teachers play an important role in the learning process which aims to control cooperation between students and students and between students and teachers so that an optimal relationship occurs. In today's information age, critical reading and thinking skills are very important for students to face challenges in a complex world. RADEC (Read, Answer, Discuss, Explain, and Create) learning is a learning model designed to help students develop these skills in an integrated manner. However, the implementation of this model still faces various challenges, such as the lack of teacher understanding of the RADEC method, as well as the lack of resources to support its implementation.

These constraints often make it difficult for learners to understand texts deeply and participate in constructive discussions. Therefore, it is important to explore the goals and benefits of the RADEC learning model and how this approach can be optimized in the teaching and learning process. Based on previous research results, the RADEC model has been proven to be able to increase student involvement in learning, which leads to a more significant increase in learning outcomes (Sari, 2020<sup>5</sup>; Daryanto, 2018)<sup>6</sup>.

At SD Negeri Karangjengkol 01, Kesugihan, Cilacap, the quality of education is expected to continue to improve along with the development of learning methods and models applied by teachers. However, student learning outcomes still show challenges in achieving the expected standards. This indicates the need for an evaluation of the learning models used, as well as the search for innovative solutions to improve the quality of learning at the school.

By using the RADEC learning model, it is expected to create a more dynamic and interactive learning atmosphere, and to be able to improve students deeper understanding of the material. Therefore, this study aims to analyze the application of the RADEC learning model in improving student learning outcomes at SD Negeri Karangjengkol 01.

## 2. METHOD OF THE RESEARCH

This study uses a qualitative descriptive method. This study aims to describe and analyze the phenomena that occur in the application of the RADEC learning model, as well as its impact on student learning outcomes. This is in accordance with Mukhtar's opinion (in Putri & Agustiniingsih, 2021)<sup>7</sup> which states that qualitative

<sup>1</sup> Agustin, M. et al. (2021) "Pengaruh Model Pembelajaran Radec Terhadap Keterampilan Berfikir Tingkat Tinggi Mahap peserta didik PGDS", *Jurnal Cakrawala Pendas*, 7(1), pp. 140–152.

<sup>2</sup> Handayani, Hany, Wahyu Sopandi, Ernawulan Syaodih, Dadan Setiawan, and Indra. Handayani, H. et al. (2019) "Dampak Perlakuan Model Pembelajaran Radec Bagi Calon Guru Terhadap Kemampuan Merencanakan Pembelajaran Di Sekolah Dasar", *Pendas : Jurnal Ilmiah Pendidikan Dasar*, IV, pp. 79–93. doi: 10.23969/jp.v4i1.1857.

<sup>3</sup> Nurhayati, E. (2020) "Meningkatkan Keaktifan Peserta didik Dalam Pembelajaran Daring Melalui Media Game Edukasi Quiziz Pada Masa Pencegahan Penyebaran Covid-19", *Jurnal Pedagogi: Jurnal Penelitian & Pengabdian Pendidikan*, 7(3), pp. 145–150. doi: 10.34012/bip.v2i2.1729.

<sup>4</sup> Gusvita, A. (2021) "Pembelajaran Pendidikan Agama Islam dengan Menggunakan Aplikasi Quiziz pada Era Covid-19", *Intiqad: Jurnal Agama dan Pendidikan Islam*, 13(1), pp. 16–27. doi: 10.30596/intiqad.v13i1.6582.

<sup>5</sup> Sari, R. (2020). *Pengaruh Model Pembelajaran RADEC terhadap Peningkatan Hasil Belajar Peserta didik*. *Jurnal Pendidikan*, 10(2), 50–60.

<sup>6</sup> Daryanto, M. (2018). *Inovasi Pembelajaran: Teori dan Praktik*. Yogyakarta: Gava Media.

<sup>7</sup> Putri, T. S., & Agustiniingsih, D. D. W. I. (2021). *Karya Tere Liye Dan Pemanfaatannya Sebagai Bahan Ajar Apresiasi Sastra Peserta didik Sma*. *OJS @rtikulasi*, 1(1)

descriptive research is research that attempts to describe the entire picture or symptoms that exist, namely everything as it is at the time the research is conducted. Qualitative research is a type of research that can produce descriptive data that includes writing, speech, and behavior of research subjects.

Qualitative descriptive research seeks to provide rich descriptions of experiences described in understandable language. Therefore, this research offers the opportunity to collect rich descriptions of phenomena about which little may be known (Bradshaw et al, 2017) <sup>8</sup>. The descriptive approach was chosen to describe the implementation of the RADEC learning model and identify its impact on the learning process and learning outcomes of students at SD Negeri Karangjengkol 01, Kesugihan, Cilacap. According to Bogdan and Taylor (in Aryani, 2021) <sup>9</sup> stated that this approach leads to the background and individuals as a whole or holistically.

So that this does not isolate individuals or organizations into changes or hypotheses, but it is necessary to see it as part of a whole. From the opinions of these experts, it can be concluded that the qualitative descriptive method in this study is to explain all the data found in the form of words or speech. Respondents or research subjects are people who are asked to provide information about a fact or opinion. As explained by Arikunto in (Wibowo, 2021) <sup>10</sup>, states that research subjects are subjects targeted and studied by researchers. Therefore, research subjects function as sources of information that can be explored in revealing information in the field.

The subjects of this study were teachers and students of grade V of SD Negeri Karangjengkol 01, Kesugihan, Cilacap. The researcher chose these subjects because they were directly involved in the learning process and implementation of the RADEC model. Teachers as implementers of the learning model and students as subjects who receive direct impacts from the model.

Data collection techniques used in this research include:

#### 1. In-depth Interview

Interviews were conducted with teachers and several students to gain deeper information about their experiences in implementing and following learning using the RADEC model. These interviews aimed to understand teachers perspectives on the implementation of the RADEC model and its impact on student learning outcomes, as well as students views on the effectiveness of the learning model.

#### 2. Observation

Observations were conducted directly in the classroom during the learning process. Researchers recorded the activities of students and teachers in each stage of the RADEC model (Read, Answer, Discuss, Explain, and Create). This observation aims to see to what extent this model is implemented well and how students interact with this learning method.

#### 3. Documentation

Documentation in the form of a learning implementation plan (RPP), learning notes, and the results of students work or work obtained during the learning process. This documentation is used to provide an overview of how the RADEC learning model is applied in a practical context and to identify the results achieved by students in the form of work or tasks completed.

The research procedure is carried out through several stages as follows:

##### a. Research Preparation

This stage involves preparing research instruments, such as interview guidelines, observation sheets, and documentation instruments. Researchers also coordinate with schools and teachers to determine the research implementation schedule and ensure the smoothness of the data collection process.

##### b. Research Implementation

At this stage, the researcher directly observed the learning process in the classroom using the RADEC model. The researcher conducted interviews with teachers and students after the learning process was completed, and collected data in the form of relevant documentation.

##### c. Data Analysis Techniques

According to Miles & Huberman (in Sugiyono, 2017; 132) <sup>11</sup>, data analysis techniques can be carried out in the following ways:

##### 1) Data collection

Data were collected during learning that implemented the RADEC model. Data collection was carried out continuously through observation, interviews, and documentation, to ensure that the data obtained was comprehensive and reliable.

<sup>8</sup> Bradshaw, C., Sandra Atkinson, & Owen Doody. (2017). *Employing a Qualitative Description Approach in Health Care Research*. *Global qualitative nursing*.

<sup>9</sup> Aryani, I. K. (2021). *Metode Penelitian Pendekatan Kualitatif*. Universitas Muhammadiyah Purwokerto, 1–23.

<sup>10</sup> Wibowo, A. S. (2021). *Pengaruh Pengembangan Sumber Daya Manusia Terhadap Kinerja Pegawai Di Lembaga Pemasarakatan Kelas Ii a Purwokerto*. *Journal of Management Review*, 5(3), 655–663. <http://jurnal.unigal.ac.id/index.php/managementreview>

<sup>11</sup> Sugiyono (2017). *Metode Penelitian Kuantitatif, Kualitatif dan R&D*. Bandung:Alphabet,CV.

## 2) Data Reduction

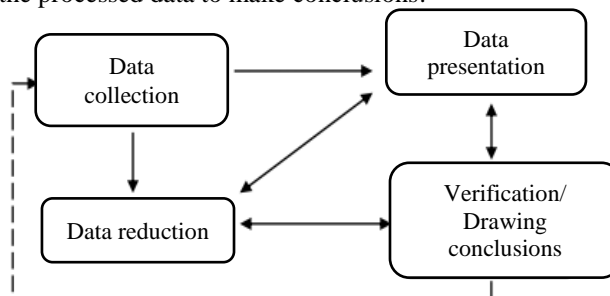
After obtaining the data, the next stage is to analyze the data through data reduction. Reducing data means summarizing, selecting and sorting the main points, focusing on important things, looking for themes and patterns.

## 3) Data Display (Data Presentation)

In qualitative research, the most common presentation of data is narrative text or easy-to-understand words.

## 4) Conclusion Drawing or Verification (Conclusion or verification)

Researcher then use the processed data to make conclusions.



**Figure 1.** Data Analysis Engineering Drawing

This analysis aiming to provide an in-depth overview of how the application of the RADEC model can improve student learning outcomes. To ensure the validity of the data, this study will use source triangulation techniques. This triangulation is done by comparing data obtained through various sources, namely interviews with teachers and students, direct observation in class, and documentation. In this way, researchers can obtain more valid data and reduce the potential for bias.

## 3. RESULTS AND DISCUSSIONS

The RADEC learning model is a learning model that requires students to build critical thinking skills in the context of Indonesia and aims to develop the potential of students to become people who believe in God, have noble character, are healthy, knowledgeable, capable, creative, independent and become democratic and responsible citizens (Sopandi, et al., 2019:4) <sup>12</sup>. This model offers solutions for the 4C abilities of Critical Thinking and Problem Solving, Creativity, Communication Skills, and Ability to Work Together/Collaboration which are currently needed by students to succeed in the 21st century (Cahyarani and Tirtoni 2023) <sup>13</sup>.

The RADEC (Read, Answer, Discuss, Explain, Create) learning model is designed with the aim of improving students understanding of the subject matter actively and deeply. Through a series of stages, RADEC aims to develop various important skills in students, including:

### 1. Concept Understanding

Students are invited to understand concepts in depth through reading activities, answering questions, and discussing.

### 2. Critical Thinking Skills

Students are trained to analyze information, evaluate arguments, and draw conclusions.

### 3. Communication Skills

Students practice conveying ideas and opinions clearly and effectively through discussion and presentation activities.

### 4. Collaboration Skills

Students work together with group members to complete assignments, so they can develop their ability to work together and respect differences of opinion.

### 5. Creativity

Students are given the opportunity to explore new ideas and create original products (Nurhasanah Salsabila Iwanda et al. 2022) <sup>14</sup>.

<sup>12</sup> Sopandi, Wahyu. 2019. "Sosialisasi Dan Workshop Implementasi Model Pembelajaran RADEC Bagi Guru-Guru Pendidikan Dasar Dan Menengah." *Pedagogia : Jurnal Pendidikan*.

<sup>13</sup> Cahyarani, Devina Regita, and Feri Tirtoni. 2023. "Penerapan Model Pembelajaran Radec Dalam Membentuk Karakter Bernalar Kritis Peserta didik Kelas Iv Sd Negeri Wonomlati." *Pendas : Jurnal Ilmiah Pendidikan Dasar* 8 (2): 2795–2809.

<sup>14</sup> Nurhasanah Salsabila Iwanda, Cut, Hanifah Nuh Malika, Muhammad Aqshadigrama, Fakultas Ilmu Tarbiyah dan Keguruan, Uin Jakarta, Fakultas Ilmu Sains dan Teknologi, and Fakultas Ilmu Sosial dan Politik UIN Jakarta Abstract. 2022. "RADEC Sebagai Inovasi Model Pembelajaran Pendidikan Agama Islam Pasca Pandemi Covid-19 Di Sekolah Dasar." *Jurnal Ilmiah Wahana Pendidikan*, Desember 8 (24): 430–40. <https://doi.org/10.5281/zenodo.7494585>.

More specifically, the learning objectives of RADEC are:

6. Make learning more meaningful  
By connecting subject matter to students real experiences, learning becomes more relevant and memorable.
7. Increase learning motivation  
Through interesting and challenging activities, students will be more motivated to learn.
8. Developing high-level thinking skills  
RADEC encourages students to think critically, creatively and analytically.
9. Preparing students to face challenges in the 21st century  
Skills developed through RADEC, such as collaboration, communication and problem solving, are in high demand in the digital age.

The implementation of the RADEC learning model encourages students to be creative in creating new ideas, problem solving, and increasing creative work. The hope with the RADEC learning model is to produce students who have knowledge, are independent, creative, have noble character, and are skilled in facing the future. Like other learning models that have been developed previously, the RADEC learning model has the following advantages and disadvantages:

1. Excess
  - a. The design model is easy to use so it is also easy to produce interesting learning.
  - b. Improve critical thinking skills.
  - c. Improve students analytical and reading skills.
  - d. Improving cooperation in groups (Andini and Fitria 2021) <sup>15</sup>.
  - e. Syntax that is easy for teachers to understand (Nurnaningsih et al. 2023) <sup>16</sup>.
  - f. Can encourage students to develop 21st century skills (conceptual understanding, critical thinking, collaboration and communication, and creative thinking) (Handayani et al. 2019) <sup>17</sup>.
  - g. The existence of the RADEC learning model can stimulate students to be actively involved during the learning process.
  - h. The RADEC Learning Model is relevant to educational conditions in Indonesia which require students to master a lot of material in a limited time.
  - i. Can improve students problem solving abilities.
  - j. Increase independence in students.
  - k. Improve understanding or mastery of the material being studied.
  - l. Improve students interest and learning outcomes.
  - m. Encourage students to create creative works.
  - n. Train public speaking skills in each individual.
  - o. Encourage students to utilize various types of learning resources, both from textbooks and the internet (Nurhasanah Salsabila Iwanda et al. 2022) <sup>18</sup>.
  - p. The RADEC learning model can develop character (critical, creative, innovative, responsible, honest, disciplined, hard working, independent, democratic, curious, communicative, fond of reading, diligent, confident, hard working, careful and brave, and cooperation) (Sopandi 2019b) <sup>19</sup>.
2. Lack
  - a. Need thorough preparation from the teacher: Teachers need to design challenging questions, select relevant reading materials, and facilitate discussions well.
  - b. Requires sufficient time: Implementing RADEC requires more time compared to conventional learning models.
  - c. Not all students have the same reading abilities: Students who have reading difficulties will have difficulty following the initial stages of RADEC.

<sup>15</sup> Andini, Selfi Rahmi, and Yanti Fitria. 2021. "Pengaruh Model RADEC Pada Pembelajaran Tematik Terhadap Hasil Belajar Peserta Didik Sekolah Dasar." *Jurnal Basicedu* 5 (3): 1435–43. <https://doi.org/10.31004/basicedu.v5i3.960>.

<sup>16</sup> Nurnaningsih, Nurnaningsih, Citra Bahadur Hanum, Wahyu Sopandi, and Atep Sujana. 2023. "Keterampilan Berpikir Kritis Dan Berpikir Kreatif Peserta didik Sekolah Dasar Dalam Pembelajaran Berbasis RADEC." *Jurnal Basicedu* 7 (1): 872–79. <https://doi.org/10.31004/basicedu.v7i1.4773>.

<sup>17</sup> Handayani, Hany, Wahyu Sopandi, Ernawulan Syaodih, Dadan Setiawan, and Indra. Handayani, H. et al. (2019) "Dampak Perlakuan Model Pembelajaran Radece Bagi Calon Guru Terhadap Kemampuan Merencanakan Pembelajaran Di Sekolah Dasar", *Pendas : Jurnal Ilmiah Pendidikan Dasar*, IV, pp. 79–93. doi: 10.23969/jp.v4i1.1857.

<sup>18</sup> Nurhasanah Salsabila Iwanda, Cut, Hanifah Nuh Malika, Muhammad Aqshadigrama, Fakultas Ilmu Tarbiyah dan Keguruan, Uin Jakarta, Fakultas Ilmu Sains dan Teknologi, and Fakultas Ilmu Sosial dan Politik UIN Jakarta Abstract. 2022. "RADEC Sebagai Inovasi Model Pembelajaran Pendidikan Agama Islam Pasca Pandemi Covid-19 Di Sekolah Dasar." *Jurnal Ilmiah Wahana Pendidikan*, Desember 8 (24): 430–40. <https://doi.org/10.5281/zenodo.7494585>.

<sup>19</sup> Sopandi, Wahyu. 2019. "Sosialisasi Dan Workshop Implementasi Model Pembelajaran RADEC Bagi Guru-Guru Pendidikan Dasar Dan Menengah." *Pedagogia : Jurnal Pendidikan* 8 (1): 19–34. <https://doi.org/10.21070/pedagogia.v8i1.1853>.



- d. Difficult to apply in large classes: Classes that are too large can make it difficult for teachers to give enough attention to each student.
- e. Limited to certain materials: RADEC is more suitable for use on materials that are conceptual in nature and require in-depth understanding.

On in this section, the results of the analysis of the implementation of the RADEC (Read, Answer, Discuss, Explain, Create) learning model will be presented at SD Negeri Karangjengkol 01, Kesugihan, Cilacap, and its impact on student learning outcomes. The results obtained based on data collected through observation, interviews with teachers and students, and relevant documentation will be discussed in depth.

Based on data collected from observations, interviews, and documentation, researchers found several main findings related to the implementation of the RADEC learning model in class V of SD Negeri Karangjengkol 01, including:

#### 1. Implementation of the RADEC Learning Model

The implementation of the RADEC model in the classroom went quite well even though there were several challenges faced by teachers and students. Based on observations and interviews with teachers, the steps in the RADEC model were implemented as follows:

##### a. Read Stage:

The teacher provides a reading text that is relevant to the learning material. At this stage, students are expected to read the text carefully. The teacher observed that students showed high interest at this stage, especially because the text provided was equipped with pictures and questions that aroused students curiosity.

##### b. Answer Stage:

After reading, students are given questions to answer. At this stage, the teacher sees that most students can answer quite well, although there are some students who need more time to digest the material.

##### c. Discuss Stage:

Students were then asked to discuss in small groups about the answers they had given. This discussion aimed to deepen their understanding of the material that had been read. The teacher noted that students became more active in the discussion compared to the previous learning method which was more lecture-based.

##### d. Explain Stage:

Each group then explains the results of their discussion to the class. The teacher notes that at this stage, students speaking skills and confidence begin to develop, as they are given the opportunity to explain and discuss their answers in front of their classmates.

##### e. Create Stage:

In the final stage, students are asked to make a project or assignment related to the material that has been studied, students make posters or make simple presentations. The teacher saw that this stage was very much liked by students because it gave them the opportunity to be creative and express their understanding in a more interesting form.

#### 2. Student Learning Outcomes

The learning outcomes of students after the implementation of the RADEC model showed a significant increase. Based on the test results and assignments given after the implementation of the RADEC model, most students experienced an increase in scores compared to the previous period. These results are clearly seen in the comprehension test conducted after the learning session.

From the observations made, there are indications that students understand the material better after going through each stage of the RADEC model. In addition, student involvement in discussions and creative activities also showed an increase, which contributed to a better understanding of the subject matter.

#### 3. Challenges in Implementing the RADEC Model

Although the RADEC model has proven effective in improving learning outcomes, there are several challenges faced in its implementation:

- a. Limited Time: One of the major challenges is limited time. Teachers find it difficult to manage enough time to carry out all stages of the RADEC model, especially the Create stage, which requires a longer time to complete a project or assignment.
- b. Variation in Student Abilities: Teachers also noted that there was considerable variation in student abilities, so some students needed more attention and guidance, especially at the Answer and Explain stages.
- c. Resources and Infrastructure: Some students face difficulties in the Create stage, where they are asked to create a project or task that requires certain tools and materials. Some students do not have access to the necessary resources, such as stationery, pictures, or other materials to create creative projects.

Model RADEC learning has been proven effective in increasing student engagement in the teaching and learning process. Based on the findings, this model provides opportunities for students to participate more actively in each stage of learning. This is in line with research showing that learning that actively involves students can

improve understanding and retention of material, according to Johnson & Johnson (in Sugiyono, 2017) <sup>20</sup>.

Stages Read and Answer provide opportunities for students to read and reflect on the material, while the Discuss stage strengthens their understanding by discussing and exchanging ideas. In the Explain stage, students not only learn passively, but are also given the opportunity to communicate their understanding to their friends, which strengthens their mastery of the material.

Stage Create, which allows students to express their understanding in the form of projects or creative works, is highly sought after by students. This shows that learning that involves creativity and self-expression can increase students' motivation and interest in learning, in line with constructivism theory which emphasizes the importance of meaningful and activity-based learning experiences.

Improvement in learning outcomes recorded after the application of the RADEC model shows that this model is effective in improving students' understanding of the material. These results can be explained by the theory of active learning which states that students who are directly involved in the learning process tend to be more successful in understanding and remembering information, according to Bonwell & Eison (in Freeman, S., et al., 2014) <sup>21</sup>. Onstage Discuss and Explain, students are given the opportunity to share and explain the material they have learned.

This not only deepens their understanding, but also improves their ability to convey ideas verbally, which is an important skill in education. A number of challenges faced in implementing the RADEC model, such as time constraints and variations in student abilities, are common in implementing innovative learning methods. To overcome time constraints, it is recommended that teachers plan learning more flexibly and perhaps shorten some stages that require more time.

Regarding variations in student abilities, teachers can provide more intensive assistance to students who need additional support at each stage. Challenge related to facilities and infrastructure also need to be considered. Providing more varied learning materials that are easily accessible to all students can help overcome obstacles that arise at the Create stage.

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