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CREATION (Collaboration of Reality and Instructional Sound): Live-Action Pedagogy Generator Innovation with Reverse-Engineering Method of PPT Content as a Breaker of the Mis-Targeted Technology Chain in Early Elementary Classrooms

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A B S T R A C T

The rapid integration of digital technology into elementary education has encouraged teachers to rely heavily on presentation media such as PowerPoint. However, this trend often shifts the learning focus from meaningful teacher–student interaction to one-way technology-centered instruction. This study introduces KREASI (Kolaborasi Realitas dan Suara Instruksional), an innovative Live-Action Pedagogy Generator designed as a teaching co-pilot that transforms PowerPoint presentations into contextual and interactive learning experiences. Unlike conventional educational applications targeting students, KREASI assists teachers in real time by reverse-engineering slide content into provocative questions, concrete classroom activities, and object-based explorations using materials available in the surrounding environment. This study employed a design-based research approach through literature review, instructional analysis, and conceptual prototype development. The proposed innovation emphasizes active learning, contextual pedagogy, and teacher facilitation rather than technology dependence

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INTRODUCTION

Digital transformation has brought significant changes to learning practices across various levels of education, including elementary schools. Various digital devices like computers, projectors, tablets, and presentation apps are now part of daily teaching and learning activities. The presence of technology gives teachers opportunities to deliver materials in a more engaging, systematic, and easily understood way by students. However, behind all these conveniences, problems are still found in its implementation. Many teachers use technology merely as an information delivery tool, making learning tend to focus on presentation slides rather than interaction between teachers and students.

This phenomenon shows a mis-targeting in the use of educational technology, which is when technology ends up replacing the teacher's pedagogical role. Teachers spend more time reading PowerPoint slides than building communication, providing learning experiences, or facilitating student exploration. As a result, the learning process becomes one-way, with students only passively receiving information. This situation contradicts the nature of early elementary classroom learning, which emphasizes hands-on experiences, learning through play, social interaction, and exploring the surrounding environment.

According to Piaget's constructivist theory, elementary school students are at the concrete operational stage, so understanding concepts will be more optimal if gained through real experiences rather than just verbal explanations. This view is supported by Vygotsky, who emphasizes that learning develops best through social interaction between teachers and students. Therefore, the use of technology in learning should not reduce the intensity of these interactions but instead help teachers create more meaningful learning experiences.

Various educational technology innovations that are developing today are generally designed for direct use by students, such as quiz apps, educational games, or interactive learning media. While they are effective in boosting learning motivation, most of these innovations haven't addressed the core issue, which is how to help teachers manage the learning process to keep it interactive when using digital media. Teachers still need a companion who can connect digital materials with real classroom activities.

Based on this issue, this research offers an innovation called KREASI (Collaboration of Reality and Instructional Audio). KREASI is a concept of a Live-Action Pedagogy Generator, which is a learning assistant system (teaching co-pilot) that works in real-time while the teacher is teaching. Through a PowerPoint Content Reverse-Engineering approach, the system converts each presentation slide into various exploratory questions, activities based on the surrounding environment, observation challenges, simple games, or contextual discussions that students can engage in immediately. This way, the focus of learning shifts from "teacher talking to slides" to "teacher having a dialogue with students through real experiences."

The main advantage of KREASI lies in its ability to make technology a facilitator of the learning process, rather than the focus of the lesson. Teachers still have full control over the learning process, while the app simply provides

real-time activity inspiration based on the material being presented. This approach is expected to improve classroom interaction, boost student engagement, and develop critical thinking, communication, collaboration, and creativity skills from elementary school onward.

Based on that explanation, this study aims to develop the KREASI innovation concept as a solution for more targeted use of educational technology in early elementary school classes, explain how the innovation works through the Reverse-Engineering PowerPoint Content method, and analyze its potential for improving active, contextual, and student-centered learning quality.

LITERATURE REVIEW

Digital transformation has brought significant changes to learning practices across various levels of education, including elementary schools. Various digital devices like computers, projectors, tablets, and presentation apps are now part of daily teaching and learning activities. The presence of technology gives teachers opportunities to deliver materials in a more engaging, systematic, and easily understood way by students. However, behind all these conveniences, problems are still found in its implementation. Many teachers use technology merely as an information delivery tool, making learning tend to focus on presentation slides rather than interaction between teachers and students.

METHODOLOGY

This study uses a Design-Based Research (DBR) approach aimed at designing, developing, and analyzing a technology-based learning innovation that can be applied in early elementary classroom learning. The Design-Based Research approach was chosen because it allows researchers to develop an educational product based on real needs in the field, then examine it through theoretical foundations and pedagogical analysis, resulting in a solution that is practical for learning problems.

The research was conducted in the Elementary School Teacher Education Study Program (PGSD) at Quality University Berastagi, focusing on the implementation of educational technology in early elementary classroom teaching. The research subjects were not the students directly, but rather an analysis of teachers' use of PowerPoint based on literature studies, classroom observations, and identifying teachers' needs to integrate technology effectively. The research stages refer to the Design-Based Research model, which consists of four main stages: problem identification, innovation design, conceptual design development, and conceptual evaluation.

1. Problem Identification

The first step was carried out by identifying various problems in using technology in elementary school learning through literature review and analysis of previous research. Besides that, observations were made of learning practices that use PowerPoint presentations. The identification results showed that the use of technology is still dominated as a medium for delivering information, so teachers tend to focus on the slides rather than interacting with the students. This

situation causes learning to be one-way and reduces students' chances of gaining hands-on learning experiences.

2. Designing KREASI Innovations

Based on the results of needs identification, the researcher designed an innovation called KREASI (Collaboration of Reality and Instructional Sound). This innovation was developed as a Live-Action Pedagogy Generator, which is a companion system (co-pilot) that helps teachers turn PowerPoint material into contextual learning activities in real-time during the learning process.

The innovation design is done by applying the PowerPoint Content Reverse-Engineering method, which means analyzing the content of each slide and then turning the information on the slides into various learning activities such as starter questions, exploring the surroundings, educational games, group discussions, simple demonstrations, or observation activities that actively involve students.

3. Conceptual Design Development

The next step is to draft a conceptual design of the KREASI work system. At this stage, the workflow of the application is determined, starting from the teacher opening PowerPoint, the system reading the content of the material, analyzing the main concepts using Artificial Intelligence technology, and then generating recommended learning activities that match the characteristics of early primary school students.

The KREASI work concept is designed so that teachers don't need to change the PowerPoint materials they already have. The system will use those materials as a source of information to create various learning activities that are contextual, active, and based on the surrounding environment.

4. Conceptual Evaluation

The evaluation stage is carried out by analyzing how well the innovation aligns with constructivist learning theory, contextual teaching and learning, active learning, and 21st-century learning principles. The evaluation is also done by comparing the characteristics of KREASI with digital learning applications that are commonly used in elementary schools.

Evaluation results show that KREASI has different characteristics because it doesn't replace the teacher's role as a material presenter, but rather strengthens the teacher's ability to create a more interactive learning experience. This system helps teachers build more intensive communication with students through real activities, so technology still functions as a support for the teaching process.

Data Collection Techniques

Data collection was carried out using several techniques as follows.

1. Literature Study, which involves reviewing various scientific articles, books, and research results about educational technology, contextual learning, classroom management, active learning, and the use of artificial intelligence in education.
2. Observation, which is observing the practice of using PowerPoint in elementary school learning to identify interaction patterns between teachers, technology, and students.
3. Document Analysis, which involves examining learning tools such as PowerPoint, teaching modules, and presentation materials used by teachers as a basis for developing the concept of PowerPoint Content Reverse-Engineering.

Data Analysis Techniques

The data was analyzed using qualitative descriptive analysis techniques. Data obtained from literature studies, observations, and document analyses were classified based on the main themes, namely issues in using learning technology, characteristics of early grade students, teachers' needs for learning support, and opportunities for AI-based innovation development.

Next, all the data is analyzed through the process of data reduction, data presentation, and drawing conclusions to create the conceptual design of KREASI as an innovative solution to support more active, contextual, and student-centered learning.

Table 1. Stages of KREASI Innovation Development

Stage	Activity	Output
Problem Identification	Analysis of using PowerPoint in elementary school learning	Problems with the mismatched targets of learning technology
Needs Analysis	Literature review and observation of learning practices	Teachers' need for learning companions
Innovation Design	Designing the KREATION concept and the PPT Reverse-Engineering method	Conceptual prototype of CREATION
System Development	Creating the workflow for the Live-Action Pedagogy Generator	AI-based learning system design
Conceptual Evaluation	Analysis of compatibility with learning theory	Innovation models that are feasible to apply in early elementary school classrooms

This research method is expected to be able to produce an innovative design that not only has a strong theoretical foundation but is also relevant to the needs of elementary school teachers in using technology more effectively.

Through a Design-Based Research approach, KREASI is developed as a solution focused on improving the quality of interaction between teachers and students, so that technology is no longer the center of learning, but rather a tool that supports the creation of meaningful learning experiences.

RESULT AND DISCUSSION

Overview of KREASI Innovation

The development of digital technology has had a significant impact on the learning process in elementary schools. Various digital media like PowerPoint, educational videos, and presentation apps have become part of teaching and learning activities. However, research shows that the use of technology is still focused on delivering material visually, so teachers interact more with the media than with students. This situation makes learning passive, reduces two-way communication, and students' learning experiences don't develop as effectively.

Based on these issues, this study develops a learning innovation called KREASI (Collaboration of Reality and Instructional Sound). KREASI is a Live-Action Pedagogy Generator designed to serve as a teaching co-pilot for elementary school teachers. Unlike learning apps that are usually used directly by students, KREASI works to assist teachers during the learning process, making technology a support for teaching strategies rather than the main focus of learning.

The main concept of KREASI is Reverse-Engineering PowerPoint Content, which is the process of turning the information on presentation slides into learning activities that involve real experiences for students. This way, any material presented through PowerPoint is no longer just read or explained verbally, but is developed into exploratory questions, simple games, observation activities, or discussions that make use of objects around the classroom.

For example, when the teacher shows a slide about 'Animals', KREASI will provide activity suggestions like:
"Look for an object in the classroom that has a color similar to tiger skin."
"Name an animal that you think has ears that look almost like the handle of your bag."
"Let's step out of the classroom for two minutes to listen to the birds you can hear."

Through that activity, students get hands-on learning experiences, so the concepts they learn become easier to understand and remember.

How KREASI Innovation Works

KREASI is designed with a simple workflow, making it easy for teachers to use without needing high tech skills.
The stages of KREASI's work include:

1. The teacher opens the PowerPoint material as usual.
2. KREASI reads the content of each slide using Artificial Intelligence (AI) technology.
3. The system identifies the main concepts on the slide.
4. AI generates various learning activities that match the material.
5. The teacher picks the activity that seems most suitable for the class.

6. Students carry out activities directly.
7. The teacher reflects and reinforces the results of the activity.

Through that mechanism, teachers no longer just explain the slide content, but instead develop learning that is more active and contextual.

Table 2. KREASI Workflow

Stages	Teacher Activities	The Role of KREASI
1	Opening PowerPoint	Reading the slide content
2	Explaining the material	Analyzing the main concept
3	Choosing an activity	Giving real activity recommendations
4	Guiding students	Giving a starter question
5	Learning reflection	Putting together evaluation questions

Main Components of KREASI

KREASI has five main components that support each other in creating active learning.

a. Reverse-Engineering Content Engine

This component is responsible for analyzing the contents of a PowerPoint and then turning the material into various types of learning activities. The system will recognize concepts, keywords, images, and objects in the slides so it can automatically generate learning ideas.

b. Live Prompt Generator

This component comes up with questions that can spark students' curiosity. The questions are designed according to the cognitive development level of elementary school students, so they're easy to understand but still encourage critical thinking.

Example:
Slide: Parts of a Plant
CREATION Prompt:
"Hold an object that you think comes from a plant."
"What would happen if a tree didn't have roots?"
"Are there any plants you can see from the classroom window?"

c. Reality Connector

This component connects the lesson material with the students' surroundings.

For example, when the material talks about geometric shapes, the system doesn't ask students to look at images on the slides, but instead encourages them to find objects shaped like circles, squares, or triangles in the classroom.

This approach makes learning more meaningful because students learn through direct experience.

d. Instruction Voice Assistant

This component gives voice guidance to teachers while teaching. Teachers get directions like:
"Give the students two minutes to observe the objects around them."
"Have students discuss in pairs."
"Give follow-up questions so that students can explain their answers."

That way, teachers get direct support while the learning is happening.

e. Reflection Assistant

At the end of the lesson, the system helps the teacher reflect through evaluative questions like:
"Which activity gets students the most active?"
"Have all the students participated?"
"Which concepts are still hard for students to understand?"

Those reflections serve as a basis for teachers to improve their teaching in the next session.

The Advantage of KREASI Innovation

Based on the results of the conceptual analysis, KREASI has several advantages compared to existing digital learning media.

Table 3. Comparison of KREASI with Conventional Learning Media

Aspect	Conventional PowerPoint	CREATION
Learning focus	Presentation slide	Teacher and student interaction
The role of teachers	Information provider	Learning facilitator
The role of technology	Learning center	Pedagogy supporters
Student activities	Hearing and seeing	Observing, discussing, exploring
Surroundings	Rarely used	Becoming the main source of learning
Learning	Tends to be passive	Active and contextual

The analysis results show that KREASI doesn't replace the role of teachers, but rather strengthens their ability to manage learning. This innovation brings back the essence of elementary school learning that emphasizes hands-on experience (learning by doing) and contextual learning.

The Potential of Implementing KREASI in Early Elementary School Classes

Early elementary school is a stage of concrete operational development, so students find it easier to understand concepts through real objects rather than abstract explanations. That's why KREASI is designed to connect each lesson with the students' surroundings.

For example, in the IPAS subject on "Animal Body Parts," the teacher just opens the prepared PowerPoint. Then KREASI will generate various activities like observing animals the students have seen before, comparing animal body parts with objects around the classroom, playing games to guess animal sounds, and even drawing what they observe. These activities let students not only receive information but also develop skills in observing, communicating, cooperating, and problem-solving.

Besides boosting student engagement, implementing KREASI can also potentially reduce teachers' reliance on presentation media. Teachers are no longer stuck on the content of slides, but have more freedom to communicate, ask open-ended questions, and guide students to discover concepts through hands-on experience.

In this way, KREASI becomes a pedagogical innovation that puts technology as a tool to support learning, not as the main goal of using technology in the classroom. This approach aligns with 21st-century learning principles that emphasize collaboration, creativity, communication, and critical thinking, while also strengthening the teacher's role as a facilitator in creating meaningful learning experiences for students.

CONCLUSION AND RECOMMENDATION

Conclusion

Digital transformation has brought significant changes in the world of education, especially in the use of digital presentation tools like PowerPoint in elementary schools. However, the use of technology that isn’t quite on target often shifts the focus of learning from teacher-student interaction to teacher-presentation interaction. This situation makes learning tend to be one-way, reduces student engagement, and doesn't fully support active, contextual, and meaningful learning.

This study resulted in a conceptual innovation called KREASI (Collaboration of Reality and Instructional Voice) as a solution to the problem. KREASI is a Live-Action Pedagogy Generator designed as a teaching co-pilot for teachers through the application of the PowerPoint Content Reverse-Engineering method. This innovation works by transforming presentation content into various learning activities based on real experiences, exploratory questions, educational games, environmental observations, and interactive discussions that can be applied directly during the learning process.

The study results show that KREASI has different characteristics compared to regular digital learning media. While most educational apps focus on students as the main users, KREASI actually focuses on improving teachers' teaching practices. This way, technology is no longer the center of learning but serves as a support for the teaching process, helping teachers create learning that is more active, creative, innovative, and student-centered.

In addition, the implementation of KREASI has the potential to improve the quality of interaction between teachers and students, encourage active student participation at every stage of learning, develop critical thinking, communication, collaboration, and creativity skills, as well as strengthen the application of contextual learning according to the development characteristics of early elementary school students. This innovation also gives teachers the flexibility to utilize existing PowerPoint materials without having to create new learning media from scratch.

Based on the results of this conceptual study, it can be concluded that KREASI is a pedagogical innovation with great potential to support the transformation of digital learning in elementary schools. This approach is expected to become an alternative way to use educational technology more effectively, humanely, and focused on improving the quality of students' learning experiences.

Recommendation

Based on the research results, some suggestions that can be given are as follows.

1. **For elementary school teachers**, it's recommended to use technology as a support tool for learning, not as the main focus of teaching. Teachers should develop more interactive lessons by using the surrounding environment as a learning resource so that students can gain more hands-on learning experiences.
2. **For schools**, it's important to support the development of technology-based learning innovations by providing facilities, training in the use of educational technology, and creating teacher learning communities where they can share good practices in digital learning.
3. **For educational technology developers**, it is expected that they can develop the KREASI prototype into an application that can be implemented in real life by utilizing artificial intelligence (AI) so that it can automatically provide learning activity recommendations based on the material used by the teacher.
4. **For Future Researchers**, this study is still a conceptual development, so further research is needed in the form of limited trials as well as effectiveness tests in elementary schools to find out the impact of KREASI on learning activities, learning outcomes, learning motivation, and teachers' pedagogical competence.

With this follow-up research, it is hoped that KREASI can be developed into a digital learning innovation capable of addressing the challenges of using educational technology in the era of digital transformation while also strengthening the quality of learning in elementary schools.

Author Contribution

All the authors actively contributed to the preparation of this article. Their contributions included identifying research problems, developing the KREASI innovation concept, drafting the research methodology, analyzing study results, writing the manuscript, and revising it until it was deemed ready for publication. All the authors have read and approved the final version of the manuscript.

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Conflict of Interest

The author states that there are no conflicts of interest in the writing or publication of this article.

Additional Information

This article is the result of developing a technology-based learning innovation concept aimed as an alternative solution to improve the quality of learning in early elementary school classes. Further development through field implementation is still needed to test the effectiveness of the KREASI innovation in various learning conditions.

REFERENCES

Arends, R. I. (2021). Learning to Teach (11th ed.). McGraw-Hill Education.

Branch, R. M. (2020). Instructional Design: The ADDIE Approach. Springer.

Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi. (2022). Kurikulum Merdeka: Panduan Pembelajaran dan Asesmen. Kemendikbudristek.

Mayer, R. E. (2021). Multimedia Learning (3rd ed.). Cambridge University Press.

Mishra, P., & Koehler, M. J. (2021). Technological Pedagogical Content Knowledge (TPACK): A Framework for Teacher Knowledge. Teachers College Record, 123(4), 1–28.

OECD. (2023). Education at a Glance 2023: OECD Indicators. OECD Publishing.

Prensky, M. (2021). Teaching Digital Natives: Partnering for Real Learning. Corwin Press.

Sugiyono. (2023). Metode Penelitian Pendidikan: Pendekatan Kuantitatif, Kualitatif, dan R&D. Alfabeta.

UNESCO. (2023). Global Education Monitoring Report 2023: Technology in Education – A Tool on Whose Terms? UNESCO Publishing.

Wahyuni, S., & Rahmawati, D. (2024). Pemanfaatan Artificial Intelligence dalam Mendukung Pembelajaran Interaktif di Sekolah Dasar. Jurnal Pendidikan Dasar Indonesia, 9(2), 118–130.

Yusuf, M., & Hidayat, A. (2024). Transformasi Digital dalam Pembelajaran Sekolah Dasar Berbasis Kurikulum Merdeka. Jurnal In ovasi Pendidikan, 8(1), 4