Learning science 4th Grade Solution with Media Kahoot at Elementary School

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Abstract. Today's learning media is a great way to develop learning abilities for elementary school children. Science learning in elementary schools is expected to be an effort for elementary school students to master science concepts and are embedded in students' minds. Play is a socially centered process. Here it can increase desire and motivation and stimulate learning at all levels and ages. With the encouragement that emerges for creativity in the classroom, the application of technology can coexist, which is expected to be useful in the learning process. As time goes by, revolution 4.0 in science and technology has developed very rapidly. Application assistance is a good thing to support learning in grade 4 science learning in elementary schools with Kahoot media. Kahoot is an interactive learning game application that uses information and communication technology. Kahoot can create simple quizzes and games so that the atmosphere of learning science in elementary schools will be more interactive because the learning media uses the play chili learning method to support elementary school students' perspective on learning.

1. Introduction

In the development of education, what else in the world of learning, the world of learning should evolve with the development of digital-based information technology. In the era of the industrial revolution 4.0, it has provided many changes in thinking patterns and work patterns for humans. And several aspects of daily life, especially in the field of technology, can be utilized by teaching staff such as teachers or students in supporting the learning process in schools, especially science learning in elementary schools. This learning concept requires students to master the idea of themselves and in the vicinity of everyday life. In industrial revolution 4.0, to teach science learning in elementary schools to provide interactive learning. Teachers can use technology as a learning medium for elementary school students to get a different experience by utilizing existing technology and become a concept that should be considered to advance technology in the education World. Kahoot provides a fun and exciting way of learning. Kahoot media can also provide adequate education and innovation in learning what else is communicative learning. Using Kahoot media can add the necessary skills to use technology in teaching, and students also don't feel bored, which can make concentration on lessons natural Sciences has decreased. Still, behind the technological capabilities of Kahoot's media, there are many benefits. Besides, this media also has shortcomings that make Kahoot fix it so that its utilization can be better. Here are the benefits and drawbacks of Kahoot media:
a. the benefits of Kahoot media in learning
   1. Help students remember learning again by way of interactive learning to be easily recognized.
   2. With the interactive in Kahoot media, it can improve students' learning ability who use it with 
      enthusiasm because this method is a new way to be enthusiastic in learning.
   3. The addition of technology in the world of education is considered capable of increasing the 
      ability and interest in learning, so technology is expected to make students diligent in learning.
   4. Want to learn is using Kahoot media because it is expected to provide a new learning atmosphere 
      and improve knowing quality.
   5. New abilities and experiences are considered capable of adding knowledge in a fun way because 
      new experiences can usually support students to be more enthusiastic in trying.

b. Lack of Kahoot media in learning.
   1. Internet connection is the main problem when Kahoot media is used. This kind of interference is 
      a significant problem in using online-based technology.
   2. The next disturbance is on the cellphone owned, access to each student's cellphone may not be 
      connected, so this will be a problem in the learning process in using Kahoot media.
   3. When the media is disconnected from the internet or connection, it will automatically exit, and it 
      isn't easy to re-enter. Usually, it cannot return to entering Kahoot because maybe the media's 
      existing system has not been updated.

2. Literature Review
Digital transformation marked by the use of the internet and information technology has penetrated 
learning. Advances in technology are often regarded as industrial revolution 4.0 because of their 
profound influence and bringing new production paradigms applied in various fields [1].
Entering the industrial era 4.0, technology development in education must advance in the education 
process. The learning process will be able to develop together with technology. So that learning 
becomes fun, learning media with technology is expected to create, which will undoubtedly be a 
revolution in the world of education and cause a change in perspective in thinking, and education will 
develop and utilize technology as a supporting medium. The learning process will change the 
facilities, media, and students[2][3].

The shift in learning methods from conventional to more advanced technology is the teacher's 
responsibility as a team teaching. Good delivery can be conveyed thoroughly to students and parent 
guides as mediation in using new learning concepts to support the transition and do not consider it a 
threat to conventional teaching Proposed Method [4].

Kahoot is a web-based application that has been modified to be used on a mobile basis which can be 
used to create simple quizzes and games. The Kahoot application has features of Online Quizzes, 
discussions, surveys, and so on to be used as an interactive educational tool for those who use it. 
Kahoot is a technology-based[5] learning media that can be used by a teacher to teach.
In using Kahoot media that must be provided, namely computers, cellphones, and internet networks 
because Kahoot[6] has four features that can be used in learning:

1. Quis feature
   In Kahoot media, this feature can refer to students in the material and as a teacher evaluation to 
   know where the students understand science subjects in elementary schools.

2. Jumble feature
   Media Kahoot provides quality to determine the level of student ability related to the material by 
   matching the questions' answers. Then it can be adjusted according to these questions, and it is 
hoped that students can be interactive so they cannot learn and get maximum results.
3. Discussion feature
Another feature is the discussion feature, which is useful for interacting between teachers and students to determine how the understanding and questions are given to the teacher with Kahoot media.

4. Survey Features
Another supporting feature that can be used is the survey feature. Surveys can be carried out to improve students' quality of questions or seek information directly related to science in elementary schools.

This research is an experimental[7] educational research that requires a comparison of the study group and the control group, which can interfere with learning. Therefore this research[8] method is experimental[9] in the study group. The qualitative research data consists of words and actions, and the rest is additional data in the form of the document. Alderson (2010) make research instrument [10][11]. The instrument has much data as possible can go through questionnaires, observation, and documentation than with the logic inductive method, which is a logical thinking process to understand patterns and trends in data in several stages, one of which is to describe the main features and interpret the data[12][13] [14] [15].

3. Proposed Method
This study uses a descriptive research method with a quantitative approach. The quantitative way is a method used to see objects as the primary key in research. Quantitative research intends to understand the phenomenon of what is happening to the item being studied, for example, behavior, descriptions inhabits, and individual contexts and then used as a natural context. This quantitative research uses the term population or group or organization, commonly referred to as "Social Situation," or a social situation that consists of several elements, including a place where actors and activities interact naturally.

In this study, looking for data and processing it using informant ownership techniques by the research, data collection in this study includes several methods to obtain valid data, including the following:
1. Data collection
2. Observation
3. Evaluation

In quantitative research, more analysis is carried out and focused on the process of observation. This model also uses Miles and Huberman's study, which includes:

1. Data reduction
   Reducing data allows collecting data components
   What is essential and discards what is not crucial, display data in data presentation can be done in the form of brief descriptions, charts, or related flowcharts, and so on.
2. Conclusion drawing? Verification
   Based on Miles and Huberman's utterances on conclusion and validation, the initial findings put forward are still temporary. They will change if there is no strong support for each data collection.

4. Result and Discussion
The growth of personal computing and the internet has brought the diversity of games in education. New opportunities to play to encourage learning are now widely available. One aspect of the game also has a good impact on the concentration of primary school children to focus more on the lessons delivered by utilizing technology in the form of mobile games as learning, which are expected to influence student learning.
Below are examples of some questions that are used by using Kahoot's application after a few problems are made, so when starting the game, all of them will be focused on the striking color of the picture sound to increase concentration and attractiveness for elementary school student.

![Correct](image)

**Figure 1.** The applied question in Kahoot

Fig. 1 is an example of the application of questions that are done using Kahoot. Kahoot provides a new learning experience that is assisted with bright colors, so it is good to do, mainly when applied to elementary school children.

The study's purpose was to examine whether the effectiveness of Kahoot in terms of its ability to educate students. And it can induce and motivate children to determine whether this form of gamification can help cultivate and strengthen learning outcomes from learning. This research provides new knowledge that Kahoot is a learning aid, fun. This optimistic finding is in line with research.

However, with the existence of a smart alternative in learning here, it must have other limitations. Students show their line of use of Kahoot, especially with certain areas with limited internet or WiFi network connections. This lack of internet connection or instability will make the problems faced when using Kahoot. Because of this problem, questions arise that can underestimate this limit because almost all students complain about this.

The problem in this study is that not all teachers and students are used to using Kahoot. So the researchers gave training in using Kahoot. Teachers and students responded very well when they were assisted in using Kahoot. Students' and teachers' motivation increases to help elementary school students be more confident and enthusiastic in learning. Also, the use of games as a means of education encourages better understanding and results.

For this reason, teachers must motivate students in the academic field, and we must be able to support together in creating a smart young generation. And in the end, in the modern era, the world of education will take advantage of technology in its learning system. The demands of using this technology will make students progress and develop and be able to compete. The competitiveness of students will increase the fighting value in learning and become more responsive. With a new learning
method that utilizes self-development and learning abilities, the Kahoot application is useful and conducive to motivating students to develop further.

5. Conclusion

In this research, the use of game applications for elementary school students in grade 4 Kahoot is an interesting new thing to discuss even though these summary results cannot be comprehensive for student learning. Still, this research offers new insights in teaching by utilizing technology to make the teaching staff more fun, the effectiveness of using Kahoot in the world of education which then becomes worthy of consideration, especially if it can be recommended in further research.

The use of sample writing samples from other authors also strengthens a broader and more comprehensive understanding and then pack it well so that the use of Kahoot can be significantly utilized as a new and fun learning method and as a recommendation for future research. More advanced is the teacher's responsibility as the teaching team so that good delivery can be conveyed thoroughly to students and parents' guides as mediation in the use of new learning concepts.

This learning concept requires students to master the idea of themselves and in the vicinity of everyday life. The era of industrial revolution 4.0 is expected in science learning in elementary schools to provide interactive learning. Teachers can use technology as a learning medium for elementary school students to get a different experience by utilizing existing technology and become a concept that should be considered to advance technology in the education World.

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