Utilization of Powtoon Media in Mastering the Material Concept of Classifying Animals Based on Type of Food

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Article Info	Abstrak
	Penelitian ini dilatarbelakangi oleh kurangnya penguasaan konsep peserta didik pada materi penggolongan hewan berdasarkan jenis makanannya. Untuk menemukan suatu konsep dalam pembelajaran, seorang pendidik memerlukan sebuah media dalam melakukan pembelajaran salah satunya adalah media *Powtoon*. Penelitian ini bertujuan untuk mengetahui pemanfaatan media *powtoon* terhadap penguasaan konsep materi penggolongan hewan berdasarkan jenis makanannya. Penelitian ini menggunakan metode pendekatan kuantitatif dengan desain *nonequvalent control group design (postest)*. Program IBM SPSS *Statistics* 25 digunakan untuk melakukan uji normalitas, uji homogenitas, dan uji T sebagai bagian dari proses analisis data. Hasil penelitian berupa uji *Dependent Sample t Test*, didapatkan nilai Sig. < 0,05 yang menunjukkan bahwa ada pengaruh dalam penggunaan media *powtoon* terhadap penguasaan konsep pada siswa sekolah dasar.

Article Info	Abstract
	The research conducted by students' low understanding of the concept of classifying animals based on the type of food they eat. To embed a concept in learning, an educator needs a medium in conducting learning, one of which is powtoon media. This study aims to determine the effect of powtoon media on understanding the material concept of classifying animals based on the type of food. This study used a quantitative approach with a nonequivalent control group design (posttest). The IBM SPSS Statistics 25 program was used to carry out normality tests, homogeneity tests, and T tests as part of the data analysis process. The results of the research are in the form of the Dependent Sample t Test, the Sig value is obtained. <0.05 which indicates that there is an influence in the use of powtoon media on understanding concepts in elementary school students

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1. INTRODUCTION

Learning developments, the use of science and technology in the learning process can help the teacher's role in delivering teaching material. The Constitution explains that obtaining education is an obligation for every Indonesian citizen. This makes educators always innovate in order to provide adequate education for students. According to (Supriyatni, 2021) interactions between teachers and students in the classroom in the learning process that occur must be designed appropriately so that they can influence a good and impressive teaching and learning process. Science is a science that teaches various knowledge that can develop reasoning and analytical skills so that almost all problems related to nature can be understood. According to (Baddu, 2023) that science is a natural

science that studies interconnected facts and concepts through observation and experimentation as well as the process of discovery.

Naturally, science has concepts of thinking and understanding that are integrated in the development of systematic and analytical thinking skills. Natural Sciences (IPA) is often referred to as science education which studies rational and scientific knowledge about the universe and everything in it. Science subjects are lessons that study natural phenomena that exist around us. Therefore, science can be a subject that is quite difficult for elementary school students (Yolanda & Meilana, 2021). It is hoped that the abilities gained can be used to uncover natural phenomena in everyday life, apply science principles with technology, develop scientific habits and attitudes to discover and improve students' understanding of concepts.

Mastery of concepts has an important role in the teaching and learning process and is the basis for achieving learning outcomes. To instill a concept in learning, an educator needs to teach it in a real context by relating it to the surrounding environment. Many problems in learning science subjects are encountered from various aspects by looking at the learning used by teachers. Teachers have used media, but what they use is still simple power point media which uses a lot of writing and pictures, so that many students have difficulty understanding the material and feel bored when taking science lessons (Pratama, et al., 2022).

This condition causes problems in the form of the process of teaching and learning activities which give rise to a lack of understanding of students' concepts. In such learning conditions, students are more passive and dependent on educators, always wanting to be fed with various materials. This is the factor that causes students' lack of motivation and ability to achieve, including students' ability to understand learning concepts in the learning process (Sobron et al., 2019). Educators are the spearhead in the implementation of education as students' learning partners, therefore educators are required to work hard, be creative and innovative in improving the quality of students' learning in all subjects, including science, so it is highly expected that elementary school students will master and understand learning concepts well and correctly.

As a solution to help students' difficulties in mastering material, they need a learning medium. Learning media that can support and support a more enjoyable learning process without reducing the essence of education itself (Hatmanti & Septianingrum, 2020). Therefore, there are important elements of education that must follow the flow of technological development, namely learning media in the teaching and learning process (Salsabila & Aslam, 2020). Therefore, to support the widespread development of technology and the internet, it is related to learning as educators to be able to play a more active role in developing and elaborating learning models that use internet access as a necessity for students to obtain information about learning material when studying at home or outside school (Ubaidillah, 2019).

Various types of learning can boost the teacher's teaching system to make it more interesting and enjoyable. The function of media in the teaching and learning process is to increase the stimulation of students in learning interest activities. Media if understood in broad terms are humans, materials or events, building conditions that enable students to acquire knowledge, skills or attitudes, in this sense teachers, textbooks and the school environment are media (Audie, 2019).

One of the interactive media is Powtoon. Powtoon is an alternative media that can be used because it contains learning videos that can help students receive and digest learning material. The advantage of the Powtoon application is that it can visualize lesson material so that it can attract students' attention. With Powtoon, learning media can be made more modern and attractive in learning presentations, learning videos created using Powtoon media using interesting and unique animations, adding and combining audio, video, text, images and other data needed in the process of delivering learning material (Nadia, 2023).

By using media as a channel for material, one of which is Powtoon, it will help and make it easier for educators to attract students' interest, attention and focus in paying attention to the material

presented so that students understand the concept of the material presented. In receiving material, students must understand the concept of the material first so that the knowledge provided can be understood easily. The media makes students able to visualize what is being taught by educators (Fadila et al., 2022). The use of material on classifying animals based on their food type in Powtoon media will be presented in such a way as to attract students' attention and motivate students to be enthusiastic about understanding the material and knowing how Powtoon media influences primary school students' mastery of science concepts.

2. RESEARCH METHOD

Researchers used quantitative research with a nonequivalent control group design (posttest). In this research, a comparison was made between the experimental class using Powtoon media and the control class using PPT learning media. This research design can be described as follows:

Table 1. Research design

Group	Treatment	Posttest
Experiment	X1	O1
Control	X2	O2

(Source: modified from Gall, et al. in Agung, 2014: 163)

Information:
X1: Application of Powtoon Media
X2: Application of Media without Powtoon
O1 and O2: Post test

The object of this research is SDN Gayungan 2 Surabaya. The population in this study were all fifth grade students at SDN Gayungan 2 Surabaya. The samples in this research were students in classes VA and VB at SDN Gayungan 2 Surabaya. Class VA is a control class with a total of 25 students who receive treatment using PPT learning media and class VB as an experimental class with a total of 25 students who receive treatment using Powtoon media.

This research uses a test (posttest) in the form of a description as a data collection technique. Tests are exercises that measure the abilities, information, attitudes and intelligence of a person or group. This test was given to the control group and the experimental group in the form of a posttest given at the end of the lesson.

Table 2. Concept Mastery Question Format

Topic	Cognitive Level						Note.
	C1	C2	C3	C4	C5	C6	
Analyze the characteristics of classifying animals based on the type of food they eat				7.8			question number
Know the definition of classifying animals based on the type of food they eat	1,2,6						
Analyze the function of animal parts according to the type of food they eat		3,4					

Classify animals based on the type of food they eat			5				
Categorize animals based on the type of food they eat						10	
Determine animal groups based on the type of food they eat				9			
Total Questions	10						

Data analysis techniques are assisted by using programsIBM SPSS Statistics 25 to test the hypothesis with the t-test.

3. RESEARCH RESULTS AND DISCUSSION

Researchers will explain the data obtained, namely data analysis activities. Data analysis carried out includes normality test analysis, homogeneity test, hypothesis test (Dependent Sample t Test) which we can see in the table below:

Table 3. Analysis of Concept Mastery

Data Type		*Post Test*	
Group		**Control**	**Experiment**
N Mean Std Dev Range Minimum Value Maximum Value		25 77.64 9,282 41 53 94	25 92.72 5,489 19 81 100
Test Normality	Sig.	.018	,001
	Information	Normal	Normal
Test Homogeneity	Sig.	,163	
	Information	Homogen eous	Homogeneous
t test (Dependent *Sample Test*)	Sig.	0,000	
	Information	Significant	

In this research, the Paired Sample t Test also carried out a data normality test to find out whether the student learning outcome data was normally distributed or not. The results obtained were that all data from the post-test from the experimental and control classes had a significance value > 0.05, so all data from the experimental and control classes had a normal distribution. From the test results, the sig value was obtained. (2 tailed) of 0.000 < 0.05, it can be concluded that there is a difference in the average student learning outcomes for the experimental class

posttest and the control class posttest. It can be concluded that there is an influence of Powtoon media on students' mastery of concepts.

Powtoon media can foster interest in learning in understanding learning concepts. material for classifying animals based on the type of food (Kresnandya, 2019). The concept of classifying animals based on the type of food using the help of Powtoon media can increase insight and understand the material easily (Pratama, et al., 2023). Students' interest and focus in paying attention to powtoon media has increased, especially on the material on the characteristics of animal classification (Tiwow., et al, 2022).

The influence of powtoon media on concept mastery can be seen from the posttest scores. After carrying out prerequisite tests in the form of normality tests, homogeneity tests, and hypothesis tests to draw conclusions and test hypotheses, a score analysis was carried out on each material indicator for classifying animals based on the type of food. The score calculation for each indicator can be seen in table 2 below:

Table 4. Analysis of Scores for Each Material Indicator for Classifying Animals Based on Type of Food in the Experimental Class

Concept of Matter	Score Posttest
Analyze the characteristics of classifying animals based on the type of food they eat	80.2
Know the definition of classifying animals based on the type of food they eat	88.8
Analyzing the function of animal parts, classifying animals based on type The food	
Classify animals based on the type of food they eat	93.6
Categorize animals based on the type of food they eat	94.8
Determine animal groups based on the type of food they eat	97.4

Based on table 2, it can be seen that the posttest score obtained the lowest score, obtained a score of 80.2 and the highest score obtained a score of 97.4 using Powtoon media. The research was carried out by giving post-test questions to students after the teacher conducted learning in the VB class as an experimental class. This was done to find out the extent of class V students' mastery of the Natural Science material on Classifying Animals Based on Type of Food.

In this research, the results of statistical analysis show that H0 is rejected and Ha is accepted, meaning that there is the use of Powtoon media in mastering the material concept of Classifying Animals Based on Type of Food in fifth grade elementary school students. The following is a description of each material indicator for classifying animals based on the type of food:

The research was carried out by giving post-test questions to students after the teacher conducted learning in the VB class as an experimental class. This was done to find out the extent of class V students' mastery of the Natural Science material on Classifying Animals Based on Type of Food.

In this research, the results of statistical analysis show that H0 is rejected and Ha is accepted, meaning that there is the use of Powtoon media to mastery of the material concept of classifying animals based on their food size in class V elementary school students. The following is a description of each material indicator for classifying animals based on the type of food:

1. **Characteristics of classifying animals based on the type of food they eat**

   The material concept of analyzing the characteristics of classifying animals based on the type of food obtained a score of 80.2, which is quite a good score because with the Powtoon media, students are able to understand this material well. Media Powtoon is an online service that is able to provide very interesting animation features including many kinds of image choices and is able to include videos and animations in it such as manipulating objects, adding images, providing music, and being able to add text and audio (Qurrotaini et al, 2020). This is supported by Lestari's research, (2020) which states that Powtoon media can present presentations or material that can be accessed on the screen, so that Powtoon can be easily used as a learning medium with animated models and other cartoon objects, which can make viewing the media easier for participants. educate in understanding the concept. The topic indicator for the characteristics of classifying animals based on the type of food in the assessment instrument in this study uses cognitive level C4. The reason for using C4 is because researchers want students to be able to analyze the characteristics of classifying animals based on the type of food they eat well.

2. **Definition of classification of animals based on the type of food they eat**

   The results of students' learning on the material on classifying animals based on the type of food in the experimental class showed that students were able to understand the learning material well in answering these questions. The learning outcomes (post-test) of students for each indicator for which the score has been calculated can be seen from the score for each indicator of the experimental class learning outcomes in the material concept, knowing the definition of animal classification based on the type of food, obtained a score of 88.8, which is classified as material that is easy for students to understand. because with the help of powtoon media which defines each material in a short time and more effectively. In line with research by Kresnandya, (2019) which states that powtoon media can foster interest in learning in understanding learning concepts. Testing the definition topic of classifying animals based on the type of food on the assessment instrument uses cognitive level C1. The reason for using levels using cognitive level C1 is that the topic of defining the classification of animals based on the type of food they tend to involve understanding and explaining, therefore researchers want students to be able to explain the concept of classifying animals based on their food well. This is supported by Fitriyani's (2019) previous research that the audio visual learning media Powtoon about self-concept for students in elementary schools can be effectively used as a learning method in the classroom.

3. **The function of animal parts is classified based on the type of food they eat**

   The material concept analyzes the function of the parts of the animal classification based on the type of food, obtaining a score of 90.6 which exceeds the standard score at school, namely 70. With the help of Powtoon media, students can understand the material. This means that the material on the functions of classifying animal parts based on the type of food can be conveyed well, because many students do not understand this material. In line with research conducted by Ginting, (2020) with the title "Analysis of Students' Difficulties in Classifying Animals Based on Type of Food in Class V of SD Negeri 040471 Kampung Merdeka" which explains that students' knowledge in knowing the function parts of classifying animals based on the type of food they eat are considered lacking. To test students on this topic, the instrument used is cognitive level C2. The reason researchers use C2 is so that students are able to analyze topics well, it is proven that students are able to improve their understanding of concepts well.

4. **Classification of animals based on the type of food they eat**

   The material concept of classifying animals based on the type of food obtained a score of 93.6. To test students on this topic, the instrument used is cognitive level C3 because in this

sub-material it has a high score. Students are not only required to understand the concept but also must be able to classify a group of animals based on the type of food they eat. Based on the scores obtained, it proves that the students' mastery of the concept of animal classification material based on the type of food because the use of powtoon media can provide meaningful lessons and make students understand the material better. In line with research by Suyanti, Sari and Rulviana (2021) entitled "Powtoon media to increase elementary school students' learning motivation" which shows that learning activities are interesting using Powtoon media so that students focus on the material and can convey ideas, students are more enthusiastic and enthusiastic and active.

In line with research from Wulandari, Ruhiat and Nulhakim (2020) with the title "Development of Powtoon-based video media in science subjects in class V" which states that the use of Powtoon-based learning animation video media in science subjects is that students really understand the material and are very interested in learning science so that it can be effectively used in the learning process with powtoon-based animated video media.The existence of this powtoon media will be able to overcome problems in science learning, especially the material on classifying animals based on their type of food which requires real delivery of concepts. To be able to maximize the use of media in science learning which requires direct learning, the help of Powtoon media is needed.

5. **Categorize animals based on the type of food they eat**

The material concept of categorizing the classification of animals based on the type of food obtained a score of 94.8 because the material is easier to understand and students are able to visualize the material using powtoon media packaged with interesting material. powtoon provides users to create animated presentations with very interesting features. These include hand animation, cartoon animation, and livelier transition effects as well as easy timeline settings. Anjarsari et al., (2020). It can be said that Powtoon can create an animation that contains materials in attractive packaging. This is supported by research by Dona, Egok and Febriandi (2021) with the title "Development of Interactive Multimedia Based on Powtoon in Thematic Learning in Elementary Schools." Through Powtoon media it can also make students more enthusiastic in listening to the material presented by the teacher and help students in understand a concept in the material. To test students on this topic, the instrument used is cognitive level C6. The reason researchers use C6 is that the results of the post-test show that students are still confused about differentiating animal groups based on the type of food they eat.

6. **Determine animal groups based on the type of food they eat**

The material concept of determining animal groups based on the type of food obtained a score of 97.4 because students were able to master the material concept using Powtoon media which made students more active and curious in classifying animals based on their type of food. To test students on this topic, the instrument used is cognitive level C5. Obtaining a high score is because by using Powtoon media it is easier for students to understand the material that has been explained. This is supported by research from Ibrahimi and Suryanti (2022) entitled "Effectiveness of Powtoon-Based Learning in Increasing Learning Outcomes on Adaptation of Living Creatures to the Environment in Science Subjects for Class V Elementary School" which states that Powtoon media which contains learning videos can help students. in receiving and digesting learning material. The advantage of the Powtoon application is that it can visualize lesson material so that it can attract students' attention. With Powtoon, you can create IT-based learning media to modernize and make learning presentations attractive, learning videos made using Powtoon media using interesting and unique cartoon animations, adding and combining audio, video, text, images and other data needed in the delivery process learning materials.

4. CONCLUSION

The use of science and technology in the learning process can help teachers in delivering teaching material. This is in line with the Constitution which explains that obtaining education is an obligation for every Indonesian citizen, with this explanation it can encourage educators to always innovate in order to provide proper education for students. To overcome problems in learning, educators need to provide learning media that can support students' learning process to make it more enjoyable without reducing the essence of education itself. Based on the results and discussion in this research, it shows that there is an influence of Powtoon media on elementary school students' mastery of science concepts. There is an influence of using Powtoon media on students' mastery of concepts in the material of classifying animals based on the type of food in using Powtoon media as well as students' enthusiasm in carrying out the learning process, so that the difficulties experienced by students in learning material on human movement organs can be overcome. Therefore, the powtoon media in this research can be used to improve student learning in class.

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