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The Use of Quizizz to Improve Motivation and Learning Outcomes of Photosynthesis in Grade IV Students of UPT SDN 70 Gresik

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ABSTRACT

Abstract: This research was started from the learning outcomes of students in class IV UPT SDN 70 Gresik which were below the Average Minimum Completeness Criteria (KKM). This research investigates students' understanding of the IPAS subject material about photosynthesis of green plants and the stages of light reactions and dark reactions during photosynthesis. This research is intended for students in the class. The method used was Classroom Action Research (PTK). The data analysis technique used is descriptive qualitative while the data collection process through student worksheets, student learning outcomes and documentation in the form of photos. From the results of data analysis, the research showed significant changes. This is proven by the increase in learning results and pleasant student learning motivation. The application of Quizizz media helps students understand the material well. It can be seen from the results of cycle I the average score was 68.69 with a percentage of 68.7% while in cycle II it increased to 79.78 with a percentage of 79.8%. From the results of the research that has been done, it can be concluded that the use of Quizizz to increase Motivation and Learning Results of Photosynthesis in Class IV Students at UPT SDN 70 Gresik has gone well so that student learning outcomes and motivation increase and the score target exceeds the KKM.

Keywords: The Application of *Quizizz*, Learning Motivation, Learning Outcomes, Photocytesis

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INTRODUCTION

The development of technology and information is increasingly modern, to follow digital-based learning that encourages the creation of innovative, effective, and efficient utilization of learning media, a digital-based learning media is needed to be utilized in an effort to improve student learning outcomes (Irwan, et al., 2019). Learning media is needed by teachers to be a tool to convey subject matter. Learning media is an intermediary that is functioned by the sender as a channel to send messages to the recipient, so that it can invite the same attention, thoughts, feelings, and desires so that the learning process occurs (Sadiman, et al., 2010).

According to Nugroho (2017), the experimental approach in teaching and learning involves students actively participating in the experimental process and directly demonstrating the results. Where by doing experiments students will increase their knowledge directly related to everyday life.

Based on observations, some students easily master the concept of material but are weak in learning outcomes, especially science in the classroom. This is because students tend to describe abstract ideas at the beginning of IPAS learning because practical exercises are carried out towards the end of class rather than the beginning of learning. Students often find it difficult to understand subsequent learning concepts.

Therefore, teachers need to take action so that the learning outcomes of students in class IV UPT SDN 70 Gresik on IPAS subjects have improved. One of the strategies applied is to build learning motivation for students so that students are able to do IPAS questions well. In addition to building learning motivation for students, students are also given exercises that are attractively designed so that when students work on them it does not cause boredom or incomprehension in working on these problems.

Therefore, teachers need to take action so that the learning outcomes of students in class IV UPT SDN 70 Gresik on IPAS subjects have improved. One of the strategies applied is to build learning motivation for students so that students are able to do IPAS questions well. In addition to building learning motivation for students, students are also given exercises that are attractively designed so that when students work on them it does not cause boredom or incomprehension in working on these problems.

One of the interesting and interactive learning media that prioritizes cooperation, communication, and can cause interaction between students is through games that have the characteristics of creating motivation in learning, namely fantasy, challenges and curiosity (Irwan, et al., 2019). Games or games are all contests that cause interaction with one another between players by following existing rules that have been determined in achieving a goal (Sadiman, et al., 2010).

Many media can be applied by teachers, one of the game-based learning media that can also be used as an evaluation to measure student understanding as long as students get the material that has been taught is Quizziz educational game-based learning media. Quizziz is a game-based educational application that can be used as a learning evaluation media. Learning activities in the classroom can be a boring activity for students if learning evaluations are carried out with text and also read by the teacher, teachers can use evaluation media by utilizing varied learning media to be more interesting for students.

The learning process that takes place in elementary schools, especially in IPAS subjects, students are guided to be able to think critically and analytically, with the aim of fostering curiosity, interest, and active involvement to increase the potential knowledge and abilities of students (Pratiwi1 et al., 2024). Based on these objectives, teachers are guided to be able to accommodate the diverse abilities of each learner so that they can be easily understood by all learners well. Photosynthesis material, as one of the important materials in Class IV IPAS lessons, is often a challenge for students. The abstract concepts contained in it, such as chlorophyll, sunlight, and glucose formation, require a deep understanding.

In the evaluation results, especially the IPAS learning content, out of 23 students who reached the minimum completeness criteria (score 70) only 13 students while 10 students had not reached the KKM. In order to improve student learning outcomes, it can be through the application of online learning media that is attractive and easy to access smartphones and other digital devices.

With the application of learning using the Quizizz game, it is hoped that students will be more active and make students able to think critically, logically, and rationally so that the ability to do IPAS question exercises will increase. Seeing the facts and problems that exist, the researcher focuses the research problem on the use of Quizizz learning media on the results of increasing motivation and learning outcomes of IPAS in class IV students of UPT SDN 70 Gresik in the 2024-2025 academic year.

METHODS

The type of research conducted by this research is Classroom Action Research (PTK) or another name Classroom Active Research, which is a research model developed in class according to the needs or problems in the class. In accordance with this type of research, this researcher has researcher stages in the form of cycles. Related to Classroom Action Research (PTK), namely action research and class. First, research is a problem-solving process that is carried out systematically, empirically and controls. Second, action can be interpreted as a certain actor carried out by the researcher, namely the teacher. Third, the class shows the place of the process.

This research was conducted at UPT SDN 70 Gresik, Cerme District, Gresik Regency with 23 students as research subjects and the object of this research is photosynthesis material. This research is a Classroom Action Research (PTK) which was carried out in two cycles. Each cycle consists of four stages, namely: (1) Planning. Before conducting Classroom Action Research, researchers first organize a plan. The indicators that must be considered in the plan are what to research, why to research, when to research, where to research, who to research and how the results obtained by researchers with students. And this stage also researchers with teachers design and plan learning scenarios that will be carried out in each action. And the scenarios made must be detailed in writing and not made up, (2) Action. At this stage the researcher and the teacher begin to implement the learning scenarios that have been previously designed at the planning stage. (3) Observation. This observation stage is not separated from the action stage that is being carried out, so both run directly at the same time. Researchers together with teachers make observations and record all the things that are needed and occur during the implementation of the action. (4) Evaluation. At this stage it cannot be separated from the action being taken. After taking action or providing learning about the material that has been determined, the researcher gives an evaluation. (5) Reflection. What is discussed at this stage in order to be able to thoroughly review and restate. The actions that have been carried out, based on the data that has been collected, are then evaluated in order to improve the next action. Reflection in PTK includes analysis and research on the results of observations.

RESULTS

This study compiled the following planning: Learning tools which include components, namely the syllabus, lesson plans (RPP) which are carried out offline include learning steps, learning material grids, assessment rubrics, assessments in using the Quizizz application in the form of multiplechoice tests. In its implementation, each cycle was carried out for 2 lesson hours in class IV UPT SDN 70 Gresik, Cerme District, Gresik Regency in the 2024-2025 school year.

1. Use of Quizizz Media

   Cycle I

   At the time of the implementation of cycle I which was carried out at the beginning of the odd semester of the 2024-2025 academic year, class IV students numbered 23 children. In cycle

I, 13 out of 23 children in learning IPAS photosynthesis material have not met the KKM. Some of the obstacles they face are lack of concentration and not being able to understand the material well.

At the beginning of using Quizizz media, some students still ask for help in using this application. Because they are still lacking in using the internet to log in to the Quizizz application.

Therefore, researchers stimulate by providing motivation and enthusiasm for learning for students. Namely by repeating the material that has been delivered today until they understand about photosynthesis of green plants and the bright reactions and dark reactions that occur during the photosynthesis process.

Cycle II

The implementation of cycle II research was carried out 1 week after the implementation of cycle I. This is because there are still some students who have not met the KKM. In cycle II, students worked on questions using Quizizz media independently. Researchers only monitor without providing clues.

From the results of observations of cycle I and cycle II of the use of Quizizz media in IPAS subjects on photosynthesis material of green plants and the stages of light and dark reactions during the photosynthesis process, the following diagram can be obtained:

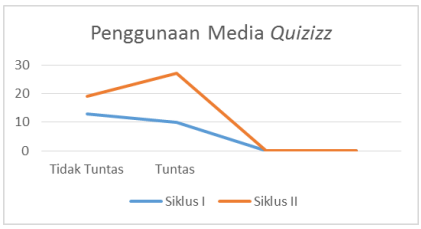

Diagram 1 ***Use of Quizizz media***

For comparison of student learning outcomes in cycle I and cycle II, the results are described as follows:

Table 1 The use of quizizz media

No	Research Result	Number	Average score
1	Cycle I	1.580	68,69
2	Cycle II	1.835	79,78

The learning outcomes achieved by students in cycle I and cycle II can be seen in the table above. Cycle I the average score was 68.69 even though the KKM target that must be met is 75, so that students in cycle I researchers have not succeeded in meeting these targets.

In cycle II students already feel comfortable and happy when learning takes place and students no longer feel difficulties in learning IPAS photosynthesis material so that the learning outcomes achieved are better and meet the KKM. The average score obtained by students is 79.78 so that it can be said that students have succeeded well.

a. Motivation to Learn

Cycle I

During the implementation of learning in cycle I, students have not been able to understand the photosynthesis material of green plants and the stages of light reactions and dark reactions during the photosynthesis process. This is due to the lack of learning motivation in students. Characterized by not being able to understand the material perfectly so that students answer questions as they are which causes students to score below the KKM.

Therefore, researchers build the motivation and enthusiasm of students by providing ice breaking and charades to stimulate students' understanding of the material.

Cycle II

In cycle II research, students experienced an increase in learning motivation. This is indicated by the increasing learning outcomes of photosynthesis material of green plants and the stages of light reactions and dark reactions during the photosynthesis process. In cycle II, students were able to master the material well.

From the results of observations of cycle I and cycle II in terms of student learning motivation in IPAS subjects on photosynthesis material of green plants and the stages of light and dark reactions during the photosynthesis process, the following diagram can be obtained:

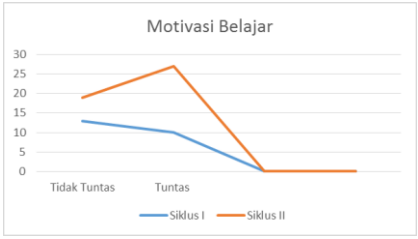

Diagram 2 *Learning Outcomes*

For comparison of student learning outcomes in cycle I and cycle II, the results are described as follows:

Table 2 Learning Outcomes

No	Research Result	Number	Average score
1	Cycle I	1.580	68,69
2	Cycle II	1.835	79,78

The learning outcomes achieved by students in cycle I and cycle II can be seen in the table above. Cycle I the average score was 68.69 even though the KKM target that must be met is 75, so that students in cycle I researchers have not succeeded in meeting these targets.

In cycle II students already feel comfortable and happy when learning takes place and students no longer feel difficulties in learning IPAS photosynthesis material so that the learning outcomes achieved are better and meet the KKM. The average score obtained by students is 79.78 so that it can be said that students have succeeded well.

b. Learning Outcomes

Cycle I

During the implementation of cycle I learning, students have not been able to understand the photosynthesis material of green plants and the stages of light reactions and dark reactions during the photosynthesis process. This is due to the lack of learning motivation in students. Characterized by not being able to understand the material perfectly so that students answer questions as they are which causes students' scores to be below the KKM and affects the decline in student learning outcomes in IPAS subjects.

Therefore, researchers build the motivation and enthusiasm of students so that learning outcomes in IPAS subjects, especially the material on photosynthesis of green plants and the stages of light reactions and dark reactions in the photosynthesis process increase.

Cycle II

In cycle II research, students experienced an increase in learning motivation. This is indicated by the increasing learning outcomes of photosynthesis material of green plants and the stages of light reactions and dark reactions during the photosynthesis process. In

cycle II, students were able to master the material well. So that the learning outcomes on the material meet the KKM value.

From the results of observations of cycle I and cycle II in terms of student learning outcomes in IPAS subjects on photosynthesis material of green plants and the stages of light and dark reactions during the photosynthesis process, the following diagram can be obtained:

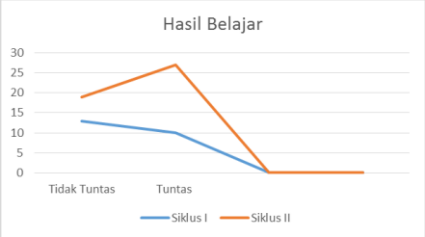

Diagram 3 *Learning Outcomes*

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1	Cycle I	1.580	68,69
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The learning outcomes achieved by students in cycle I and cycle II can be seen in the table above. Cycle I the average score was 68.69 even though the KKM target that must be met is 75, so that students in cycle I researchers have not succeeded in meeting these targets.

In cycle II students already feel comfortable and happy when learning takes place and students no longer feel difficulties in learning IPAS photosynthesis material so that the learning outcomes achieved are better and meet the KKM. The average score obtained by students is 79.78 so it can be said that students have succeeded well.

Analysis of test results obtained from student test results distributed by the teacher at the end of each cycle. Students are said to have completed learning if the success achieved gets a score of 75 or more. Meanwhile, the average learning outcomes of all students reached 80%. The learning completeness value of each student is obtained from the KKM made by the fourthgrade teacher.

The success or indicator of the achievement of goals in "The Use of Quizizz to Increase Motivation and Learning Outcomes of Class IV UPT SDN 70 Gresik Students" is the result of the teacher's assessment during the learning activities took place reached 80% and the results of the assessment of student activity during the learning activities took place reached 80% or according to KKM with the achievement of individual scores of 75 or more. Obstacles and mistakes that occur during the learning process can be overcome properly.

DISCUSSION

This study compiled the following planning: Learning tools which include components, namely the syllabus, lesson plans (RPP) which are carried out offline include learning steps, learning material grids, assessment rubrics, assessments in using the Quizizz application in the form of multiplechoice tests. In its implementation, each cycle was carried out for 2 lesson hours in class IV UPT SDN 70 Gresik, Cerme District, Gresik Regency in the 2024-2025 school year.

Figure 1 Learner Activities Using the Quizizz App

This study compiled the following planning: Learning tools which include components, namely the syllabus, lesson plans (RPP) which are carried out offline include learning steps, learning material grids, assessment rubrics, assessments in using the Quizizz application in the form of multiplechoice tests. In its implementation, each cycle was carried out for 2 lesson hours in class IV UPT SDN 70 Gresik, Cerme District, Gresik Regency in the 2024-2025 school year.

The use of quizizz applied in learning can affect student learning outcomes. The results of research conducted by Gamar Al Haddar and Maulana Adam Juliano (2021) state that the use of the quizizz application can foster student motivation and interest in learning and make the learning process fun.

Student learning motivation affects the improvement of learning outcomes. From the results of research from Ghullam Hamdu and Lisa Agustina (2011) states that motivation is one of the things that affects the success of student learning activities. From the results of research from Amin Kiswoyowati (2011) states that motivation is related to students' life skills.

Student learning outcomes will also increase because students do not feel bored so that students are able to understand the material being studied. According to Teni Nurrita (2018), increasing student learning outcomes is through the provision of easy and interesting learning media so that students can understand the lessons easily. By Cut Rina, TB. Endayani and Maya Agustina (2020) stated that learning methods affect student learning outcomes.

Based on reflection on cycle I, it is known that there are still weaknesses and shortcomings in adjusting the use of the quizizz application in the learning activities that have been carried out. These shortcomings include students still having difficulty reading text that is too small, there are still few students who dare to express their opinions when discussing in between the teacher explaining, there are still students who are less focused on carrying out learning practices using the quizizz application.

With the increase in cycle II, it can be concluded that the classroom action research "Using Quizizz to Improve Motivation and Photosynthesis Learning Outcomes in Class IV Students of UPT SDN 70 Gresik in the 2024/2025 Academic Year" is said to be successful. This research ended in cycle II because students' learning motivation had achieved the success criteria as set and had achieved completion.

CONCLUSION

Based on the results of classroom action research and discussions that have been carried out, it can be described and concluded that the use of Quizizz can improve the motivation and learning outcomes of students in the subject of Science on the material of Photosynthesis of green plants and the stages of light and dark reactions as evidenced by:

The use of quizizz media helps students understand the learning material. Quizizz media makes it easier for students to understand by displaying interesting tournament games for students

so that students do not get bored with the material. During the implementation of cycle I, 13 out of 23 students were able to use quizizz well. Then in the implementation of cycle II there was an increase, namely 6 out of 23 students who still did not meet the KKM standard or were not able to use quizizz well.

Learning motivation affects the improvement of student learning outcomes. So that motivation affects the success of student learning activities. From the research that has been done, it states that in the first cycle, student learning motivation was 68.7% and in the second cycle it increased to 79.7%. This proves that motivation affects the improvement of student learning outcomes.

Learning outcomes will increase when students are able to understand the material well. Students' understanding of learning materials is related to the application of learning methods that are fun for students. From the research that has been done, it states that in the first cycle, students' learning motivation was 68.7% and in the second cycle it increased to 79.7%. So that students' learning outcomes will increase when students are able to master the material well.

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REFERENCES

1. Purba, E.K., & Rahmadi, P. (2021). Upaya guru dalam meningkatkan keaktifan siswa melalui media pembelajaran Quizizz pada proses pembelajaran daring. Kairos: Jurnal Ilmiah, l(2), 146-163. https://doi.org/10.31539/spej.v41.1637
2. Solikah, H (2020). Pengaruh penggunaan media pembelajaran interaktif Quizizz terhadap motivasi dan hasil belajar siswa. Bopala: jurnal mahasiswa UNESA, 7(3), 1-8. https://jurnalmahasiswaunesa.ac.id/index.php/bapala/article/view/34508
3. Hidayati, I. D., & Aslam, A. (2021). Efektivitas Media Pembelajaran Aplikasi Quizizz Secara Daring Terhadap Perkembangan Kognitif Siswa. Jurnal Pedagogi Dan Pembelajaran, 4(2), 251. https://doi.org/10.23887/jp2.v4i2.37038
4. Sudjana, Nana. 2009. Penilaian Hasil Proses Belajar Mengajar. Bandung : Remaja Rosdakarya.
5. Arikunto, Suharsimi, dkk. 2007. Penelitian Tindakan Kelas. Jakarta : Bumi Aksara.
6. Campbell, N.A., J.B Reece, L.A Urry, M.L Cain., S.A Wasserman, P.V. Minorsky. 2017. Campbell Biology 11th Edition. New York: Pearson Higher Education.
7. Campbell, N.A., J.B Reece, L.A Urry, M.L Cain., S.A Wasserman, P.V. Minorsky. 2018. Biology A Global Approach 11th Edition. New York: Pearson Higher Education.
8. Yustiningsih, Maria. 2019. Intensitas Cahaya dan Efisiensi Fotosintesis pada Tanaman Naungan dan Tanaman Terpapar Cahaya Langsung. BIO-EDU: Jurnal Pendidikan Biologi. JBE 4(2), 44-49. http://jurnal.unimor.ac.id/JBE/article/view/385/207.
9. Sarah Covshoff. 2018. Photosynthesis: Methods and Protocols, Methods in Molecular Biology, Humana Press: Springer Nature, vol. 1770, https://doi.org/10.1007/978-1-4939-7786-4_3.
10. J.B Reece, Taylor MR, Simon EJ, Dickey JL. 2012. Biology: Concept and connections. Campbell 7th edition. San Fransisco (US): Pearson Education, Inc.
11. Ai, Nio Song. 2012. Evolusi Fotosintesis pada Tumbuhan. Universitas Sam Ratulangi: Jurnal Ilmiah Sains Vol. 12(1).
12. Harahap, Fauziyah. 2012. Fisiologi Tumbuhan: Suatu Pengantar (BAB VIII). Medan: Unimed Press.
13. Sularno. 2009. Reaksi Penangkapan Energi dan Reaksi Fiksasi Carbon Sebagai Istilah Alternatif Pengganti Reaksi Gelap dan Terang dalam Proses Fotosintesis. Menara Ilmu: Vol 1(15). https://doi.org/10.31227/osf.io/6crdm.
14. Drs. Suyitno Al MS. 2005. Fotosintesis. Pendalaman Materi Biologi Siswa-Siswi SMP Stella Duce 1 Yogyakarta. 29 Oktober 2005, Yogyakarta, Indonesia. Hal 1-6.
15. Alberts et al. 2002. Molecular Biology of The Cell 4th Edition. New York: Garland Publishing.
16. Manggabarani, A. M. 2018. Reaksi Fotosintesis Gelap dan Terang. https://www.generasibiologi.com/2018/04/reaksi-fotosintesis-gelap-dan-terang.html. Diakses 16 Juni 2020.
17. Tok, Panji. 2015. Reaksi Gelap Fotosintesis Siklus Calvin. https://www.edubio.info/2015/05/reaksi-gelap-fotosintesis-siklus-calvin.html. Diakses pada 16 Juni 2020.