



Contextual Learning-Based E-Student's Worksheet for Grade VI Elementary School

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ABSTRAK

Masih banyak guru yang kesulitan dalam membuat perangkat pembelajaran yang sesuai untuk siswa. Hal ini berdampak pada kegiatan pembelajaran yang kurang berjalan optimal. Tujuan penelitian ini yaitu mengembangkan E-LKPD berbasis pembelajaran kontekstual pada materi ciri makhluk hidup dan lingkungannya. Jenis penelitian ini yaitu R & D dengan menggunakan model ADDIE. Subjek penelitian ini terdiri dari 2 ahli media dan 2 ahli materi. Subjek uji coba penelitian yaitu 1 guru/praktisi dan 9 orang siswa kelas VI. Metode pengumpulan data yaitu observasi, wawancara, dan kuesioner. Instrument yang digunakan yaitu rating scale. Teknik analisis data yang digunakan pada penelitian ini yaitu analisis deskriptif kualitatif dan analisis deskriptif kuantitatif. Hasil penelitian yaitu skor yang didapatkan berdasarkan penilaian ahli media pembelajaran yaitu pewarnaan dengan nilai 5,00 (sangat valid), tampilan E-LKPD 4,33 (valid), Penyajian 5,00 (sangat valid). Rata-rata nilai validasi media E-LKPD dari ahli media yaitu 4,78 (sangat valid). Hasil keseluruhan rata-rata validasi materi sebesar 4,66 sehingga dapat dikatakan bahwa materi yang tersaji pada E-LKPD sangat valid. Hasil penilaian yang diberikan oleh guru yaitu 95 % (sangat praktis) dan hasil penilaian siswa yaitu 92,2% (sangat praktis). Hasil analisis data tersebut menunjukkan bahwa E-LKPD berbasis pembelajaran kontekstual layak dan praktis digunakan dalam proses pembelajaran karena dapat membantu siswa memahami materi dan memotivasi belajar siswa dengan baik.

ABSTRACT

There are still many teachers who have difficulty in making appropriate learning tools for students. It has an impact on learning activities that are not running optimally. This research aims to develop an E-Student's Worksheet based on contextual learning of the characteristics of living things and their environment. This type of research is R&D using the ADDIE model. The subjects of this study consisted of 2 media experts and 2 material experts, research trial were 1 teacher/practitioner and 10 fifth-grade students. The data collection methods were observation, interviews, and questionnaires. The instrument used is a rating scale. The data analysis technique used in this research is the descriptive qualitative analysis and descriptive quantitative analysis. The results of the study are the scores obtained based on the assessment of learning media experts, coloring with a value of 5.00 (very valid), the display of E-Student's Worksheet is 4.33 (Valid), and Presentation of 5.00 (very valid). The average value of E-Student's Worksheet media validation from media experts is 4.78 (very valid). The overall result of the average validation of the material is 4.66, therefore the material presented on the E-Student's Worksheet is very valid. The teacher's assessment results are 95% (very practical), and the student's assessment results are 92.2% (very practical). It is concluded that contextual learning-based E-Student's Worksheet is feasible to use in the learning process because it can help students understand the material and motivate them to learn well.

1. INTRODUCTION

Education is an essential for everybody who wants to encourage a better future. This is so that education can explore and analyze the information and potential that people have (Alit et al., 2021; Coman et al., 2020; Hayati et al., 2020; Müller & Wulf, 2020). In education, the government must prepare an appropriate curriculum involving active teachers and students so that learning activities become

meaningful. Currently, the Indonesian education system implements the 2013 curriculum (Puspitawangi et al., 2017; Rohita et al., 2018; Setiawan et al., 2020; Wulandari, 2020). The purpose of the 2013 curriculum is to increase student activity during learning and increase student potential. The 2013 curriculum has changed the paradigm of learning activities from teaching to learning (Akib et al., 2020; Lestari, 2018; Mitra & Purnawarman, 2019). In this case, learning activities are no longer teacher center but student center (Octavyanti & Wulandari, 2021; Winatha et al., 2018). Student-centered learning activities will make students more focused and also have fun learning activities so that they can improve the quality of education and learning. In addition, learning activities become more meaningful because active student involvement makes students' memory stronger and attached to students so that it certainly increases knowledge (Diah Purwati et al., 2019; Mertasari & Ganing, 2021; Rohita et al., 2018). In addition, learning objectives also have meaning so that students not only know but understand the material being studied. The 2013 curriculum creates integrated learning through thematics. One of the learning content in it is science. Natural science (IPA) is a content that must be mastered by students (Nirfayanti & Syamsuriyawati, 2019; Pambudi et al., 2019). In the 2013 curriculum, science learning places more emphasis on providing direct experience. The purpose of students studying science is to increase curiosity related to everyday life (Samsu et al., 2020; Winarti, 2021). In addition, learning what science also makes students aware of their environment. Learning science causes students to understand natural phenomena (Abbas & Yusuf Hidayat, 2018; Khoirudin, 2016). Teachers are required to make innovative learning activities so that science learning activities and learning objectives can be achieved.

But the current issue is that teachers are less creative. The findings of previous research stated that there are still many teachers who have difficulty in choosing appropriate learning tools for students (Anwar et al., 2016; Asikin, 2017). Another finding states that there are still many teachers who have difficulty in creating appropriate learning tools for students (Ihsan & Jamal, 2017; Nugroho, 2018; Padmadewi, 2015). Based on the results of observations and interviews conducted at SD Negeri 1 Sambangan, SD Negeri 2 Sambangan, and SD Negeri 3 Sambangan, there are several problems. First, learning is TCL, so it is not able to develop students' abilities. Second, teachers rely on books and are less able to design learning tools such as Student's Worksheet (LKPD). Third, the teacher has not used Student's Worksheet (LKPD) which makes it difficult for students to learn. The results of the interview also found that science learning has not used an innovative approach so that students cannot be directly involved in learning. According to the findings of student interviews, science was perceived as challenging by students since it was abstract and required them to lose concentration when learning. Students quickly become disinterested in passive learning activities. This undoubtedly affects the poor outcomes in scientific learning.

The solution to overcome these problems is to develop technology-based learning tools. This is due to the fact that technological use in learning activities is now needed, even in the Industrial Revolution 4.0 (Liao et al., 2021; Simsek & Can, 2020). Moreover, at this time the COVID-19 pandemic has made learning activities online so that teachers are required to be able to use technology appropriately to support learning (Joshi et al., 2020; Korkmaz & Toraman, 2020). One of the learning tools that can be used is the E-Student's Worksheet based on contextual learning. LKPD is a learning tool that can guide students in learning (Pentury et al., 2019; Rahma Oktaviani & Zulfah, 2020). In addition, it can support the achievement of student competencies easily and play a positive role in helping students understand concepts (Effendi et al., 2021; Fauzi et al., 2021). Student's Worksheet (LKPD) is an important part of learning because it is a means of support. In the Student's Worksheet (LKPD), various practice questions are presented so that students can maximize their ability to measure their abilities. E-Student's Worksheet can also be said as a series of activities that students can use in solving problems (Puspita & Dewi, 2021; Yustina & Kapsin, 2017). The use of E-Student's Worksheet has an influence, providing knowledge and skills to students. E-Student's Worksheet can be a source and teaching material that provides material through animation, audio, or images. E-Student's Worksheet is very much needed by students in the implementation of online learning because students can access it anywhere (Octaviana et al., 2022; Wahyuni et al., 2021a). In addition, learning activities become more interesting because the features contained in the E-Student's Worksheet are very suitable for students. Contextual-based E-Student's Worksheet is very suitable for science learning.

Contextual learning is an approach that connects learning content with real situations so that students are required to link their knowledge (Ariyanto et al., 2020; Buchori, 2019; Gitriani et al., 2018a). This learning approach emphasizes the relevance of the material to the real life of students. Previous findings stated that contextual learning is very effective because it is oriented to the student environment (Ariyani & Ganing, 2021; Sulistyawati, 2020). Learning becomes more effective because learning starts from the student environment so that students easily understand (Aprelia et al., 2019; Arsyad et al., 2020). In addition, this approach also emphasizes students to use their knowledge. In this approach, feedback is very important for students because it can foster enthusiasm for learning. In contextual learning, the level of experience is the most concrete, while the lowest is abstract (Andika et al., 2017; Suastika & Rahmawati,

2019). This has the highest meaning of learning or student experience, direct contact with objects. The application of this learning makes students able to relate the material to reality and connect the material to the reality of the environment (Gitriani et al., 2018b; Rahmawati et al., 2019). With environment-based learning students not only listen to the teacher but can feel the learning activities, so that learning is not only responding but understanding through the process.

The findings of previous research stated that Student’s Worksheet (LKPD) increased student motivation (Marshal & Ratnawulan, 2020; Pentury et al., 2019). Another finding states that E-Student’s Worksheet is able to create a sense of comfort when students study (Pribadi et al., 2021; Rochman JK, 2021; Wahyuni et al., 2021a). E-Student’s Worksheet is very practical to use in learning (Augustha et al., 2021; Wahyuni et al., 2021a). Another finding states that contextual learning can activate students and improve student learning outcomes (Musriliani & Anshari, 2015; Nur et al., 2021; Evi Suryawati & Osman, 2018). There is no study on E-Student’s Worksheet based on contextual learning on the material characteristics of living things and their environment, especially integrating thematic learning. The advantage of the E-Student’s Worksheet that will be developed is that the LKPD is presented digitally so that it is easily accessible. In addition, the E-Student’s Worksheet also displays pictures and videos that will increase student interest in learning. E-Student’s Worksheet is also based on contextual learning which can make it easier for students to learn. The purpose of this research is to develop E-Student’s Worksheet based on contextual learning on material characteristics of living things and their environment that are valid and practical. It is hoped that contextual learning-based E-Student’s Worksheet will be useful for science learning.

2. METHOD

This type of research is R&D using the ADDIE model which includes analysis, design, development, implementation, and evaluation (Mudanta et al., 2020; Sutrimo et al., 2019). This research was carried out in Cluster V, Sukasada District, Buleleng Regency, including: (1) SD Negeri 1 Sambangan, (2) SD Negeri 2 Sambangan, and (3) SD Negeri 3 Sambangan. The subjects of this study consisted of 2 media experts and 2 material experts. The subjects of the research trial were 1 teacher/practitioner and 9 students of class VI. Data collection methods are observation, interviews, and questionnaires. Observations and interviews to determine learning problems. Questionnaire to collect score/review data from experts. The instrument used is a rating scale, the grid is presented in Table 1 and Table 2. Then practitioner response test instruments is show in Table 3 and student response test instruments is show in Table 4.

Table 1. Material Expert Validation Test Instruments

No	Component	Criteria	Statement	Total
1	Deductive	a. E-Student’s Worksheet material	1,2,3	3
		b. Benefit	4,5,6	3
		c. The urgency of the question	7	1
2	Construction	a. Completeness of materials on E-Student’s Worksheet	9,10	2
		b. Use of words and language	8	1
		c. Contextual Approach	11,12,13	2

Table 2. Media Expert Validation Test Instruments

No	Component	Criteria	No Item
1	Coloring	Interesting color combination	1
		The suitability of the presentation of images and the material discussed	2
2	Display E-Student’s Worksheet	The design of the image and background gives a positive impression so that it can attract students' interest in learning	3
		The font used are clear and legible	4
		The accuracy of selecting the text color with the background	5
3	Presentation	The presentation of E-Student’s Worksheet supports students to be actively involved in learning	6
		The presentation of E-Student’s Worksheet is carried out systematically/coherently	7
		Presentation of pictures, videos, and examples according to the material	8

Table 3. Practitioner Response Test Instruments

	Component	Criteria	No Item
1	Convenience	E-Student's Worksheet is easy to use	1
		The implementation of E-Student's Worksheet does not require a long period of time	2
		The application of E-Student's Worksheet does not require a lot of energy	3 4
		E-Student's Worksheet is equipped with instructions for use	
2	Utility	E-Student's Worksheet assists teachers in completing learning device innovations	5
		E-Student's Worksheet assists teachers in implementing a contextual learning-based approach	6
		E-Student's Worksheet includes material that is in accordance with the curriculum	7 8
		Learning activities in E-Student's Worksheet are adapted to the characteristics of sixth grade elementary school students	9
		E-Student's Worksheet is interesting for students	
3	Attractiveness	E-Student's Worksheet presents material that is in accordance with the characteristics of elementary school students	10
		E-Student's Worksheet uses a color background that is able to attract students' attractiveness	11
		E-Student's Worksheet presents examples/problems that are contextual in nature (the environment around students)	12
		E-Student's Worksheet is equipped with pictures and learning videos	13

Table 4. Student Response Test Instruments

No	Criteria	Statement	Amount
1	a. Aspects of E-Student's Worksheet presentation	1,2,3,4,5	5
	b. Aspects of the use of E-Student's Worksheet	6,7,8,9	4
	c. Attractive aspect	10	1

In testing the instrument items through experts and carried out by the Gregory formula. The results of data analysis of the instrument content validity coefficient of media experts are 1.00, material experts are 0.92, practitioners/teachers are 0.92, and student responses are 1.00 so that the content validity of the instrument is very high. The data analysis technique used in this research is descriptive qualitative analysis and descriptive quantitative analysis. Qualitative descriptive analysis technique was used to process data in the form of expert input. Quantitative descriptive analysis technique is used to process data in the form of scores from experts. The indicator of the success of this research is the average validity of the E-Student's Worksheet based on contextual learning at least in the good category with a range of $3.34 < x \leq 4.01$.

3. RESULT AND DISCUSSION

Result

The results of this study are E-Student's Worksheet based on contextual learning in theme 2 Sub-theme 2 for grade VI Elementary School which has been valid and practical using the ADDIE model. First, analysis. The result of the analysis is that learning is TCL so it is not able to develop students' abilities. Teachers rely on books and are less able to design learning tools such as Student's Worksheet (LKPD). In addition, teachers have not used Student's Worksheet (LKPD) which makes students difficult in learning. The results of the interview found that science learning had not used an innovative approach so that students could not be directly involved in learning. The results of interviews conducted with students also found that students considered science difficult because it was abstract and did not focus when studying. In passive learning activities students get bored easily. This certainly has an impact on low science learning outcomes. The results of the curriculum analysis, Basic Competency and the indicators that will be used are presented in [Table 5](#).

Table 5. Basic Competencies and Indicators Used

Basic competencies	Indicator
3.3 Analyzing how living things adapt to their environment	3.3.1 Analyzing the characteristics of living things
4.3 Presenting works on how living things adapt to their environment	3.3.2 Analyzing the ways in which living things adapt to their environment

Second, design. At this stage, the design of E-Student’s Worksheet learning tools based on contextual learning is carried out in theme 2 Sub-theme 2 Class VI Elementary School. The activity begins by setting a title, learning objectives that are adjusted to the Basic Competency and learning indicators, and designing an E-Student’s Worksheet based on contextual learning. The design of the E-Student’s Worksheet based on contextual learning is carried out based on the analysis that has been carried out. The E-Student’s Worksheet design based on contextual learning is presented in [Figure 1](#).



Figure 1. E-Student’s Worksheet Design Based on Contextual Learning

Third, development. This stage is the development of contextual learning-based E-Student’s Worksheet. The creation of this E-Student’s Worksheet started with making a draft of the material design in Microsoft Word, then it was modified in such a way using Canva software to produce a good and creative E-Student’s Worksheet. In addition, LiveWorkSheets software is used in presenting E-Student’s Worksheet. Contains learning material for science content, the characteristics of living things and their environment and Indonesian language content, effective sentences contained in Theme 2 Sub-theme 2 Class VI Elementary School. In E-Student’s Worksheet Theme 2, Sub-theme 2 is equipped with an explanation of the material accompanied by interesting pictures and videos, interesting learning videos and audio that are relevant to the material described. In addition, E-Student’s Worksheet contains study instructions. E-Student’s worksheet based on contextual learning is show in [Figure 2](#).



Figure 2. E-Student’s Worksheet Based on Contextual Learning

E-Student’s Worksheet based on contextual learning that has been developed is then assessed by experts. The score obtained is based on the assessment of learning media experts, coloring with a value of 5.00 (very valid), the display of E-Student’s Worksheet is 4.33 (Valid), Presentation of 5.00 (very valid).

The average value of E-Student's Worksheet media validation from media experts is 4.78 so it can be concluded that the media is very valid. Furthermore, the overall average value of material validation is 4.66, therefore the material presented in the E-Student's Worksheet on the material characteristics of living things and their environment has been tested to be very, very valid. This is evidenced based on the guidelines for the validity category of the five scale which is in the range of values of 4.50 Rv 5.00. Therefore, E-Student's Worksheet based on contextual learning on theme 2 sub-theme 2 Grade VI Elementary School is declared Very Valid to be used in the learning process of Grade VI Elementary School students. The results of input from experts are: (1) pay attention to writing, punctuation and sentence structure (grammar), (2) complete with sources (references) and (3) Some text in the text box is left aligned. The results of the product revision are presented in **Figure 3**.



Figure 3. Results of the E-Student's Worksheet Revision Based on Contextual Learning

Third, implementation. E-Student's Worksheet based on contextual learning gets very good qualifications and then it is implemented for teachers and students to find out the practicality of E-Student's Worksheet. The data from the E-Student's Worksheet research based on contextual learning on the material characteristics of living things and their environment carried out by practitioners were analyzed by finding the percentage of each aspect consisting of 100% convenience aspects, 85% usability aspects, and 100% attractiveness aspects. The average level of practicality is 95%. It is concluded that contextual learning-based E-Student's Worksheet is very practical. The results of the assessment of all students, 92.2%, means that the E-Student's Worksheet is very practical. Overall, the developed E-Student's Worksheet has practical criteria by teachers and students. This means that E-Student's Worksheet is easy to use, attractive and useful.

Discussion

E-Student's Worksheet based on contextual learning is suitable for use in learning due to the following factors. First, E-Student's Worksheet based on contextual learning is feasible because it makes it easier for students to learn. E-Student's Worksheet based on contextual learning was developed according to student needs to make it easier for students to learn. Previous findings also state that E-Student's Worksheet that is tailored to the needs will make it easier for students to understand the material (Indrianingrum et al., 2018; Servitri & Trisnawaty, 2018; E. Suryawati et al., 2020). In addition, the tasks presented can also increase students' mastery of the material (Octaviana et al., 2022; Putra et al., 2021; Wahyuni et al., 2021b). In addition, it can support the achievement of student competencies easily and play a positive role in helping students understand concepts (Effendi et al., 2021; Fauzi et al., 2021). The use of E-Student's Worksheet has an influence, providing knowledge and skills to students. In addition, this E-Student's Worksheet is combined with a contextual approach. This approach connects learning content with real situations so that students are required to relate their knowledge (Ariyanto et al., 2020; Buchori, 2019; Gitriani et al., 2018a). Learning becomes more effective because learning starts from the student environment so that students easily understand (Aprelia et al., 2019; Arsyad et al., 2020). This is what causes contextual learning-based E-Student's Worksheet to make it easier for students to learn.

Second, contextual learning-based E-Student's Worksheet is feasible because it increases motivation. E-Student's Worksheet also uses words that can motivate students to learn. In addition, the clarity of sentences and adjustments to the layout of the writing become the main attraction of students. The developed contextual learning-based E-Student's Worksheet is presented with materials, summaries, and learning instructions so that it will motivate students in learning. Instructions and steps to complete the tasks presented in the E-Student's Worksheet will attract students' interest thereby increasing student motivation. Previous research also stated that E-Student's Worksheet which contains task sheets can

increase students' learning motivation (Nuswowati et al., 2020; Yuliani et al., 2018; Yustina & Kapsin, 2017). E-Student's Worksheet is a learning tool that facilitates the learning process so that it will affect students' learning motivation (Fuadati & Wilujeng, 2019; Pribadi et al., 2021; Widiyani & Pramudiani, 2021). This learning device can also train students' learning independence. Additionally, the E-Student's Worksheet employs a contextual approach, therefore for students, feedback is crucial because it can promote a learning attitude. Students are more motivated to learn when they are able to experience the learning activities as well as hear what the teacher is saying. This means that learning involves more than just listening and responding.

Third, contextual learning-based E-Student's Worksheet is feasible because learning becomes practical. E-Student's Worksheet based on contextual learning also displays learning objectives so that students know the objectives of students studying the material. This is certainly very practical because the teacher does not need to re-explain to students the learning objectives to be achieved. Previous findings stated that the clarity of learning objectives will help students understand the purpose of learning activities (Fauzi et al., 2021; Prabowo, 2021). E-Student's Worksheet based on contextual learning is very practical because students or teachers can access it anywhere and anytime because it is developed digitally. Moreover, at this time the COVID-19 pandemic has made learning activities online so that teachers are required to be able to use technology appropriately to support learning (Joshi et al., 2020; Korkmaz & Toraman, 2020). This contextual learning-based E-Student's Worksheet can be used by students when studying at home.

Previous findings stated that Student's worksheet (LKPD) learning tools can guide students in learning (Pentury et al., 2019; Rahma Oktaviani & Zulfah, 2020). Another finding states that E-Student's Worksheet is very much needed by students in the implementation of online learning because students can access it anywhere (Octaviana et al., 2022; Wahyuni et al., 2021a). LKPD is an important part of learning because it is a means of support. Another finding states that the contextual approach emphasizes the relevance of the material to students' real lives, making it easier for students to learn (Ariyani & Ganing, 2021; Sulistyawati, 2020). In addition, learning activities become more interesting because the features contained in the E-Student's Worksheet are very suitable for students. It is concluded that the contextual approach E-Student's Worksheet is very appropriate to use in learning, especially in online learning activities.

The implication of this research is that E-Student's Worksheet based on contextual learning on the material characteristics of living things and their environment can be used in learning. The contribution of this research is that E-Student's Worksheet based on contextual learning can help students understand the learning material on the characteristics of living things and their environment so that it has an impact on student learning outcomes. There are still some limitations of this study, such as the development of E-student's worksheet is still limited of its scope. The development only cover material of six grade of elementary school with involving one specific theme 2 sub-theme 2 science subject. It is hoped that future research will be able to deepen the scope of research related to the development of the E-Student's Worksheet.

4. CONCLUSION

E-Student's Worksheet based on contextual learning on the characteristics of living things and their environment gets very good qualifications from experts, practitioners, and students. It is concluded that the contextual learning-based E-Student's Worksheet is feasible to use in learning. E-Student's Worksheet based on contextual learning can help students learn and improve student learning, especially in science learning.

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