Science Teachers' Perception Toward e-LKPD Discovery Learning Based on Ethnoscience Lampung Traditional Food to Improve Students' Science Process Skills on Digestive System Materials in Junior High School

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Abstract: This study aims to determine the perception of science teachers towards e-LKPD discovery learning based on ethnoscience Lampung Traditional Food to improve students' science process skills on the Digestive System material in junior high school. The study was conducted in Tanggamus district, involving ten respondents of science teachers and 50 students. The method study is a mixed method with Sequential Explanatory Design which combines data collection and data analysis qualitatively and quantitatively. Data was taken using questionnaires. The survey results that 0% of science teachers did not know ethnoscience-based e-LKPD, 80% of science teachers stated that the LKPD that had been used had not trained students' science process skills, and 100% of science teachers stated that it was necessary to develop ethnoscience-based e-LKPD teaching materials. Based on student response questionnaires, 0% stated the LKPD used had not grown science process skills, and 100% of students needed other learning resources, namely ethnoscience-based e-LKPD. Teachers and students in Tanggamus Regency have never used ethnoscience-based e-LKPD, especially regarding the traditions of the Lampung people. Based on these results, concluded that e-LKPD discovery learning based on ethnoscience Lampung Traditional Food is needed to improve the science process skills of students in junior high school.

Keywords: e-LKPD Discovery Learning; Ethnoscience; Science Process Skills

Introduction

21st century skills are an essential factor in supporting human life in education. Therefore, skills must be possessed, including science process skills. Science process skills are individual abilities based on scientific inquiry to solve problems, develop, communicate, and discover new things in the form of facts and concepts related to cognitive skills and investigation to obtain information to facilitate the development of other skills (Afolabi, 2015; Chen, 2021; Dukomalamo, 2019); Dökmea dan aydınlıb, 2009; Emda, 2017; Kurniawan, 2020).

Science learning that is carried out focuses on the transfer of information through explanations from teachers as the primary learning resource. Student learning activities are prioritized to copy various knowledge from one teaching material to another, making them more likely to memorize the material than develop thinking process skills. This learning pattern is considered less effective and is considered to have not built the thinking process, so it has a negative impact on improving the science process skills and students'

learning outcomes (Khoiriah, 2019). This negative impact is because the learning carried out so far has not trained science process skills properly and has not carried out a special assessment containing SPS indicators, so it is still in the low category (Ratnasari, 2017). Low science process skills of students are caused by several factors, including low knowledge of science, lack of laboratory infrastructure (Jack, 2013), Books becoming the only guide in learning (Ekene dan Egbutu, 2011), The school administration has not initiated contextual learning (Chaguna dan Yango, 2008), only emphasizes mastery of concepts, as well as learning activities that have not explored the skills of the science process (Permanasari dan hamidah, 2013). Sunyono (2018) states that the low skills in students' science processes are caused by educational systems and curricula, learning methods and models, learning facilities, learning resources, and teaching materials (Sunyono, 2018). Science process skills are the basis of scientific investigation and intellectual development for learning scientific concepts (Maulana et al., 2023).

Research conducted on the science process skills of students in Indonesia also showed results that were included in the low category (Sukarno, 2013; Faqih dan Wilujeng, 2017; Kurniawan, 2020). This study shows that almost 50% of students have low PPP mastery. Even in some countries in Asia, the level of mastery of science process skills in both primary and secondary school students is still low (Dökmea dan Aydınlıb, 2009; Özgelen, 2012). Science process skills can be improved by making aspects of local culture or ethnoscience a source of learning (Sani, 2021). Ethnoscience-based learning acts as a link between students' knowledge of local culture and science knowledge in schools. Through ethnoscience learning in schools, it can train local wisdom for students (Haspen dan Syafriani, 2020; Risdianto et al., 2021). The application of ethnoscience learning is carried out because of the importance of cultural knowledge, beliefs and practices in shaping individual understanding. By incorporating ethnoscience into education, students are encouraged to explore and appreciate their own cultural heritage, as well as the cultural diversity around them (Siami et al., 2023).

Science process skills can be improved by making aspects of local culture or ethnoscience a source of learning (Sani, 2021). Ethnoscience-based learning acts as a link between students' knowledge of local culture and science knowledge in schools. Through ethnoscience learning in schools, it can train local wisdom for students (Haspen dan Syafriani, 2020; Risdianto et al., 2021). Ethnoscience is the original knowledge of culture owned by the community, still traditional and as a hereditary heritage (Battiste, 2005).

Ethnoscience learning is significant because it can transform people's hereditary knowledge into credible and accountable knowledge (Sudarmin, 2014; Azizah, 2021; Yuliana et al., 2023). Ethnoscience-based learning aims to introduce learners to facts developed in a society associated with learning materials (Ahmad, 2020; Fasasi, 2017).

Ethnoscience that can be connected with scientific knowledge is traditional Lampung food. Traditional food is food passed down from generation to generation in an area made from available ingredients and combines special functions such as ritual food and related to social and cultural functions (Moeriabrata, 1997). Making traditional food float, using ingredients that contain food substances, and the process of consuming food involves the organs of the digestive system so that it uses the concept of science studied in the material of the Digestive System. Therefore, it is expected that the concepts to be learned by students are easy to understand and understand through ethnoscience-based learning. Ethnoscience learning can be implemented or implemented with the help of teaching materials. One of the teaching materials that can be used is the LKPD (Pertiwi, 2021; Zulyadaini, 2017).

Structured and varied activities in LKPD can be structured with appropriate learning models (Subariyanto, 2022) So that they can support the achievement of science process skills from students. One learning model that can train students' science process skills is *Discovery Learning. Discovery* learning is a learning model that allows students to discover knowledge previously unknown to the teacher only as a guide or facilitator who provides direction for students (Nisrina dan Rosdiana, 2018). The application of the discovery learning model can also improve student learning outcomes (Ridho & Basri, 2023). Discovery Learning learning model was chosen because it can provide opportunities for students to think, discover, argue and collaborate through scientific learning activities, so that it will have an impact on improving learning outcomes (Chatri et al., 2023). Based on the results of research conducted by Indrawati and Qosyim (2017) proves that science process skills can be trained using LKS. Meanwhile, based on the results of research conducted by Tantia (2016), it can be seen that the *Discovery Learning* model can train the science process skills of students (Indrawati dan Qosyim, 2017; Tantia, 2016).

In the current era of technological development, it is necessary to optimize LKPD both in terms of appearance and quality because most students are more interested in material that uses computers, notebooks, *laptops, and even other media, such as* smartphones, *rather*

than material in the form of printed LKPD (Febriansyah, 2021). The use of technology in learning can support and develop learners' cognitive, affective, and social skills. This is what underlies the creation of teaching materials in the form of *e-LKPD,* which are sheets done by students in digital form, including images, narratives (stories), and graphics (Haryanto et al., 2020) as exercises that are carried out systematically and continuously for a particular time (Ramlawati, 2014).

This article describes the perceptions of science teachers and students related to science learning using *e-LKPD* based on *Discovery Learning Based on Lampung* Traditional Food *Ethnoscience to* Improve Students' Science Process Skills on Digestive System Material in Junior High School. The findings also provide a glimpse into the complexity of pedagogical work, which can inform the professional development of teachers to develop the preparation of their teaching materials.

Method

The method used in this study is a mixed method with *Sequential Explanatory Design*, which is a design that combines data collection and data analysis qualitatively and quantitatively (Creswell, 2012). The sampling technique used to determine the sample is using random sampling. The data was taken using a questionnaire that was distributed directly to 10 respondents of science teachers and 50 respondents of junior high school students in Tanggamus to describe the perceptions of teachers and students about student worksheets that are being used in science learning. Research activities were carried out at Public and Private Junior High School in Tanggamus Regency.
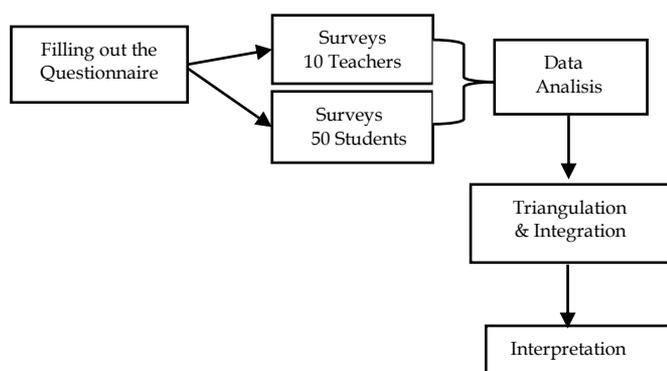

Figure 1. Schematic Research Design

The survey instrument consists of 10 statements using the Guttman scale, which has answer choices according to the content of the question, namely: "Yes" and "No" with scores of "1" and "0" (Sudjana, 2005). Research data from teacher and student questionnaires were analyzed by grouping answers based on

questionnaire questions, assigning scores to each answer according to scoring criteria, and calculating the number of answer scores for each question. Then calculate the percentage score and interpret it qualitatively, as for the formula used to calculate the percentage score of each item is as.

$$\%Jin = \frac{\sum Ji}{N} \times 100\,\%$$ (1)

(Sudjana, 2005)

Information :

% J_{in} = Percentage of answer choices-i

$\sum J_i$ = Number of respondents who answered the answer-i

N = Total number of responde

Result and Discussion

The results and discussion of the data obtained are in the form of questionnaires. Results of questionnaire distribution to the ten science teachers in Tanggamus can be seen in Table 1 as follows.

The results showed that 80% of educators use LKPD in learning, especially in the Digestive System material, but only 50% use homemade LKPD. 80% of educators have involved students in the learning process, 70% of educators are familiar with the term SPS (Science Process Skills), but only 20% of educators use LKPD who train SPS (Science Process Skills) students. Science Process Skills in 21st century learning must be possessed by students, where in carrying out learning they prioritize practicum because it can provide a forum for students to analyze and evaluate the results of experiments carried out (Darmaji et al., 2019). As much as 30% of educators have heard the term *e*-LKPD, 0% of educators who use e-LKPD during the learning process, which means that no educators have used *e*-LKPD during the learning process due to educators' limitations in using technology. To balance science and technology, it is necessary to have learning media that can be used in learning (Rumansyah et al., 2023). The use of technology in learning makes it possible to provide some or all forms of interaction so that learning will be more optimal. Therefore, educators need to utilize media in the learning process so that it is hoped that it can stimulate students' thoughts, feelings, interests and attention (Gunawan et al., 2019). As much as 0% of educators who have heard the term ethnoscience, educators have never heard the term ethnoscience in learning. Science learning that integrates ethnoscience has a positive effect on improving student learning outcomes. Learning with an ethnoscience context is contextual learning because the material is linked to phenomena that students see and experience in

everyday life (Puspita et al., 2022). Educators can also relate in terms of the learning model used or other analysis that can increase students' love of local culture (Munandar et al., 2022). Therefore, educators must implement and understand ethnoscience-based learning in schools. As much as 0% of educators use e-LKPD on Digestive System Material that raises Lampung cultural traditions, which means that there is no e-LKPD used by educators on Digestive System material that raises

Lampung cultural traditions, and 100% of educators state that e-LKPD is needed that can improve SPS (Science Process Skills). Science process skills must be implemented in the science learning process, so that students can have science process skills which will make it easier to participate in learning (Hikmah et al., 2021). While the results of the distribution of questionnaires to students are contained in Table 2.

Table 1. Results of Interpretation of Teacher Perception Questionnaire (n=10)

Questions	Percentage%	
	Yes	No
Do you use LKPD in learning, especially in the Digestive System material?	80	20
Do you use a homemade LKPD?	50	50
Have you involved students in the learning process?	80	20
Do you know the term SPS (Science Process Skills)?	70	30
Has the LKPD the Digestive System material that you use trained SPS (Science Process Skills) Students?	20	80
Have you ever heard the term e-LKPD?	30	70
Have you ever used e-LKPD during the learning process?	0	100
Have you ever heard the term ethnoscience?	0	100
Has the e-LKPD Digestive System material you use in the learning process raised the cultural traditions of Lampung?	0	100
Do your students need ethnoscience-based e-LKPD that can improve SPS (Science Process Skills)?	100	0

Table 2. Results of Interpretation of Student Perception Questionnaire

Questions	Percentage	
	Yes	No
Have you ever used LKPD in the science learning process?	40	60
Have you ever used LKPD in teaching Digestive System material??	40	60
If you have ever used LKPD for the Digestive System material, is the LKPD that you use made by the teacher?	40	60
Is the LKPD used in learning the Digestive System material interesting?	0	100
Does the LKPD you use make it easier to learn?	80	20
Have you ever heard of the term ethnoscience?	0	100
Has the LKPD, the Digestive System material that you use in learning, raising the cultural traditions of Lampung?	0	100
Has the LKPD, the Digestive System material used, trained your SPS (Science Process Skills)?	0	100
Have you ever used ethnoscience-based e-LKPD?	0	100
Is developing an ethnoscience-based e-LKPD to train SPS (Science Process Skills) on the Digestive System material necessary?	100	0

The use of LKPD in the science learning process based on the results of student questionnaire analysis conducted on 50 respondents showed that 40% of students had used LKPD in learning, but 40% of students stated that in learning the Digestive System material had used LKPD. 40% of students stated that the LKPD used was made by the teacher, 0% of students stated that The LKPD used in learning the Digestive System material is interesting, which means that the LKPD that has been used is not interesting because it only contains questions and assignments. LKPD that is created in an interesting and systematic way can help students learn more actively independently or in groups

(Pandia et al., 2023). As many as 80% of students think that using LKPD makes learning more accessible, and 0% of students have heard the term ethnoscience, which means there are no students who know ethnoscience. 0% of students stated that the LKPD of the Digestive System material used in learning had raised the cultural traditions of Lampung, which means that the LKPD used has not linked the cultural traditions of Lampung even as many as 0% of students stated that the LKPD used has trained SPS (Science Process Skills), which means that the LKPD used has not trained students to improve their SPS. 0% of students use ethnoscience-based e-LKPD, which means that students have not used

ethnoscience-based *e*-LKPD in the learning process, and 100% of students state that it is necessary to develop ethnoscience-based *e*-LKPD to train SPS (Science Process Skills) on the Digestive System material. To improve SPS (Science Process Skills), teaching materials are needed that can make it easier for teachers to convey information, namely *e*-LKPD which is needed as a guide for students in conducting experiments (Isnaini & Yonata, 2021). The results of this questionnaire are also supported based on observations made that most students already use gadgets at school, such as Android phones, laptops, and the like, because it is undeniable that currently, the existence of gadgets is beneficial for students in the learning process.

Ethnoscience learning will help students understand their region's local wisdom (Setiawan et al., 2017). The application of ethnoscience learning is carried out because of the importance cultural knowledge, beliefs and practices in shaping an individual's understanding of the world. By incorporating ethnoscience into education, students are encouraged to explore and appreciate their own cultural heritage, as well as the cultural diversity around them (Yuliana et al., 2023).

Figure 2. *e*-LKPD Product Design to be Developed

Conclusion

Based on the results and discussion, the perceptions of science teachers and junior high school students towards *e*-LKPD Discovery Learning based on the ethnoscience of Traditional Lampung Food to improve students' science process skills on the Digestive System material are not as appropriate as they should be. The results of the analysis carried out on the use of LKPD in schools showed that there were no teachers who used

ethnoscience-based *e*-LKPD. They also have not used *e*-LKPD which can improve science process skills. Meanwhile,the problem that occurs in Tanggamus Regency is that teachers do not know the term ethnoscience and do not use *e*-LKPD. Apart from that, students' responses also stated that the LKPD used was not ethnoscience-based and did not develop science process skills.

Based on the information obtained from teachers and students regarding teaching materials to improve science process skills, it is necessary to provide ethnoscience-based teaching materials by using local cultural aspects as a learning resource, namely *e*-LKPD Discovery Learning based on ethnoscience Traditional Lampung Food to improve students' science process skills.

Author Contributions
The first author, Fitri Siami contributed to research design, instrument preparation, research implementation, data collection and analysis, and article writing. The second and third authors, Sunyono and Dewi Lengkana which guided throughout the research process and contributed to writing the article.

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