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# COMPARATIVE ANALYSIS OF THE USE OF ELECTRONIC MODULES IN IPAS LEARNING TO IMPROVE COMMUNICATION SKILLS IN STUDENTS

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**Abstract.** *The ongoing development of the times has an impact on all fields, one of which is the field of education which can provide increased communication for students in the learning process. The aim of this research is to analyze the level of student communication in the learning process by utilizing developing technology, one of which is electronic modules. This research uses qualitative methods with the type of research used is quantitative research. The sampling technique used in this research was total sampling and purposive sampling with a total of 18 students. The data analysis used in this research is descriptive and inferential statistics. The results obtained in this research were the use of electronic modules, where the results were obtained from the SDS Suria Harapan significance value for the use of printed modules and electronic modules based on local rice ngubat wisdom, where there was a sig value of 0.605 for the printed module and 0.519 for the electronic module. Based on these results, it can be said that the data is normally distributed. The application of electronic modules is used by integrating existing local wisdom so that it can improve communication skills in students in IPAS learning.*

**Keywords**: *Technology; Games; Communication; IPAS*

## 1. INTRODUCTION

The development of the current era where technology, information and communication are developing. This development emphasizes various fields, one of which is education. Education today is 21st century education which prioritizes skills both by teachers and students. In the 21st century, skills are put forward, namely the 4C skills which consist of Communication, Collaboration, Critical Thinking, and Creativity. Every individual needs to have these skills because they influence how a person can utilize technological developments in a positive way. This is because almost all human activities cannot be separated from technological developments. Based on this, currently there are many developments in information and communication technology that use technology. The development of technology, communication and information provides convenience for its users, one of which is in the field of education. Utilization of technology, information and communication.

The ongoing development of the times has created many reforms in various fields, one of which is in the field of education. However, with the times, it can also have a negative impact, namely that according to the local community it begins to fade and be abandoned, thereby reducing students' understanding of local cultural values (Uge, Neolaka & Yasin, 2019). Meanwhile, according to Nur (2012), learning resources include things that can help a teacher in teaching and learning activities and within their competence, which are used as communication channels and are able to interact with students in educational and learning activities by the teacher. The learning process

carried out by students must fulfill the things that are student learning outcomes, namely skills, finding, managing, using and communicating (Aditya, 2016). Based on this, the teacher plays a very important role in determining the formation of an atmosphere for effective learning activities, because the teacher designs a learning activity, carries it out and at the end of the activity carries out an evaluation to be able to see what needs to be improved in the next learning activity.

The learning process is one of the activities in education. Learning is a process of organizing and managing the environment around students so that it can grow and encourage students in carrying out the learning process (Anugraheni, 2017). According to Dhoni (2021), the learning process will be more meaningful if students can experience for themselves what they are learning, not just know and understand what the teacher says. Learning activities are an educational process that provides opportunities for students to develop personally (Febriandari, 2018). Therefore, learning is one of the activities that occurs in educational units, one of which is at the elementary school level.

Learning activities in elementary schools are part of achieving student learning outcomes. The reciprocal interaction relationship between students and teachers can be called learning (Jufri & Srimadona, 2018). It is hoped that learning basic sciences in elementary schools can solve social problems and foster positive attitudes for students (Agustim, Sumardi Hamdu, 2021). Learning Natural and Social Sciences (IPAS) has a close relationship with the formation of students' skills. This is a process that can grow students' skills such as communication.

Teachers are said to have an important role in the world of education. Special skills are one aspect that a teacher must have. According to Nur (2020) teachers have the authority and responsibility to guide and develop students. Teacher professionalism can be seen from planning, implementing and assessing thematic learning activities (Mulyono, et al. 2020). Learning will be more meaningful if it is carried out well by teachers and students who help each other. Teachers must be creative in designing learning activities, one of which is utilizing the environment around students in learning activities. Local wisdom can be used as an alternative in the design of learning activities to help students recognize and preserve and increase students' curiosity in learning activities, and this is known as local wisdom-based education (Syahrial, et al. 2021). Culture is the totality of all abilities acquired by members of society such as knowledge, religion, art, social institutions, morality, cultural traditions, and so on and includes various variations between individuals and groups (Restiani & Sariniwati, 2022). Local wisdom can be used as learning material, both to increase knowledge and improve student morale, as well as education based on local wisdom which is the basis of local culture (Noor & Sugito, 2019). Based on this, integrating local wisdom in learning activities is not just about recognizing and preserving it but can also help in educating students' skills.

Skills education can be implemented in learning activities based on local wisdom by developing teaching materials. Local wisdom-based education is education that teaches students to always be attached to the concrete situations they face (Atfiqoh, Atmaja & Saraswati, 2018). Education can utilize the skills and characteristics of each region in studying various natural and social phenomena so that education becomes more meaningful. Skills education is very important to be taught to students everywhere, especially elementary school students, and teachers also receive their skills education through real or concrete activities (Rosala, 2018). Based on this, skills education by utilizing local wisdom can provide innovation by using current developments in teaching skills to students, namely by using information and communication technology in learning activities..

The development of technology, information and communication is often called the industrial revolution. Today's industrial revolution, with its intrinsic digital and innovative features, demands teaching methodologies. The revolution that occurred in industry and education, the need for change and improvement in industry-academics

has been accepted by educational institutions throughout the world (Koul & Nayar, 2021). Thus, educators must learn and be able to overcome new forms of learning that are emerging such as virtual collaboration, technological convergence, connectivity, online communities, and digital creativity (Karakas). The Industrial Revolution 4.0 has brought changes in various aspects of human life technologically from the current generation and the traditional methods used in teaching and learning, educators at all levels will find it more difficult to improve teaching and learning experiences in the classroom (Pangestika, 2022). The development of technology, information and communication in the 4.0 revolution can help in learning activities which provide a new atmosphere in change activities.

The development of technology in the field of education requires teacher creativity in using it. Information and communication technology is expected to improve the quality of education by making information and communication technology an innovative learning source and medium. The opinion of Lutfiah, Santika & Wulandari (2021) says that by utilizing information and communication technology in learning activities it will become more interesting and can produce meaningful learning activities. The emergence of Information and Communication Technology (ICT) has fundamentally changed the practice of not only business, government or education but every field of human endeavor (Pegu, 2016). Therefore, teachers must be required to be literate in operating ICT devices in renewing learning activities that are not monotonous or boring.

Modules are teaching materials that have skills that can be used as a learning resource by students independently, because they are supported by learning activity guides which are also equipped with evaluation resources. This electronic module can also improve students' skills regarding caring for the environment (Rufi, 2019). Meanwhile, according to Sofyan, Anggereini & Saadiah (2019) said that the use of teacher modules tends to use more materials so that they are printed as textbooks, so that the content of the material is not widely distributed, and the national focus is on local values that can be developed for teachers in classes related to potential. regions, this is one of the shortcomings of existing education due to the limited capacity of teachers. Learning modules are specifically created to make it easier for teachers to prepare learning tools (Dewi & Hilman, 2018). Where the 2013 curriculum discusses that students are not only emphasized or dominated in aspects of knowledge but are more concerned with achieving aspects of attitude. Based on this, improving a skill can start with learning skills for students. One of them is communication skills.

Research regarding improving social care skills in students was previously researched by Syahrial, et al (2022) by looking at the comparative influence of print modules and electronic modules on social care skills. Meanwhile, the research that will be carried out is to look at communication characteristics in the use of printed modules and electronic modules that can be applied in students' daily lives. The aim of this research is to find out the comparison between teaching materials implementing electronic modules based on local wisdom of traditional games to see indicators of communication characteristics. The results of this research can contribute to further research and also to the schools we studied where teachers in these schools were able to utilize developments in technology, information and communication in learning activities to improve students' skills, especially communication skills..

## 2. RESEARCH METHODS

The type of research used is quantitative research. This research aims to prove a theory in research. And this research uses a survey research design. Where the type of survey used is an analytical survey in the form of numbers (Islamy, 2019). The results of the survey research are used to determine and report the situation of those studied. Where this research is related to the collection of numerical data which is used to test hypotheses or answer questions about the status of the research subjects being studied. This research uses comparative survey methods which commonly involve assessing the

preferences, attitudes, practices, concerns, or interests of a group of people. Meanwhile, according to Prasetyono (2018), comparative research is one way to find similarities and differences between two different variables and obtain effective variables.

The sampling techniques used in this research were total sampling and purposive sampling. Where purposive sampling, also called judgment sampling, is a way of selecting subjects or deliberate selection of participants because of the qualities possessed by the participants/subjects (Etikan, Musa & Alkassim, 2016). The total sample was 18 students. In this research, environmental care skills are used. Where the questionnaire instrument has a Cronbach's Alpha of 0.78, where in this question questionnaire there are negative questions and positive questions regarding environmental care skills. Where the number of questions is 40 questions. The scale used in this questionnaire instrument is a Likert scale, where there are 5 scales, namely, (STS = strongly disagree, TS = disagree, N = neutral, S = agree, SS = strongly agree..

Table 1. Communication Skills Indicators

| Indicator | Statement | | Item amount |
|---|---|---|---|
| | (+) | (-) | |
| Able to express opinions | 1,2,4,5,6,8,10 | 3,7,9 | 10 |
| Able to accept opinions from others | 1,3,5,6,7,10 | 2,4,8,9 | 10 |

The data analysis used in this research is descriptive and inferential statistics. Descriptive statistics is a way of collecting, compiling, presenting and analyzing data in the form of numbers. Inferential statistics or inductive statistics are statistics that study how to draw conclusions about population skills, based on quantitative data obtained from research samples.

## 3. RESULTS AND DISCUSSION

In this research, there is an update which lies in the skills indicators raised in this research, namely regarding communication skills. This research was conducted to describe the comparison between the use of printed modules and electronic modules (Ubaidillah & Effendi, 2022). In improving communication skills for students at SDS Suria Harapan Jambi City. The indicator used in this research is being able to express opinions and accept opinions from other people.

The results of the questionnaire on the use of printed modules to improve communication skills in students with indicators of being able to express opinions and accept opinions from other people can be seen in the following table:

Table 2. Result Print Module

| | communication skills | | | | | |
|---|---|---|---|---|---|---|
| Interval | Attitude | Total | Mean | Min | Max | % |
| 53-57 | Very not good | 6 | | | | 25 |
| 58-62 | Not good | 5 | | | | 31,42 |
| 64-68 | Enough | 5 | 64,91 | 53 | 78 | 21,87 |
| 69-73 | Good | 2 | | | | 11,28 |
| 74-78 | Very good | 1 | | | | 9,37 |
| *Total* | | 18 | | | | 100 |

The following is a table of the results of an electronic module questionnaire to improve communication skills in students with indicators of being able to express opinions and accept opinions from other people as follows::

Table 3. Result Elektronic Module

| communication skills |
|---|

| Interval | Sikap | Total | Mean | Min | Max | % |
|---|---|---|---|---|---|---|
| 59 - 63 | Very not good | 1 | | | | 6,25 |
| 64 - 69 | Not good | 1 | | | | 6,25 |
| 70 - 74 | Enough | 4 | 76,75 | 59 | 84 | 9,375 |
| 75 - 79 | Good | 7 | | | | 46,875 |
| 80 - 84 | Very good | 5 | | | | 31,25 |
| *Total* | | 18 | | | | 100 |

The results of the two tables are the results of the printed module and electronic module questionnaires, where in table 2 which discusses the results of the printed module questionnaire, there are 9.37% (1 out of 18 students) which are included in the very good category and 11.28% (2 out of 18 students) good, in the fair category the results were 21.87% (5 out of 18 students), in the not good category the results were 31.42% (5 out of 28 students) and in the very poor category the results were 25% (6 people from 28 students), therefore it can be seen that the use of printed modules to improve communication skills in students with the indicator being able to express opinions and accept opinions from other people is included in the weak category. This can be seen from the data on the number of students who have filled out the questionnaire which contains several questions which the researcher has processed and produced this data.

Meanwhile, in table 3, which uses an electronic module, the results of the analysis carried out by researchers show that there are 31.25% (5 out of 18 students) included in the very good category and 46.87% (7 out of 18 students) included in the good category, in in the fair category the results were 9.37% (4 out of 18 students), in the not good category the results were 6.25% (1 out of 18 students) and in the very poor category the results were 6.25% (1 person out of 18 students) Therefore, it can be seen that the use of printed modules to improve communication skills with indicators of always preserving the surrounding environment and preventing damage to the natural environment is included in the good category. This can be seen from the data on the number of students who have filled out the questionnaire which contains several questions which the researcher has processed and produced this data.

*Normality and Homogeneity Test*

Table 4. Normality and Homogeneity Test

| | Normalitas test | | Homogenitas test | |
|---|---|---|---|---|
| Indicator | Print Module | Elektronic Module | Print Module | Elektronic Module |
| Statistik | 0,256 | 0,179 | 0,424 | 0,271 |
| Df | 22 | 22 | 44 | 42 |
| Sig | 0,023 | 0,064 | 0,605 | 0,519 |

Seen in table 4 are the results of the Normality Test at SDS Suria Harapan Jambi City in testing the effect of printed modules and electronic modules based on local wisdom of traditional games to improve communication skills. Where the normality test is carried out to find out whether the population distribution is normal or not. Normality test results can be said to be normal if sig is >0.005. It was found that the significance value of SDS Suria Harapan Jambi City regarding the use of printed modules and electronic modules based on local wisdom of traditional games, where there was a sig value of 0.605 for the printed module and 0.519 for the electronic module, based on these results it could be said that the data was a normal distribution.

Meanwhile, in the homogeneity test, a sig result of 0.023 was obtained for the printed module test results and 0.064 for the homogeneity test results on the electronic module. So it can be concluded that the data for the printed module is said to be

inhomogeneous because it is <0.05, and for the electronic module it is said to be homogeneous because the sign value is >0.05.

*Independent Samples T Test*

Tabel 5. Independent Samples T Test

| T | Sig (2-tailed) | Mean Difference |
|---|---|---|
| 7,273 | 0,001 | -14,409 |
| 7,273 | 0,001 | -14,409 |

Based on table 5 above, it can be seen that there is a comparison between printed modules and electronic modules based on local wisdom of traditional games. This shows a significant comparison between printed modules and electronic modules based on local wisdom of traditional games. It can be seen that the electronic module is more prominent or more dominant than the printed module. This can be seen in students who fall into the sufficient category in the print module which is marked by a percentage result of 21.87% for 5 out of 18 students, while in the electronic module there is a percentage result of 46.875% for 7 out of 18 students. Based on this, it is known that using electronic modules is better.

This research previously carried out the development of electronic modules to improve the communication skills of students in elementary schools. The value of communication skills can be developed through attitudes shown directly by educators (Manik, 2020). Communication skills integrated into electronic modules can have a good impact on the skills of elementary school students (Aryanti, 2020). Meanwhile, the research that will be carried out is a comparative analysis of electronic modules with printed modules in social studies learning to see indicators of communication skills.

The novelty of this research lies in the electronic modules and printed modules used by researchers which integrate existing local wisdom so that they can improve communication skills (Syahrial, et al. 2021). Value Skills are integrated with electronic modules and taught to students. Learning media that shows facts, concepts and procedures to make them appear more concrete. Meanwhile, the limitation of this research is that it only focuses on class V of elementary schools.

## CONCLUSION

As a result of the discussion described above, it was found that from the two learning materials that were applied, namely the printed module and the electronic module, we could see indicators of environmentally caring character. Based on the results of research where the dominant one is to look at environmentally caring character indicators with the application of electronic modules, while the results from applying printed modules are in the sufficient category, from this it can be seen that there are differences between the two teaching materials used to see environmentally caring character indicators, this is reinforced with the results of the t test that has been carried out, where the sig obtained is smaller than 0.05, then there is a difference between the two.

The suggestion from researchers is for teachers and schools to improve the environmentally caring character of students, because the environmentally caring character possessed by students can help students have strong character, making learning outcomes as well as students' self and attitudes more optimal and meaningful. Especially in the application of printed modules and electronic modules based on local wisdom.

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