

STUDY OF THE APPLICATION OF DIGITAL LITERACY IN THE FRAME OF THE INDEPENDENT CURRICULUM TOWARDS 21st CENTURY SKILLS IN BORDER AREA STUDENTS

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Abstrak: Tujuan penelitian ini adalah untuk mengetahui tingkat penerapan literasi digital di sekolah dalam konteks pelaksanaan kurikulum merdeka menuju keterampilan abad 21 pada siswa daerah perbatasan. Penelitian dilakukan melalui metode kombinasi penelitian kualitatif dengan analisa studi kasus. Tahapan penelitian dilakukan dengan meramu data yang diperoleh melalui penyebaran angket, wawancara, dan observasi lapangan kemudian disajikan secara deskripsi. Penyebaran angket dilakukan pada 8 Juni 2023, sementara observasi dan wawancara dilakukan pada 15 dan 16 Juni 2023. Penelitian dilakukan pada siswa kelas 4 dan 5 SDN 01 Bengkayang Kalimantan Barat daerah Perbatasan, dengan jumlah responden 45 siswa. Hasil perolehan data melalui angket, observasi dan wawancara menunjukkan integrasi literasi digital dalam penerapan kurikulum merdeka sudah dilaksanakan di sekolah, dalam angket pembuktian dapat dilihat pada jawaban no 8-10 dengan rata-rata persentase, setuju 70,00%. Efektivitas pelaksanaan integrasi literasi digital dan kurikulum merdeka dapat diketahui dari tingkat keterampilan siswa pada pertanyaan no 1-3 dengan rata-rata persentase setuju 75,00%. Sementara terkait ketersediaan fasilitas penunjang dalam menyukkseskan pelaksanaan kurikulum merdeka terutama proses integrasi literasi digital dan kampus mereka jawaban responden menunjukkan masih belum memadai dengan persentase 70,00%. Data hasil angket kemudian diperkuat dengan temuan saat melakukan observasi dan wawancara dimana dalam proses pembelajaran sudah dilakukan proses integrasi literasi digital dalam pembelajaran di kelas melalui penerapan kurikulum merdeka, sementara ketersediaan fasilitas pendukung masih sangat minim hal ini sejalan dengan hasil data angket penelitian.

Kata Kunci: Literasi Digital, Kurikulum Mandiri, Keterampilan Abad 21, Pelajar, Daerah Perbatasan

Abstract: The purpose of this study was to determine the level of application of digital literacy in schools in the context of implementing an independent curriculum towards 21st century skills for students in border areas. The research was conducted through a combination of qualitative research methods with case study analysis. The stages of the research were carried out by gathering the data obtained through the distribution of questionnaires, interviews and field observations and then presented in a descriptive manner. The distribution of the questionnaire was carried out on June 8, 2023, while observations and interviews were carried out on June 15 and 16, 2023. The research was conducted on grade 4 and 5 students at SDN 01 Bengkayang, West Kalimantan, in the border area, with 45 students as respondents. The results of data acquisition through questionnaires, observations and interviews show that the integration of digital literacy in the implementation of the independent curriculum has been carried out in schools, in the evidentiary questionnaire can be seen in answers no. 8-10 with an average percentage, agree 70.00%. The effectiveness of implementing the integration of digital literacy and the independent curriculum can be seen from the level of students' understanding of questions no. 1-3 with an average percentage of 75.00% agree. Meanwhile, regarding the availability of supporting facilities in the successful implementation of the independent curriculum, especially the process of integrating digital literacy and their campus, the

respondents' answers showed that they were still inadequate with a percentage of 70.00%. The data from the questionnaire results were then strengthened by findings during observations and interviews where in the learning process an integration process of digital literacy was carried out in classroom learning through the implementation of an independent curriculum, while the availability of supporting facilities was still very minimal, this was in line with the results of the research questionnaire.

Keywords: Digital Literacy, Independent Curriculum, 21st Century Skills, Students, Border Areas

Introduction

The government is currently intensively promoting the implementation of an independent curriculum in every educational unit starting from Elementary School (SD) education (Ardianti, Yekti, 2022) to Higher Education (PT). This effort is considered by a number of parties to be very contextual in responding to the needs of the world of education today, especially the learning needs of generation Z students. Generation Z itself is a generational stage where technology becomes a friend for them in the process of growth and development and technology becomes a means of finding self-identity (Hastini, Yossi Lasti, Rahmi Fahmi, 2020) . To answer the learning needs of generation Z students, the government has coined a form of curriculum that is genius with technology as an integral part of implementing the learning process in schools (Subroto, Prawidi Wisnu Subroto, 2022) . The stages of independent curriculum change are currently still in the nodes of the chain of change curriculum from the K-13 curriculum to an independent curriculum. The genial idea of implementing an independent curriculum by presenting technology in learning will not run optimally when there is no good mentoring process. The digital literacy program is one of the solutions to provide good education and understanding for students and for teachers as implementers of the independent curriculum in the school environment (Asari, Andi, Taufiq Kurniawan, Sokhibul Ansor, 2019) .

So the implementation of an independent curriculum in the school environment needs to be accompanied by the implementation of good digital literacy (Diputra, Komang Sujendra, Ni Ketut Desia Trisiantari 2020). The independent curriculum will only be assessed as a docmatic curriculum structure, if the implementation is not accompanied by good educational steps in the form of digital literacy stages and targeted and effective implementation in the school environment. So the government declared that the implementation of the independent curriculum and the implementation of digital literacy must go hand in hand in the educational process. With the implementation of good digital literacy, it can ensure the use of technology in learning through an independent curriculum, not only as a complement to learning, but more than that it becomes a very important part in implementing the implementation of learning, especially in efforts to transfer knowledge from teachers to students . In addition, the independent curriculum allows the learning process to be more creative by utilizing various learning resources found through the use of technology (Rahmadayanti, Dewi 2022). For example, in finding learning resources Teachers and students are no longer fixated on printed books, but become more creative by utilizing digital technology in finding learning resources such as through the use of the internet which includes search pages such as websites, blogs or mailing lists and many other learning resources. that can be found and accessed via the internet. Implementation of learning in the independent curriculum becomes more interesting, creative and effective through the use of technology.

In addition, the process of integrating digital literacy in the implementation of the independent curriculum in the school environment is one of the efforts made by the government in educating the younger generation who are skilled in responding to the demands of the 21st century (Dewi, 2019) . The 21st century is often likened to the glorious century of technological developments which cover all aspects of life. The rapid development of technology has had a huge impact on the pattern of human life. Shifts in patterns of human activity are felt in the 21st century (Rahmatiani, Lusiana 2021) where in the previous century all human activities were still carried out conventionally by involving human power and even most daily activities still rely on human power. However, amid the rapid development of technology in the 21st century, there is slowly a shift in the pattern of human activity, which is starting to be replaced by using technology. The use of human power gradually began to be reduced and replaced by the use of technology. But behind every technological sophistication there are intelligent people who operate it. Intelligence in operating technology is one of the skills that humans must have today , so that technology can still be controlled by humans and not vice versa humans who are enslaved by technology.

So to address this, today's people need to master special skills in the 21st century, which are called 4C skills. 21st century skills were first introduced by *the US-based Partnership for 21st Century Skills* (P21) (Council 2012) which states that there are 4 characteristics of 21st century skills, namely *critical thinking, communication,*

collaboration and creativity (critical thinking, communication, collaboration and creativity). . (Prihadi 2018)in his research emphasizes the importance of 21st century skills as part of the all-digital stages of human adaptation. The same thing was expressed by (Agustinova, Danu, Eko, Sariyatun, Leo Agung Sutimin 2022)who in his research encouraged students to have 4C abilities, so in the school environment it is necessary to carry out stages of good assistance.

The 4 focus discussions on 21st century skills include, *First; critical thinking*, critical thinking becomes the first point in the description of 21st century skills. This shows that critical thinking is an urgent need that must be possessed by modern humans in responding to the demands of the 21st century. Scriven, Paul and Angelo in (Filsaime 2008)defines the process of critical thinking as a stage of thinking that starts from the process of analysis, synthesis and evaluation which is carried out systematically. systematic. Joseph Bishop in (Maulidah 2021)explains critical thinking is a personal ability to solve a problem in new ways and methods based on the disciplines studied. Meanwhile, in the context of education, the demand for critical thinking in learning is described by Stein and Bloom, 1956 with the term learning taxonomy. *Second; Communication*, Communication is one of the basic skills of the 21st century that must be possessed by modern society. The demand for the importance of communication skills is of course in line with the increasingly rapid development of technology, most of which support and make it easier for humans to communicate. The stages of communicating in question do not only stop at language skills with good vocabulary placement, but more than that communication also includes personal skills in expressing oneself, as stated in the description (Miller, K. I., Stiff, J. B., & Ellis 1988) which provides specifications on the communication process. So the ability to communicate becomes an urgent need when modern society is dealing with technology in carrying out the communication process.

Third; Collaboration, the presence of technology allows humans to be able to interact with each other very easily. In response to this, humans are required to be able to interact and collaborate with one another. So skills that are also important to have in the 21st century are collaborating. Humans exchange ideas and knowledge, support each other, need each other in maintaining their survival. Technology has hacked the private space and made it a public space that allows everyone to share knowledge and collaborate. *Fourth; Creativity*. In the midst of the rapid development of technology today, creativity is a much needed attitude. Creativity is considered as a form of adaptation of modern humans in responding to increasingly rapid technological developments. (DeHaan 2009)in his research explained creativity is a personal ability to generate new ideas to support increased intellectual abilities and the development of knowledge. Dehaan emphasizes the description on the understanding that one's creativity can make sense and support the development of science. So creativity then becomes part of the 21st century abilities that must be owned and mastered by modern humans.

Responding to the urgency of fundamental skills in the 21st century and with reference to the current rapid development of technology, the government feels the need to make new breakthroughs in the world of education by making changes to the learning curriculum system in each education unit. The independent curriculum which is currently being promoted by the government has the advantage of using technology to change the curriculum system which was previously conventional. So the presence of an independent curriculum is a breakthrough and a quick step for the government to answer the demands of skills in the 21st century. Through an independent curriculum, especially by including technology as an integral part of the educational process, the stages in improving 21st century abilities are slowly starting to be implemented in the school environment. So in this study it specifically explores the application of digital literacy within the framework of an independent curriculum to answer the demands of 21st century skills for students in border areas. Border area students are the object of research because of the urgency of field needs where technology is not yet very familiar to border area students, especially elementary school students, as explained in the results of the research conducted (Priska, V., Helena, A., Apriyon, Y., Arlianto, A. 2019). By looking at these things, this research is urgent to do and very contextual in responding to the learning demands of border area students, especially in responding to the learning needs of the independent curriculum and the demands of 21st century skills.

Method

The method used in this discussion is a combination of qualitative research with case study analysis. The stages of the research were carried out by gathering the data obtained through the distribution of questionnaires, interviews and field observations and then presented in a descriptive manner. According to (Creswell 2013)research analysis through case studies has several basic points which are the object of field study. With so many study objects used in the field, the research results obtained are very real and what they are. The same thing was explained by (Gomm, R., Hammersley M., & Foster 2000)that research with a case study approach is carried out by analyzing real conditions with the process of digging for more in-depth information. The information

extracted from the case study process is more emphasized on the meaning of each information obtained and not through a general generalization process. Meanwhile (Noor 2008) emphasized that the research results obtained from carrying out case studies were more original and presented the condition of the object as it was. (Arikunto 2013) describes the implementation of case study research with a wider range of research objects which can be carried out at an institution, organization or certain phenomena which are carried out intensively, in detail and in depth. While the descriptive description model has the advantage that in its discussion it can explain a situation or phenomenon in accordance with real conditions without any manipulation of the research object (Sukmadinata 2015).

This research was conducted in June 2023, with the stages of distributing the research questionnaire to respondents on June 8 and the observation and interview processes were carried out on June 15 and 16 2023. The main objects in this research were grade 4 and grade 5 students at SDN 01 Bengkayang. Classes 4 and 5 were chosen because they are high class who already understand enough in using technology. In addition, during the initial observations it was found that most of the students in grades 4 and 5 already had cellphones and in the learning process they had received digital literacy teaching materials as one of the learning themes in elementary school. Meanwhile in determining the number of respondents the method used was *purposive sampling* which aims to determine the research sample. The research objects totaled 45 students with details of 20 Grade 4 SD students and 25 Grade 5 SD students. In gathering data, questionnaires were administered to measure the level of students' understanding of digital literacy and the implementation of digital literacy in the context of an independent curriculum, while interviews and observations were conducted to observe models of implementing digital literacy implemented in schools in responding to the demands of 21st century skills.

Findings and Discussion

Questionnaires

Questionnaires were given to respondents, in order to explore the level of students' understanding of the integration of digital literacy in the context of implementing the independent curriculum. Respondents' answers to the questionnaire were made in category number 1, 2, 3, And 4 (*strongly agree, agree, disagree, and strongly disagree*). As for percentage level understanding student on the integration of digital literacy in the context of implementing the independent curriculum is presented in the following table.

Table 1. Students' Understanding of Digital Literacy Integration in the Merdeka Curriculum

Indicator	1	2	3	4
1. I understand technology	80.00%	20.00%	0%	0%
2. I understand digital literacy	30.00%	50.00%	20.00%	0%
3. I understand the independent curriculum	20.00%	45.00%	25.00%	10.00%
4. I've learned about digital literacy at school	30.00%	60.00%	10.00%	0%
5. My school environment is rich in digital literacy texts	30.00 %	30.00%	35.00%	05.00%
6. Digital literacy facilities in schools are quite adequate	05.00%	10.00%	35.00%	50.00%
7. Library and Lab. Computers are my favorite place in digital literacy	10.00%	15.00%	60.00%	15.00%
8. The independent curriculum has been implemented in schools	60.00%	20.00%	05.00%	05.00%
9. Digital literacy has been implemented in independent curriculum learning	30.00%	35.00%	25.00%	10.00%
10. Digital literacy and independent curriculum help me to understand 21st century skills.	40.00%	30.00%	25.00%	05.00%

The table above presents data on the results of respondents' answers to the questionnaire that has been given. In total there were 10 statements given and each statement received very varied answers from the respondents. In statements no. 1-3 which aim to explore students' understanding of 3 research keywords namely technology, digital literacy and independent curriculum, students gave different responses. At the level of understanding of technology, respondents gave answers that strongly agreed, reaching 80.00% , followed by agreeing 20.00%, while understanding digital literacy, respondents answered strongly agreeing 30.00% and agreeing 50.00% and the independent curriculum answered strongly agreeing 20.00% and agree 45.00%. From this pattern of answers, it can be seen that the students of SDN 01, even though they are in border areas, already

have a good understanding of the 3 research keywords, namely technology, digital literacy and the independent curriculum.

The level of students' understanding of the 3 research keywords seems to be in line with students' acknowledgment that they have received digital literacy assistance at school with a percentage of strongly agreeing 30.00 % and agreeing 60.00% and the availability of a school environment rich in digital literacy texts with a very high percentage. agree 30.00% and agree 30.00%. However, when the statement was submitted targeting the availability of digital literacy supporting facilities in schools, the respondents gave the opposite answer with a percentage of 35.00 % disagreeing and 50.00% strongly disagreeing, this is in line with the statement of favorite places in digital literacy which also targets the availability of facilities. supporters, the respondents' answers remained consistent disagreeing 60.00% and strongly disagreeing 15.00%. This proves that supporting facilities in supporting the implementation of digital literacy in SDN 01 Bengkayang schools in border areas are still very minimal and inadequate. Meanwhile regarding the implementation of the independent curriculum in schools the respondents acknowledged that the independent curriculum had been implemented with the answers 60.00 % strongly agree and 20.00% agreed, the respondents' answers were directly proportional to the integration of digital literacy with the independent curriculum in the learning process which received answers that strongly agreed 30.00% and agree 35.00%. In the final question which at the same time explored answers to the research title, the respondents gave quite good answers with a percentage of strongly agreeing 40.00 % and agreeing 30.00%.

Observation and Interview

In exploring the level of depth of respondents' answers to the questionnaire, the next research stage was carried out by observation and interviews. This stage aims to explore the process of integrating digital literacy into the learning process in the classroom. Observations and interviews were carried out on June 15 and 16 2023. Observation targets in the 2 classes that are the object of research are grade 4 and grade 5. In grade 4, during the observation stage, Indonesian language learning was underway with the theme of discussing communication tools. At the beginning of the lesson the Indonesian teacher tried to explore the level of students' understanding of communication tools and at that time a very interesting dialogue occurred where students spontaneously mentioned and explained the communication tools they knew.

After getting student answers, the teacher then explains about communication tools and their uses. At the end of the lesson the teacher deepens by inviting students to make bulletin boards together based on predetermined study groups. While in grade 5 the observation stage was carried out when the class was following an art lesson, the theme of the discussion at that time was dance. When starting the lesson the teacher invites students to learn traditional dances that exist throughout Indonesia. In order to make it easier for students to learn traditional dance, the teacher as a companion gives students the opportunity to open their cellphones and laptops to find examples of traditional dances that they can learn.

During the interview process, a grade 4 student had the opportunity to become a subject who was willing to be interviewed, according to him the learning method applied through the independent curriculum was very interesting and not boring, because according to him there were many activities and creative activities carried out in class, "especially when the teacher gave *the opportunity to us (students) to open the internet looking for learning resources, we are very happy,* " (Grade 4 student interview, June 15, 2023). The Indonesian teacher, when confirmed regarding the implementation of the independent curriculum learning which included elements of technology as part of the learning process, admitted that she *was very happy,* "We as teachers are of course very happy because there are many learning resources that we can use when opening up technology. Of course when students use technology in class the goals are good and make sure students use it well, " (Interview with Indonesian Language Teacher, 15 June 2023). While the art teacher admitted that he was happy with the sophistication of technology that made it easier for him to teach students to dance and sing , "it's very easy sir, we just direct students to open the internet and learn traditional dance from there, of course while we assist, " (Interview with the Language Teacher Indonesia, 16 June 2023)

The 3 research models carried out starting from distributing questionnaires, observations and interviews provide a clear picture that the level of understanding of students in border areas of technology through digital literacy and an independent curriculum is quite good as evidenced by the results of questionnaire answers that claim to have a good understanding of these 3 things with an average range of answers reaching 75.00% agree. This was then reinforced by the results of observations and interviews where the teacher no longer focused on explaining meaning but had directly practiced and integrated technology in the learning process in the classroom. While related to the stages of integration of digital literacy with the independent curriculum in the learning process the results of the questionnaire showed a positive response with an average agreed answer reaching 70.00%, this indicates that the integration stages have been carried out and are running well, this is supported

through a process of observation and field interviews where teachers in the learning process have integrated technology with good digital literacy assistance. However, what is still an obstacle is the availability of supporting facilities in supporting the implementation of an independent campus, especially the integration of the use of technology, from the results of questionnaires and observation stages it is found that it is still very minimal.

Conclusion

The results of data acquisition through questionnaires, observations and interviews show that the integration of digital literacy in the implementation of the independent curriculum has been carried out in schools, in the evidentiary questionnaire can be seen in answers no. 8-10 with an average percentage, agree 70.00 % . The effectiveness of implementing the integration of digital literacy and the independent curriculum can be seen from the level of students' understanding of questions no. 1-3 with an average percentage of agreeing at 75.00 % . Meanwhile regarding the availability of supporting facilities in the successful implementation of the independent curriculum, especially the process of integrating digital literacy and the independent campus, the respondents' answers showed that they were still inadequate with a percentage of 70.00 % . The data from the questionnaire results were then strengthened by findings during observations and interviews where in the learning process an integration process of digital literacy was carried out in classroom learning through the implementation of an independent curriculum, while the availability of supporting facilities was still very minimal, this was in line with the results of the research questionnaire data.

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