KnE Social Sciences
ICHELSS
The 3rd International Conference on Humanities Education, Law and Social Sciences
Volume 2024

Conference Paper

# Digital-based Learning in Social Science Cluster Subjects in High School with Curriculum Merdeka

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**Abstract.**
This study aims to evaluate digital-based learning in Social Sciences cluster subjects (sociology, geography, economics, history and civic education) in Senior High Schools with an independent curriculum. The research method used is descriptive with a quantitative approach. This descriptive research is used with the aim of knowing the value of independent variables without making comparisons or correlating with other variables. Data were collected through questionnaires developed based on key indicators of digital learning variables. The respondents of the study were teachers who taught social subjects and students who were taught. The results of the study found: The type of ICT used was 66.1%; the utilization rate of technology in learning is 82.6%; the level of student proficiency in the use of ICT technology is 73.4%; the level of teacher commitment to use ICT technology in learning is 76.1%; digital learning success rate is 77.0%. The teacher satisfaction rate was 74.9% and the student satisfaction rate was 88.8%. From this indicator data, it can be concluded that digital-based learning in social science cluster subjects in Senior High Schools in Makassar City is 77.0% or is in the very high category.

**Keywords:** digital learning, social sciences

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**Published** 3 January 2024

Publishing services provided by Knowledge E



Selection and Peer-review under the responsibility of the ICHELSS Conference Committee.



## 1. Introduction

The paradigm shift in education in Indonesia is 21st century learning. 21st century learning is characterized by information that can be accessed anytime and anywhere, faster computing because it uses machines and communication that can occur anywhere and anytime. This shift requires teachers to adjust to these changes [1–4]

[5] explain than an effort to adapt to 21st century learning, the government has made curriculum changes from the K13 curriculum to the independent curriculum. The independent curriculum is expected to present learning that is meaningful, interesting, relevant and in accordance with the characteristics of educational units.

One important aspect of independent learning-based education is the use of digital technology in the learning process. 21st century learning independent curriculum emphasizes the use of learning resources and varied digital-based media. Teachers are given the opportunity to massively utilize information and communication technology in the form of media and multimedia [6]

In learning, teachers are not only required to master various strategies, models, methods or approaches used but are also expected to be able to utilize information and communication technology to deliver digital-based learning. Teaching materials, media, assessments are components of learning that can utilize technology in it. With today's technological advances, these learning components can be packaged in digital form, so that learning becomes effective, efficient and of course fun for students [7–10].

The digital teaching component can be easily used and accessed by students through their smartphones, so they can learn independently both at school and at home. Social science subjects in Senior High School cover several fields of study such as sociology, history, economics, geography and civic education. In this subject, learning needs a contextual approach, so that the use of digital media will help present learning media that is able to develop students' critical and analytical thinking skills.

By presenting digital-based learning, the effectiveness of student learning and skills is expected to increase. However, in its implementation, teachers are not necessarily able to apply digital-based learning to the subjects they empower. Various obstacles are faced by teachers in the implementation of digital-based learning in learning.

Various research results such as those by [11] that digital-based learning can increase students' interest in learning so that I deserve to be used to present fun learning and make it easy for students to access information without borders in addition to making it easier for teachers to use varied learning resources. Students need learning media that they like in accordance with characteristics that can generate learning independence [12–15].

Similarly, the results of research found that ideally to go to the era of society 5.0, Social Science teachers must optimize the practice of conceptions in accordance with the characteristics of the era of society 5.0, namely by using various student-centered learning elements, empowering learning based on information and communication technology and always paying attention to the remaining individual characteristics collectively [16–19].

Research on digital learning in social science cluster subjects in senior high schools that implement an independent curriculum has an important urgency to be carried out

which aims to provide early information on the extent to which the application of digital-based learning has been carried out by teachers of social science cluster subjects in high schools in their efforts to implement an independent curriculum. This research will provide an overview of the extent of the effectiveness of the use of digital technology in learning in social science cluster subjects in Senior High Schools that have implemented an independent curriculum in the learning process. It is expected to make a significant contribution in efforts to implement effective learning and relevant to the needs of students in today's digital era [20–22].

## 2. Method

This research is a descriptive with a quantitative approach. Focusing on analyzing digital-based learning on social science family subjects in this case the subjects of sociology, geography, economics, history, and civic education. The subject of this study is a school that has implemented the Merdeka curriculum. The population of this study is teachers who teach and students who have studied subjects in social science families using an independent curriculum. Based on the results of the sampling, the number of samples was 96 people. Data collection was conducted through questionnaires and interviews. Based on the questionnaire data, the data is analyzed with descriptive statistics to organize the data, present and analyze the data. In this study, the presentation of data from respondents through tables and graphs obtained from percentage calculations. Interviews were conducted to clarify the results obtained from filling out questionnaires conducted by teachers and students.

## 3. Results and Discussion

The picture of digital-based learning in the social science family will be described using seven main indicators. The results found that the application of digital-based learning in the subjects of sociology, economics, geography, history and civic education showed positive achievements. Seven indicators are used to measure the implementation of digital-based learning in sociology subjects,

The results showed that the application of digital-based learning in the subjects of sociology, economics, geography, history, and civic education showed positive achievements. There are seven indicators used to measure the implementation of digital-based learning in the subjects of sociology, economics, geography, history, and civic education, namely: The type of ICT used in learning, the level of technology utilization

in learning, the level of student proficiency in the use of ICT technology, the level of teacher commitment to using ICT technology in learning, the level of success of digital learning, the level of teacher satisfaction in Applying digital-based learning and the level of student satisfaction with digital-based learning.

The total score of the seven indicators obtained is 77 percent, this figure illustrates that digital-based learning in the subjects of sociology, economics, geography, history, and civic education in high schools that apply an independent curriculum is in the good category. A complete description of the acquisition of each indicator can be seen in the following table:

Table 1: Digital-based learning in social science subjects in Senior High School with independent curriculum.

| Question Item | Frequency | | Percentage |
|---|---|---|---|
| | Score | Maximum Amount | |
| Types of ICT used by teachers in learning | 2538 | 3840 | 66,1 |
| The level of utilization of technology in learning | 2775 | 3360 | 82,6 |
| The level of proficiency of students in the use of ICT technology | 2820 | 3840 | 73,4 |
| Level of commitment of teachers to using ICT technology In learning | 3287 | 4320 | 76,1 |
| Digital learning success rate | 3327 | 4320 | 77,0 |
| Teacher satisfaction level in implementing digital-based learning | 2518 | 3360 | 74,9 |
| The level of student satisfaction in digital-based learning | 2985 | 3360 | 88,8 |
| Sum | 20250 | 26400 | 539,0 |
| Total Number of percentages | | | **77,0** |

Based on the data in the table above, it illustrates that digital-based learning in social science clusters in high schools with an independent curriculum has shown positive acceptance of both teachers and students. The success rate of digital learning is 77 percent or in the very good category.

The level of technology utilization in learning Social Sciences clusters in Senior High Schools with an independent curriculum looks positive with a percentage of 82.6 percent or is in the good category. These results were obtained from question items: availability of ICT facilities and infrastructure 87.5%, frequency of ICT use 100% ICT integration in RPP 80.33%, creativity in ICT use 60.41%, active participation of students

80.33%, level of interaction and collaboration 77.08%, utilization of ICT in evaluation 86.45%.

The frequency of ICT use reached 100 percent, confirmation with respondents related to this is because teachers who always use technology tools in the form of laptops and LCDs and use technology in carrying out evaluations. The availability of ICT facilities and infrastructure also reached a fairly high number of 87.5 percent, the results of observational and interview data information showed that Senior High Schools that have implemented an independent curriculum do already have or provide adequate ICT facilities such as computers, projectors, internet networks, interactive boards and some have even used smart TVs in the learning process.

Although the use of technology in learning has shown positive results, there are still parts that really need to be developed such as creativity in the use of ICT by teachers. The results of the questionnaire data processing show that in this section the percentage is 60.41 percent or is in the good category. The results of interviews with teachers support the results of this questionnaire which states that they are still learning to improve their ability to use technology in learning even though it is only done through you tube and occasionally attends training. Creativity in presenting digital-based learning will increasingly attract students' interest and motivation in learning.

The type of ICT used by teachers in learning 66.09 percent is in the very good category. Computers and laptops 95%, Projectors 83.3%, Online learning apps20%, Digital learning resources 95.8%, Presentation software 89.6, social media 64.9, Online simulation and gaming applications 60.4, Online collaboration applications 20. From this data it can be concluded that commuting and laptops have an elevated percentage of 95%, this indicates that both have become standards in learning activities. Digital learning resources are also included in the very good category or 95.8% where in learning teachers use online learning resources such as videos, e-books and journals. The use of presentation software obtained a figure of 89.5 percent. The use of Microsoft PowerPoint, Google Slides and so on has been used to present more interactive learning.

However, there are also low percentages such as the use of online learning applications which are only 20%. After confirming with interviews, it was found that the low score in this section was because the school did not yet have its own e-learning application to carry out virtual teaching. In addition, the collaborative application used is also still low at 20%. Teachers are not too familiar with utilizing collaborative applications available such as Google Docs or Microsoft Teams. To increase the use of ICT in social science

learning, teachers still need to explore potential by further exploring the use of online learning applications and online collaboration applications.

Student proficiency in the use of ICT in learning social science clusters amounted to 73.8 percent or entered in good categories. Varian's significant is found in this indicator, one part of which is the ability to navigate and search for information student which reaches 100 percent. And digital communication capabilities that reached 89.9 percent. This shows that overall students already have excellent digital communication and information search skills.

However, students' ability in digital literacy is still very low at 51 percent. This really needs more attention and requires the right solution to overcome it. The results of interviews with teachers support the results of this questionnaire, they stated that students are still less responsible in receiving information and accessing diverse information on digital media. The right formulation is needed to overcome this because literacy skills are key to helping students understand and utilize more critically and responsibly[23–26].

In addition, more attention to this indicator that needs more attention is the ability to evaluate information and digital literacy, as well as the need for encouragement to improve the ability to collaborate using technology. If this has been maximized, schools and teachers can help students to be better prepared to face the challenges of the digital era, namely the era of society 5.0 and utilize technology as an effective and responsible learning tool.

Teachers' commitment to using ICT in learning based on data was obtained 67.2%. Scores obtained from each question item: application of ICT according to the Learning Implementation Plan 79.1%, integration of ICT in learning materials 97.9%, use of online learning platforms 96.8%, ability to overcome technical obstacles 66.7%, participation in ICT training 62.5%, creation of digital learning materials 63.5%, encouraging student creativity with ICT 65.6%, responsiveness to technological developments 66.9%, collaboration with fellow teachers 85.6%.

The commitment of teachers of sociology, economics, geography, history and civic education at the senior high school level is 67.2%. This value is obtained from the support of ICT integration in learning materials which reached 96.8%. Teachers have actively integrated ICT in delivering learning materials using video presentations and other digital resources. While another aspect that has a high score is collaboration with teachers which reaches 85.6%. Obstacles in the use of ICT in learning are always experienced by teachers both technically and in terms of skills, so that collaboration with teachers or peers to share experiences and knowledge related to the use of ICT.

However, there is still an aspect of this indicator that requires attention is that participation in ICT training reaches 62.5%. These data indicate a need to further encourage teacher participation in improving their ICT competence. By improving teacher competence in using technology, they can be more creative in creating engaging and interactive digital learning materials, and more effective in encouraging student participation and creativity in learning.

The success rate of digital learning in social science learning in Senior High Schools with an independent curriculum is 77.01% or very good category. In this indicator, there are several aspects that show high achievement such as aspects of improving student skills 83.9 percent, quality of teaching materials 85.2%, and increasing student learning motivation 85.6%, all three of which are in the very good category. Result indicates that digital-based learning is able to increase students' skills and motivation in learning. The learning materials presented are also of high quality so as to support the teaching and learning process effectively.

Aspects that need to be improved on the indicators of digital learning success in social science subjects are aspects of collaborative engagement and mastery of student material. Increasing collaborative engagement between students and teachers will help increase student interaction and participation in learning. Student mastery of student material needs to be continuously monitored and improved to ensure student understanding of the learning material taught.

In digital-based learning in social science subjects, the indicator of teacher satisfaction in implementing digital-based learning reached 74.9% or was in the very good category. There are three aspects that show high achievement, namely in the aspect of teaching experience that is more interesting and flexibility in teaching by 83.5 percent and the aspect of efficiency in learning preparation by 81.7 percent. From this data, it indicates that the use of ICT in social science cluster subjects in senior high schools with independent curricula has provided a more interesting teaching experience for teachers and reduced time to prepare learning materials.

An aspect that still needs to be developed and considered in teacher satisfaction with digital-based learning is the ease of use of ICT, which only 60.6 percent of teachers still feel uncomfortable in using ICT because they are not used to it. Therefore, teacher must always get used to using ICT in learning. In addition, still providing adequate training and support in the use of technology in learning still needs to be done. By paying attention to teacher needs and providing appropriate support, digital-based learning will increasingly provide satisfaction to teachers in utilizing digital media and will directly affect the quality of learning carried out.

The indicator of student satisfaction in digital-based learning in social science clusters reached 88.8% with a very good category. There are two aspects that show high achievement, namely the aspect of learning material variance by 97.9 percent and the aspect of ease of access to material by 97.5 percent. This shows that the source of learning materials presented by teachers in various media and formats gives a special impression of students. The results of interviews with their students stated that the teacher's material in the form of videos that were interesting and in accordance with their interests and learning styles made them comfortable in following the learning. In addition, by utilizing ICT, students can quickly and efficiently access learning materials such as e-books, learning videos, presentations and other digital resources.

On the other hand, digital-based learning on the indicator of student satisfaction in the aspect of independent learning ability by 72.7% and student social interaction achieved low results compared to other aspects. Once confirmed through interview with teachers and students, this is due to several factors. Students' independent learning ability is low because students still need adaptation in digital-based learning, especially in managing time and completing their tasks independently. In addition, students are also often constrained in overcoming technical challenges and technological accessibility. While low social interaction is caused by learning more interaction using intermediaries so that emotional relationships are not well established.

The application of digital-based learning in social science subjects (sociology, economics, geography, history and civic education) at the senior high school level using an independent curriculum has shown positive results and is in the very good category. However, some indicators and aspects in it still record low achievements and require attention to be developed further.

The aspect of students' digital literacy ability recorded the lowest score of 51 percent. This is an important note to be followed up and developed. Students need to remind their ability to manage and critically assess information in a digital environment. In addition, students find it difficult to focus on reading the digital material provided and prefer other activities in using unproductive technology. By increasing students' understanding of the truth and validity of digital information, it will make them more intelligent and critical in using technology as a learning resource.

The creativity of the use of ICT by subject teachers is also relatively low in digital-based learning in social science cluster subjects, which is 60.41%. The results found that there are two causes of this low aspect, namely high workload and lack of preparation time which hinders teachers' ability to explore and apply various ICT tools creatively. The second factor is that teachers still lack adequate training and support to develop

their digital skills and experience is still lacking to develop innovative learning in using technology.

This condition is supported by research data that found aspects of teacher participation in ICT training which only reached 62.5 percent. The role of education is very important to increase teacher competence and confidence in using technology in learning. So that encouragement and support to engage teachers in various ICT trainings is very much needed and ensures that the training is relevant to their needs.

This study shows that the application of digital-based learning in social science subjects in high schools that apply an independent curriculum has provided positive results, the results of this study are in line with research that finds the benefits of technology in learning. Increased teacher and student satisfaction in digital learning has also been found in research by Husain & Basri, 2021; Ramadhani, 2019; Sukmawati et al., 2022 they explained that the use of digital technology as a learning tool has a positive effect on the emergence of student learning motivation so that it is hoped that student learning achievement can be achieved optimally and the presence of information technology systems has changed the behavior of educators and students.

However, the expectations of indicators that still record low achievements in this study such as teacher creativity in using ICT and students' digital literacy skills need to be followed up. Further research space that focuses on strategies and methods to improve these aspects should be carried out. The development of the use of technology in learning continues to grow the same thing also explained by Wardinur & Mutawally (2019) that nowadays, teachers must have more ability in using technology as a learning resource. Because learning methods and approaches are not only teacher-centered, but student-centered as a subject or student-centered. Since teachers are not the only source for students, teachers in Madrasahs are expected to be able to use learning resources that suit the needs of their students.

## 4. Conclusion

Digital-based learning in social science cluster subjects in Senior High Schools with an independent curriculum provides positive results throughout. The total score of the seven leading indicators reached 77 percent. This achievement indicates that digital-based learning is in the very good category. However, there are several principles that require attention to teacher creativity in using ICT and students' digital literacy skills. Therefore, there is a need for efforts to increase digital-based learning such as increasing training and support for teachers in using technology creatively and strengthening

students' digital literacy skills and focusing more on collaborative engagement. Thus, schools can be more effective in facing the challenges of the digital era and provide more interesting and interactive learning for students.

## Acknowledgements

We express our sincere appreciation and gratitude to the rector of Makassar State University for the funding support for this research. To research informants to research informants for their time and willingness and the research team for their cooperation.

## Funding

In this research, we obtained support and funding for non-tax state revenues from postgraduate Makassar State University. This support has contributed greatly to the smooth running and success of our research.

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