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Students' digital literacy analysis in Institut Pendidikan Tapanuli Selatan based on length of study and gender

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Abstract

The aim of this research is to analyze the digital literacy abilities of students at the South Tapanuli Institute of Education in terms of the length of study and gender. This research is quantitative and descriptive. Based on the research results, it can be concluded that students with different lengths of study and gender have different abilities to use technology. The achievement percentage for functional skills and beyond is 85% and 87% respectively, with males achieving 75% and females achieving 78%. The ability to find and select information is in the "very good" category with an achievement percentage of 85% and 87%. For critical thinking and evaluation, students in semester 5 achieved 65%, while students in semester 7 achieved 72%. Males achieved 75% and females achieved 78%. For cultural and social understanding, students in semester 5 achieved 50%, while students in semester 7 achieved 50%. Males achieved 53% and females achieved 40%. For e-safety, students in semester 5 achieved 70%, while students in semester 7 achieved 73%. Males achieved 70% and females achieved 72%. The results of the study also show that the comparison of digital literacy abilities of students with different lengths of study, semester 7 is greater than semester 5. The value of digital literacy for females is 87% higher than the value for digital literacy for males, which is 85%.

Keywords: *literacy digital; students; length of study; gender*

INTRODUCTION

The rapid advancement of technology and information in the era of Industry 4.0 has brought about many changes and challenges in society, particularly for students who are both academics and agents of change. Students are expected to be proficient, wise, and skilled in using digital tools such as smartphones, internet access through laptops, and the use of social media. Digital literacy is a skill that students must master in order to prepare themselves for the era of Industry 4.0.

Six basic literacy consists of literacy, science, numeracy, digital, financial, as well as culture and citizenship. Due to the rapid progress of Information and Communication Technology (ICT), digital, information and technology literacy skills are as important as other general skills (Fatmawati & Safitri, 2020; Nurcahyo, 2020; Ministry of Education and Culture, 2017).

The COVID-19 pandemic has had a significant impact on the learning process at the South Tapanuli Institute of Education. Of course, this also has an impact on the learning process in the English Education Study Program, Faculty of Social Sciences and Language Education. The impact that is felt is the change in the learning process, from face-to-face learning to online learning.

The online learning process requires students to study independently. One of the abilities that plays an important role in facilitating independent learning and also determines the success of learning is the ability to use technology. One of the determining factors for successful learning is the ability to find the information needed on digital networks/internet (Fadila et al., 2021). Students with good digital literacy skills will try to find/select important information and understand, communicate, and convey ideas in the digital space. Thus, digital literacy skills will open opportunities for students to think, communicate, and work which will ultimately lead to learning success (Sujana & Rachmatin, 2019; Elpira, 2018).

The term digital literacy is a person's ability to use computer devices to access various information in the digital space (Gilster & Watson, 1999). There are 8 components of digital literacy, namely: (1) Functional skills and beyond. Is a digital literacy component related to expertise in using information technology; (2) Creativity. Is a component of digital literacy related to how to think creatively using technology in building knowledge; (3) Collaboration. Is a component of digital literacy related to building knowledge through a discussion process and providing mutual input in the digital space; (4) Communications. Is a component of digital literacy related to the ability to hear, understand, and convey ideas; (5) The ability to find and select information (choose information); (6) Critical thinking and evaluation (critical thinking and evaluation); (7) Cultural and social understanding (understanding of social culture); and (8) E-safety (security). (Hague & Payton, 2011).

Given the importance of digital literacy in determining student learning success, it is crucial to develop these skills in order to prepare for the era of Industry 4.0. Based on the issues described, the research objective is to investigate the digital literacy abilities of students in the English Education Study Program at the Faculty of Science and Language Education, South Tapanuli Institute of Education, based on the length of study and gender.

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Length of Study

Students' grades are one of the important informationin academics. Every university stores those in the database. The students' grade dataset has some useful information. Itdoes not only list the students' transcripts but also containsa pattern of the data for further analysis. The collectionof students' grade dataset can be used to

build a systemto predict the length of students time and the students'performance.Predicting the students' performance is usefulfor academic workers and institution to improve the learningand teaching process (Shahiri et al., 2015). Moreover,predicting the students' length of study-time is importantfor the academic worker and institution to help the studentsto arrange their study plan.

Then,Taruna and Pandey (2014) compared theperformance of decision tree,Naïve Bayes,Naïve BayesTree, K-Nearest Neighbor and Bayesian Network forpredicting students' grade in four classes for engineeringstudents. There is also a research conducted by Mouriet al.(2016). They used Bayesian Network to predictstudents' final grade using e-book logs data. Next, Bo et al.(2015) implemented deep learning for predicting students?performance for junior high school students. Meanwhile,Liu and Cheng (2016) proposed Machine Learning FeatureSelection (MLFS) and Support Vector Machine(SVM)toanalyze students' academic achievement for the elementary school.

Indonesian higher education system usually startsthe academic semester in September and February everyyear. The length of study time is not the only criteria forthe students to receive bachelor degree status. There aresome academic and non-academic requirements that mustbe fulfilled to be bachelor degree graduate. However,thelength of study-time has an important role for the studentsand their institution. It is also one of the criteria to evaluatethe performance of higher education systems by thegovernment. Research related to the length of study-timebehavior and academic achievement has been conducted byUkpong and George (2013).

Gender

The definition of gender according to Muhtar (2002), that gender can be interpreted as social sex or the connotation of society to determine social roles based on gender. While Fakih (2008: 8) defines gender as a trait inherent in men and women that is socially and culturally constructed. The term gender is distinguished from the term sex. Oakley, a British sociologist, was the first person to differentiate the two terms (Saptari and Halzner, 1997: 88).

The term gender refers to the differences in male and female characters based on socio-cultural construction, which are related to their nature, status, position and role in society. The term sex refers to differences in the biological sexes of men and women, especially those related to procreation and reproduction. Men are characterized by the presence of sperm and a penis and women are characterized by the presence of eggs, uterus, vagina and breasts. The characteristics of biological sex are innate, permanent, and cannot be exchanged (Abdullah, 2004: 11).

Furthermore, what is meant by gender is a human perspective or perception of women or men that is not based on natural biological sex differences. Gender in all

aspects of human lif3 creating differences between women and men including social creations where women are lower than men.

For example, that women are known to be gentle, beautiful, emotional, or motherly. While men are considered strong, rational, manly, mighty. The characteristics of the nature itself are the properties that can be exchanged. This means that there are men who are emotional, gentle, motherly, while there are also women who are strong, rational and mighty (Hadiati, 2010: 15).

From the various opinions above, the researcher concludes that the term gender refers to social values that apply in society based on gender. These values can change according to the times and are interchangeable. That happens because gender is not attached to sex but to the labeling of society.

METHOD

The research method used is descriptive quantitative. The research population was all 7th semester students, 5th semester students of the English Education Study Program, Faculty of Social Sciences and Language Education, Institute of Education South Tapanuli for the 2020/2021 academic year, Padang Sidempuan consisting of 53 students, consisting of 26 students in the 5th semester and 27 students in the 7th semester. The sampling technique used is the total sampling. Sampling was done by taking the entire population as a sample because the number of students was very small.

The data collection instrument uses a digital literacy ability questionnaire. The digital literacy ability questionnaire items are compiled based on 8 digital literacy components (Hague & Payton, 2011). Questionnaire scoring scores using a Likert scale 1-6. The answer choices for each statement item are: STT = Very Don't Know; TT = Don't Know; TS = Disagree; KS = Disagree; S = Agree; and SS = Strongly Agree.

Table 1. Digital Literacy Ability Questionnaire Grid

Component	Indicators	Statement Item
Functional Skill and Beyond	Ability to use computers and take advantagrs of internet	1, 2
Creativy	Creative in presenting group material using digital media; the ability to think creatively and imaginatively in planning and exploring ideas	3, 4, 5
Collaboration	Ability in participate in the digital space; Able to understand and explain ideas to others in the digital space	6, 7, 8

Communication	Able to communicate through digital technology media; The ability to perceive and understand others in the digital space	9, 10, 11
The ability to find and select information	The ability to find and select information	
Critical thinking and evaluation	Able to contribute, analyze, and think critically when dealing with information	14, 15, 16
Cultural and Soscial	Understanding curtural and social context	17
E- Safety	Understaning security when exploring and collaborating with digital technologies	18, 19, 20

The analysis was carried out on each component of digital literacy in semester 5 and semester 7 students while still paying attention to student gender. Considering that the maximum score for each questionnaire item is 6 and each component of digital literacy has a variety of statements, to obtain the average score for each component using the mean formula as shown in formula (1) (Sudjana, 1975).

$$\bar{x} = \frac{\Sigma x}{n} \quad \text{.....(1)}$$

Description: $\bar{x}$ is the average score of each component;

Xi is the number of each statement item in each component;

n is the number of statement items for each component.

Determining the value in the interval 1-100 by converting the average score of each component, as shown in formula (2) (Sudjana, 1975).

$$= \frac{\text{Score}}{180} \times 100 \quad \text{.....(2)}$$

Description: $\bar{x}$ is the average score of each component.
The assessment category for each digital literacy component is determined using the criteria as shown in Table 2 (Arikunto, 2010).

Tabel 2. Asessment Category

Value Interval	Assessment Category
81-100	Very Good
61-80	Good
41-60	Enough
21-40	Not Good
0-20	Very less

Determining the average value of digital literacy skills is calculated based on formula (3) (Arikunto, 2010).

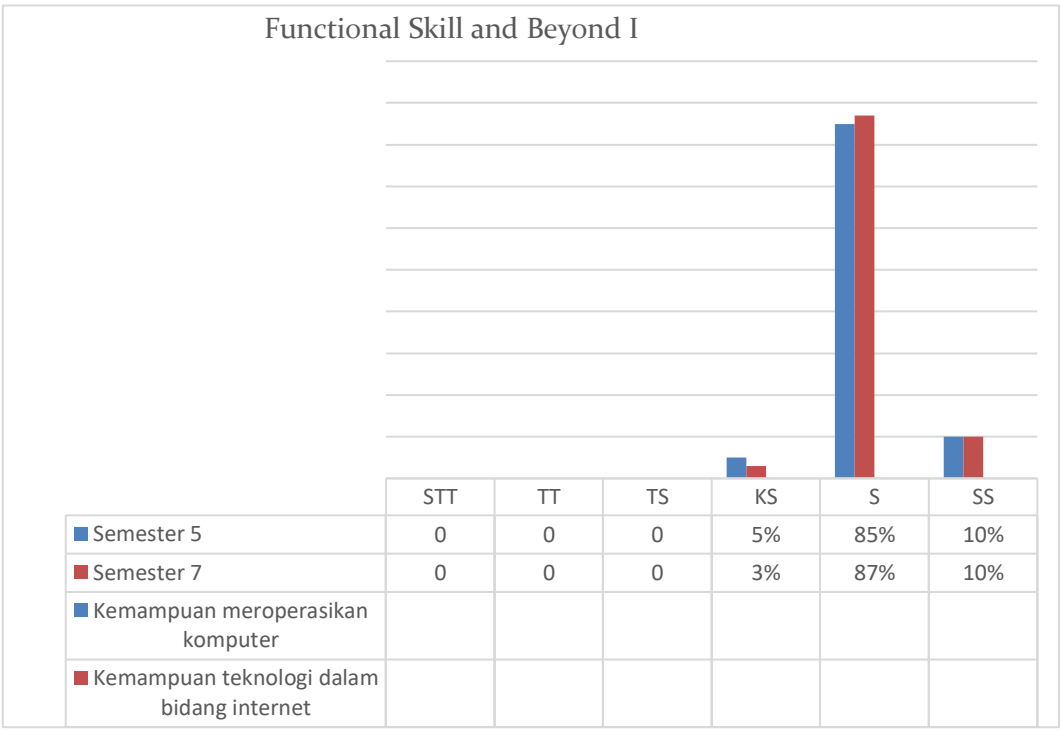
$$\text{Score} = \frac{1}{120} \frac{\sum F}{30} \times 100 \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (3)$$

Description: $\sum Y$ is the total score of the respondents.

RESULTS AND DISCUSSION

Functional Skill and Beyond

The results of the respondents' answers regarding the components of functional skills and beyond shown in Figures 1 & 2.



Gambar 1. Komponen *Functional Skill and Beyond based on length of study*

Figure 1 shows that the majority of respondents in semester 5 stated "Agree" regarding the ability of the functional skill and beyond components. If the respondent's data on the functional skill and beyond component is analyzed using the average formula in the digital literacy component, then the value obtained for the functional skill and beyond component is 85. The value of 85 is then converted using the Rating Category (Table 2), so that the category the assessment of the functional skill and beyond component is "Very Good". Likewise with the 7th semester respondents with a score of 87 in the Very Good category.

Based on these results, it can be concluded that respondents in semester 5 and semester 7 have very good abilities in operating computers and have ICT skills in the internet field in the functional skills component and beyond. Millennials have good skills in operating computers and accessing the internet. This is reasonable, considering that almost all students have smartphones and spend most of their time on the internet (Kurniawati & Baroroh, 2016; Rahmadani, 2020).

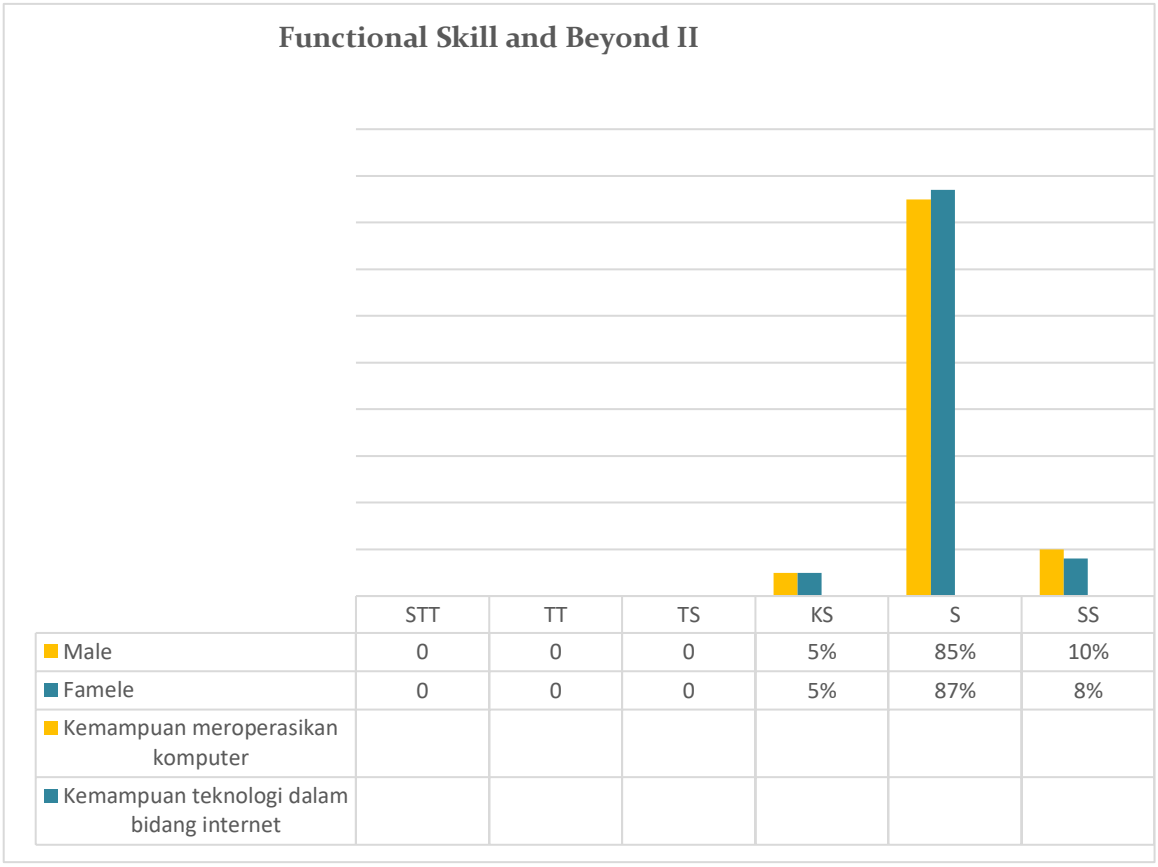


Figure 2. Component *Functional Skill and Beyond based on gender*

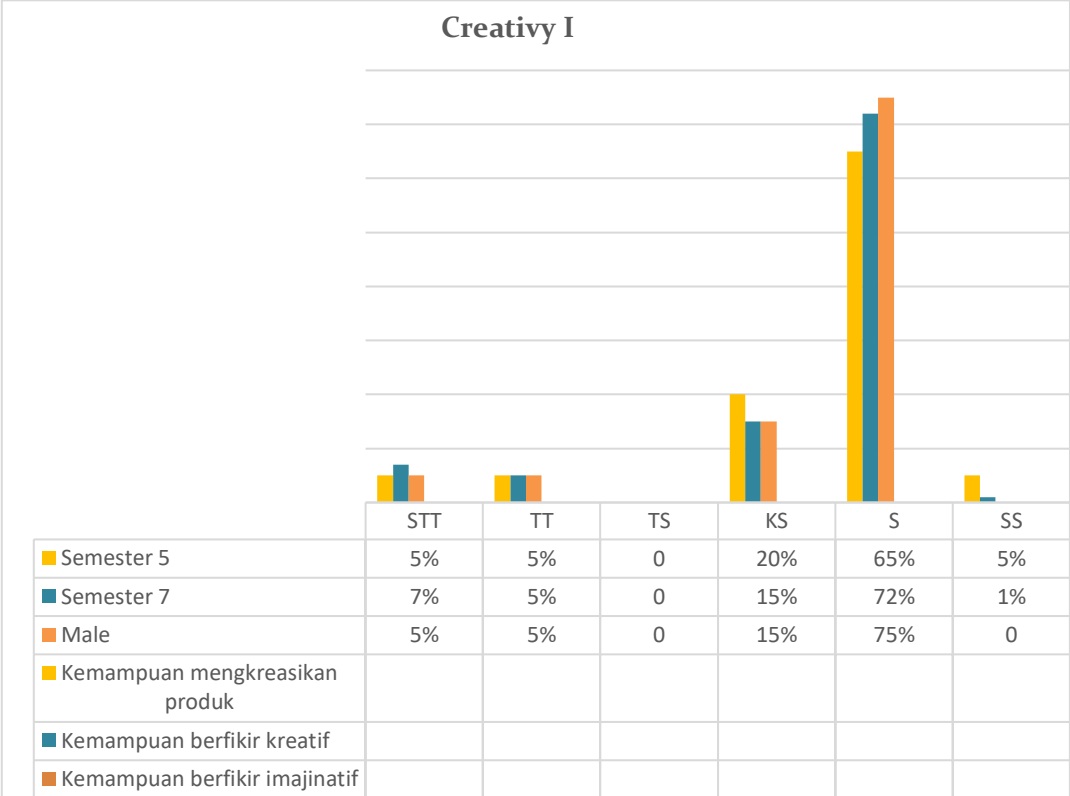
Figure 2 shows that the majority of female respondents stated "Agree" regarding the ability of the functional skill and beyond components. If the respondent's data on the functional skills and beyond component is analyzed using the average formula in the digital literacy component, then the value obtained for the functional skills and beyond

component is 87. The value of 87 is then converted using the Assessment Category (Table 2), so that the category the assessment of the functional skill and beyond component is "Very Good". This value is higher than the male respondent's answer with a value of 85. However, both are in the Very Good category.

Based on these results, it can be concluded that female and male respondents have very good abilities in operating computers and have ICT skills in the internet field in the functional skills component and beyond. Millennials have good skills in operating computers and accessing the internet.

Creativity

The results of the respondents' answers regarding the creativity component are shown in Figures 3 & 4.

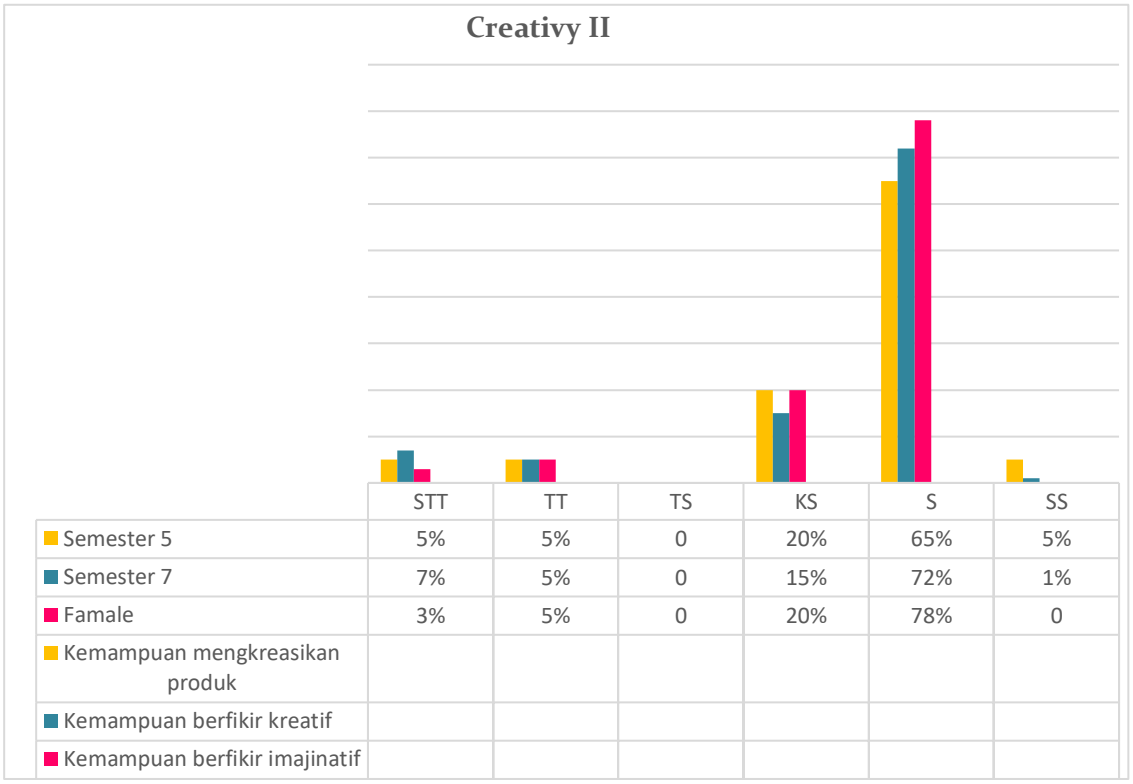


	STT	TT	TS	KS	S	SS
Semester 5	5%	5%	0	20%	65%	5%
Semester 7	7%	5%	0	15%	72%	1%
Male	5%	5%	0	15%	75%	0
Kemampuan mengkreasikan produk						
Kemampuan berfikir kreatif						
Kemampuan berfikir imajinatif						

Figure 3. Component *Functional Skill and Beyond based on length of study*

Figure 3 shows that the majority of respondents in semester 7 stated "Agree" regarding the ability of the creativity component. If the respondent's data on the creativity component is analyzed using the average formula in the digital literacy component, then the value obtained for the creativity component is 72. The value of 72 is then converted using the Assessment Category (Table 2), so that the assessment category for the creativity component is " Well". Meanwhile, respondents in semester 5 with a score of 65 were in the Good category. And male respondents with a value of 75 in the Good category.

Based on these results, it is concluded that respondents in semesters 5 and 7 have good abilities in thinking creatively, imaginatively, and producing a product. However, based on the results of the respondents' answers, quite a few stated "Disagree". These results indicate that the ability or level of student creativity has not been developed optimally. Students still have difficulty thinking creatively in presenting group material in a systematic and interesting way using various digital applications. This is unfortunate, considering that creativity plays a very important role in determining student learning success (Dinata, 2016; Resti, 2015; Subur, 2013).



	STT	TT	TS	KS	S	SS
Semester 5	5%	5%	0	20%	65%	5%
Semester 7	7%	5%	0	15%	72%	1%
Famale	3%	5%	0	20%	78%	0
Kemampuan mengkreasikan produk						
Kemampuan berfikir kreatif						
Kemampuan berfikir imajinatif						

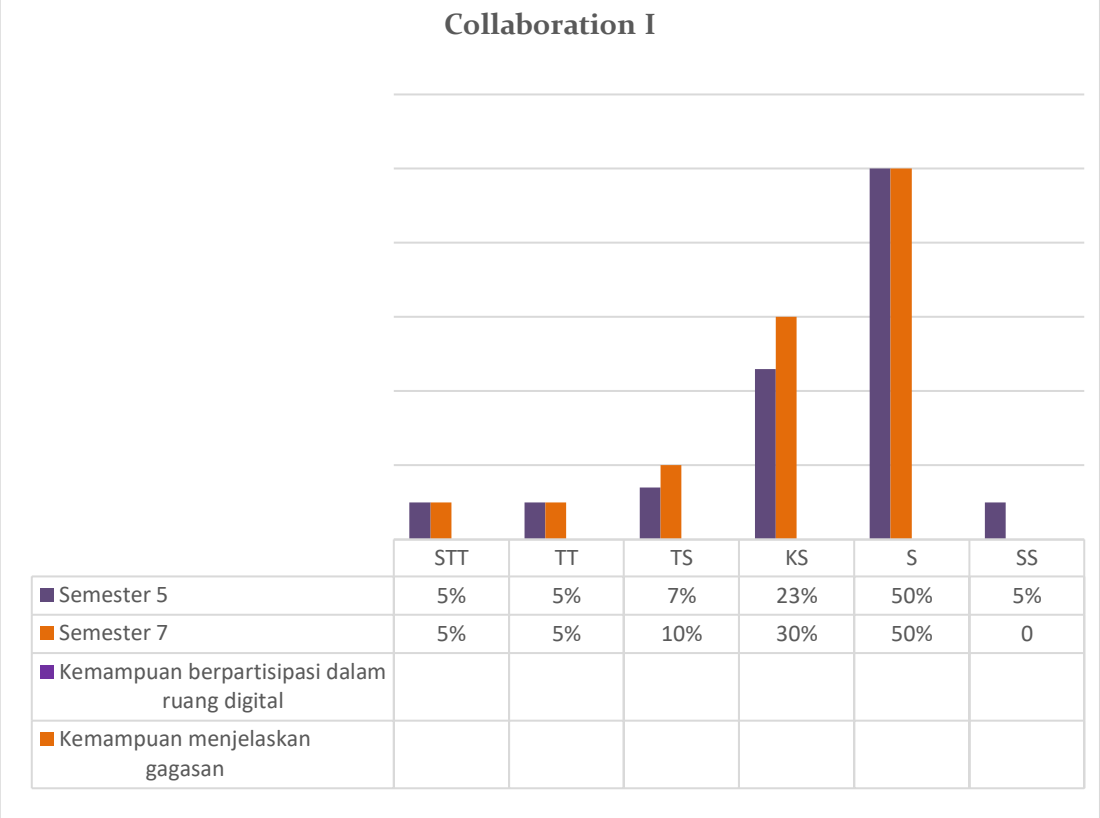
Figure 4. Component *creativity of gender*

Figure 4 shows that the majority of female respondents stated "Agree" regarding the ability of the creativity component. If the respondent's data on the creativity component is analyzed using the average formula in the digital literacy component, then the value obtained for the creativity component is 78. The value of 78 is then included in the assessment category for the creativity component is "Good".

Based on these results, it is concluded that respondents in semesters 5 and 7 have good abilities in thinking creatively, imaginatively, and producing a product. However, based on the results of the respondents' answers, quite a few stated "Disagree". These results indicate that the ability or level of student creativity has not been developed optimally. Students still have difficulty thinking creatively in presenting group material in a systematic and interesting way using various digital applications. This is unfortunate, considering that creativity plays a very important role in determining student learning success (Dinata, 2016; Resti, 2015; Subur, 2013).

Collaboration

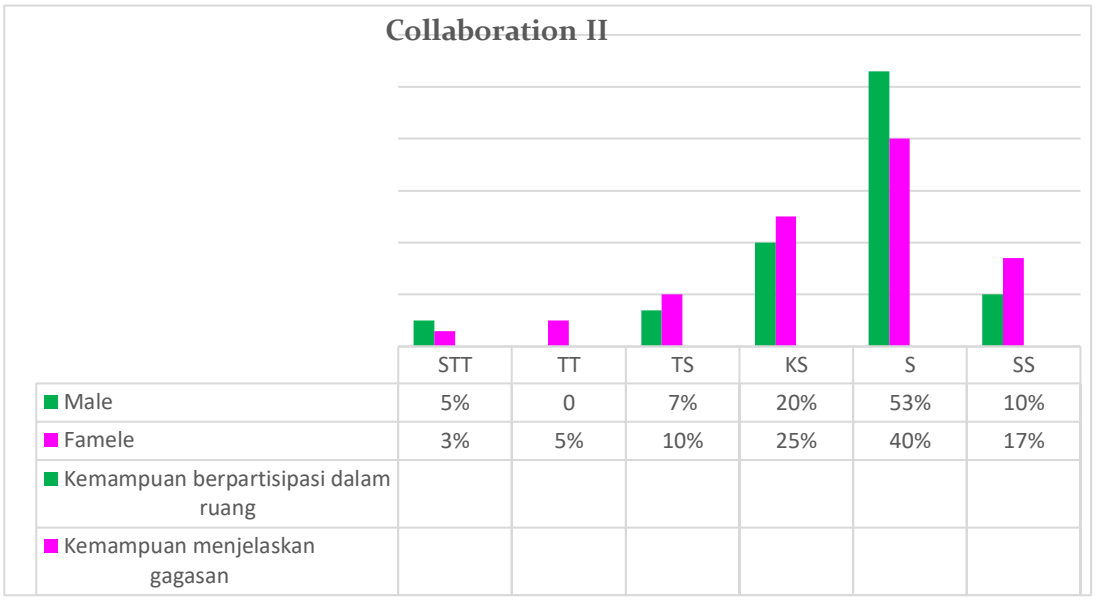
The results of the respondents' answers regarding the collaboration component are shown in Figures 5 & 6.



	STT	TT	TS	KS	S	SS
Semester 5	5%	5%	7%	23%	50%	5%
Semester 7	5%	5%	10%	30%	50%	0
Kemampuan berpartisipasi dalam ruang digital						
Kemampuan menjelaskan gagasan						

Figure 5 shows that the majority of respondents in semester 7 stated "Agree" regarding the ability of the functional skill and beyond components. If the respondent's data on the functional skills and beyond component is analyzed using the average formula in the digital literacy component, then the value obtained for the functional skills and beyond component is 50. The value of 50 is then converted using the Assessment Category (Table 2), so that the category the assessment of the functional skill and beyond component is "Enough". This value is higher than the semester 5 respondent's answer with a value of 50. Value 50 get "Enough".

Based on these results, it can be concluded that respondents have good skills in explaining ideas and participating in the digital space. However, respondents while in digital space (e.g Zoom) are more comfortable just listening to and turning off the video rather than having to actively participate, even explaining an idea. Therefore, several ways can be used to improve student collaboration skills, namely the use of Problem-Based Learning models (Fitriyani et al., 2019; Nurhayati et al., 2019) and collaboration models (Pratiwi, 2015).



	STT	TT	TS	KS	S	SS
Male	5%	0	7%	20%	53%	10%
Famele	3%	5%	10%	25%	40%	17%
Kemampuan berpartisipasi dalam ruang						
Kemampuan menjelaskan gagasan						

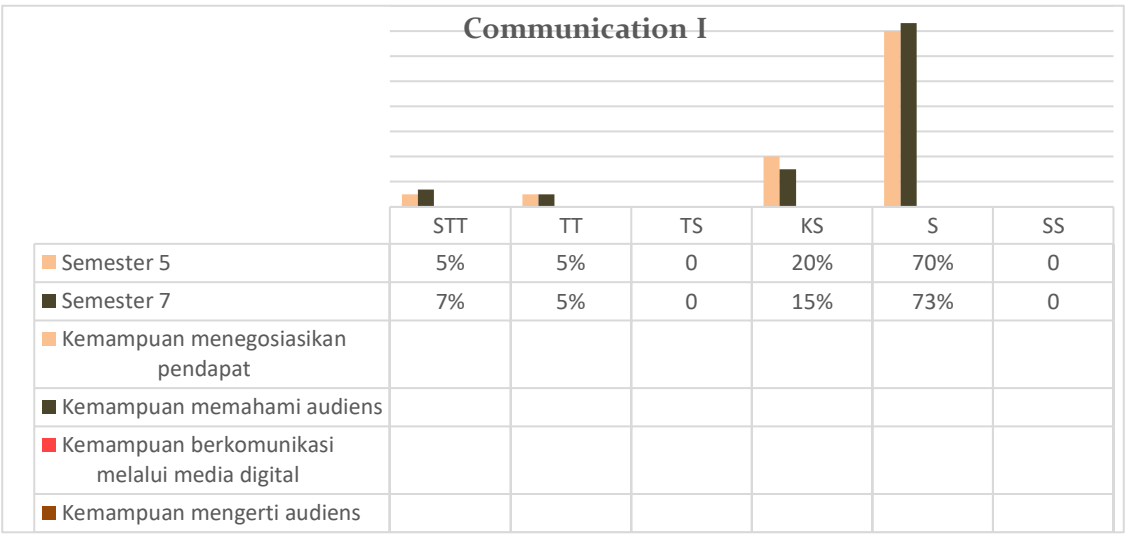
Figure 6. Component *Collaboration of gender*

Figure 6 shows that the majority of male respondents stated "Agree" regarding the ability of the creativity component. If the respondent's data on the creativity component is analyzed using the average formula in the digital literacy component, then the value obtained for the creativity component is 53. The value of 53 is then included in the assessment category for the creativity component is "Enough". And the female respondent is get the value 40 in " Not Good"

Based on these results, it can be concluded that respondents have good skills in explaining ideas and participating in the digital space. However, respondents while in digital space (eg Zoom) are more comfortable just listening to and turning off the video rather than having to actively participate, even explaining an idea. Therefore, several ways can be used to improve student collaboration skills, namely the use of Problem-Based Learning models (Fitriyani et al., 2019; Nurhayati et al., 2019) dan model kolaborasi (Pratiwi, 2015)

Communication

The results of the respondents' answers regarding the communication component are shown in Figures 7 & 8.



	STT	TT	TS	KS	S	SS
Semester 5	5%	5%	0	20%	70%	0
Semester 7	7%	5%	0	15%	73%	0
Kemampuan menegosiasikan pendapat						
Kemampuan memahami audiens						
Kemampuan berkomunikasi melalui media digital						
Kemampuan mengerti audiens						

The results of respondents' answers regarding the communication component are shown in Figure 7. Figure 7 shows that the majority of respondents semester 7 said "Agree" regarding the ability of the communication component. If the respondent's data on the communication component is analyzed using the average formula in the digital literacy component, then the value obtained for the communication component is 73. The value of 73 is then converted using the Assessment Category (Table 2), so that the assessment category on the communication component is " Good". And the results of respondent of semester 5 is 70 that get category " Good"

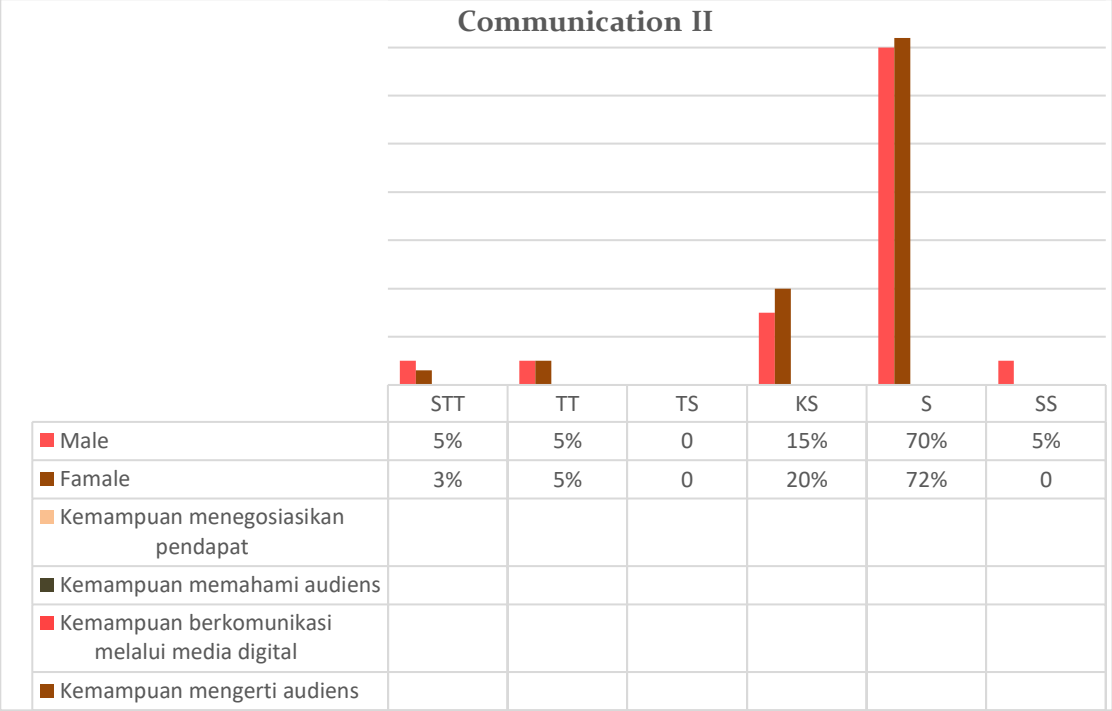
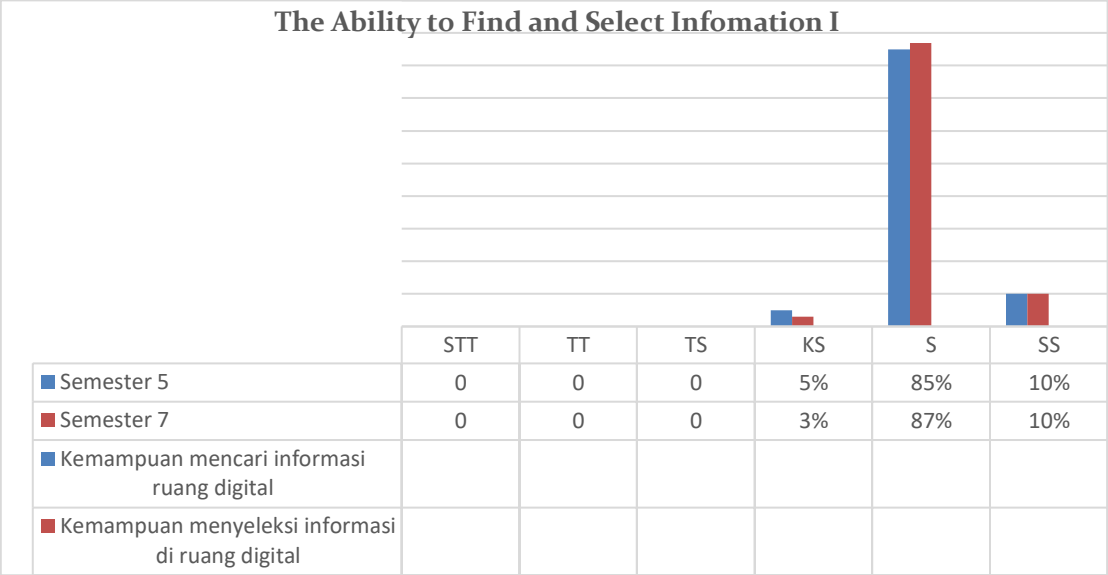


Figure 8. Communication II

The results of respondents' answers regarding the communication component are shown in Figure 8. Figure 8 shows that the majority of Female respondents stated "Agree" regarding the ability of the communication component. If the respondent's data on the communication component is analyzed using the average formula in the digital literacy component, then the value obtained for the communication component is 72. The value of 72 is then converted using the Assessment Category (Table 2), so that the assessment category on the communication component is " Good". And the respondent of the male is in 70 that is in category " Good". Both of them get the "Good" Category.

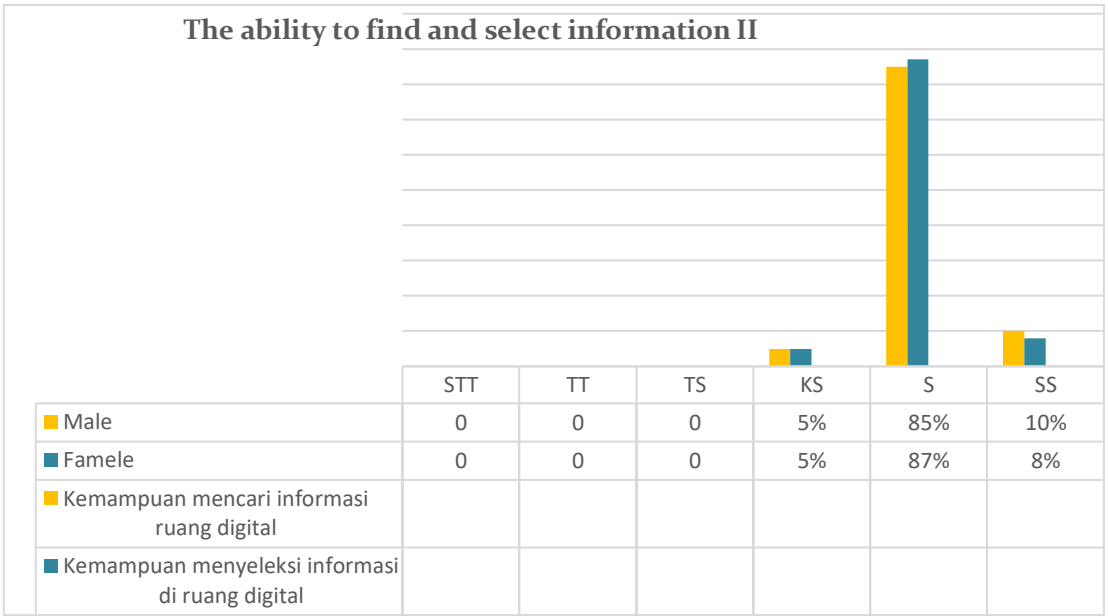
The Ability to Find and Select Information

The results of the respondents' answers regarding the *The Ability to Find and Select Information* component are shown in Figures 9 & 10.



	STT	TT	TS	KS	S	SS
Semester 5	0	0	0	5%	85%	10%
Semester 7	0	0	0	3%	87%	10%
Kemampuan mencari informasi ruang digital						
Kemampuan menyeleksi informasi di ruang digital						

The results of respondents' answers regarding the The Ability to Find and Select Information component are shown in Figure 9. Figure 9 shows that the majority of semester 7 respondents stated "Agree" regarding the ability to The Ability to Find and Select Information component. If the respondent's data on the The Ability to Find and Select Information component is analyzed using the average formula in the digital literacy component, then the value obtained for the The Ability to Find and Select Information component is 87. The value of 87 is then converted using the Assessment Category (Table 2), so that the assessment category for the component of The Ability to Find and Select Information is "Very Good". And the respondent of semester 5 grt in value 85 that get category" Good".

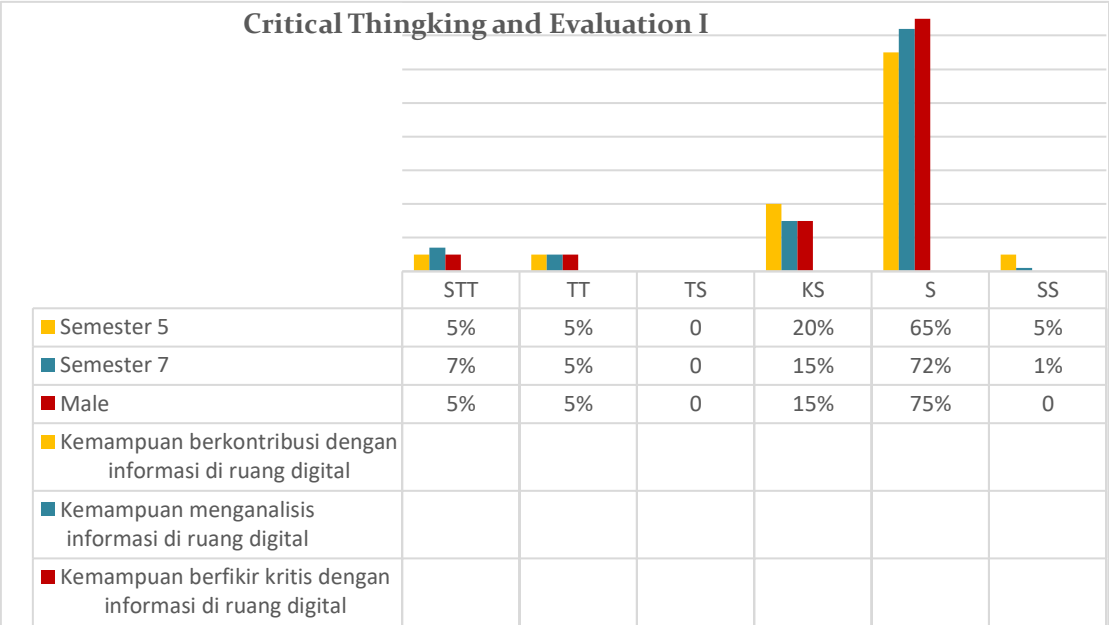


	STT	TT	TS	KS	S	SS
Male	0	0	0	5%	85%	10%
Famele	0	0	0	5%	87%	8%
Kemampuan mencari informasi ruang digital						
Kemampuan menyeleksi informasi di ruang digital						

The results of respondents' answers regarding the The Ability to Find and Select Information component are shown in Figure 10. Figure 10 shows that the majority of Female respondents stated "Agree" regarding the ability to The Ability to Find and Select Information component. If the respondent's data on the The Ability to Find and Select Information component is analyzed using the average formula in the digital literacy component, then the value obtained for the The Ability to Find and Select Information component is 87. The value of 87 is then converted using the Assessment Category (Table 2), so that the assessment category for the component of The Ability to Find and Select Information is "Very Good". And the respondent of male get in value 85 that get category " Good".

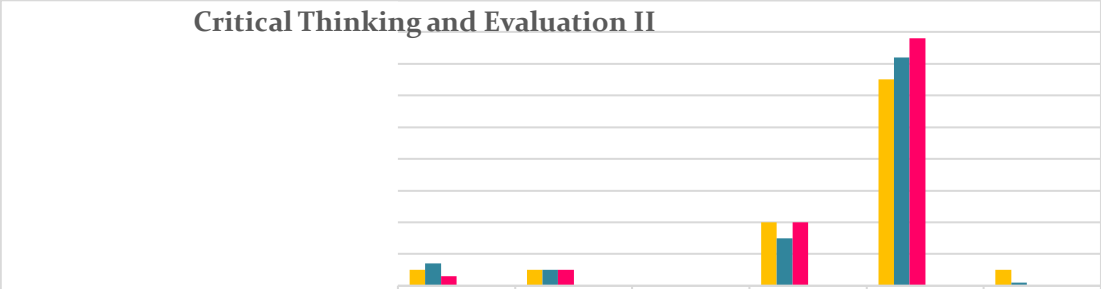
Critical Thingking and Evaluation I

Result of respondent answer about the component *critical thinking andevaluation* show in figure 11 & 12.



	STT	TT	TS	KS	S	SS
Semester 5	5%	5%	0	20%	65%	5%
Semester 7	7%	5%	0	15%	72%	1%
Male	5%	5%	0	15%	75%	0
Kemampuan berkontribusi dengan informasi di ruang digital						
Kemampuan menganalisis informasi di ruang digital						
Kemampuan berfikir kritis dengan informasi di ruang digital						

The results of respondents' answers regarding the Critical Thinking and Evaluation component are shown in Figure 11. Figure 11 shows that the majority of male respondents said "Agree" regarding the ability of the Critical Thinking and Evaluation component. If the respondent's data on the Critical Thinking and Evaluation component is analyzed using the average formula in the digital literacy component, then the value obtained for the Critical Thinking and Evaluation component is 75. The value of 75 is then converted using the Assessment Category (Table 2), so that the assessment category is obtained on the Critical Thinking and Evaluation component is "Good". The respondent of Semester 7 is get the value in 72 that get the category" good". And the result of semester 5 respondent is 65 that get " Enough".



	STT	TT	TS	KS	S	SS
Semester 5	5%	5%	0	20%	65%	5%
Semester 7	7%	5%	0	15%	72%	1%
Famale	3%	5%	0	20%	78%	0
Kemampuan berkontribusi dengan informasi di ruang digital						
Kemampuan menganalisis informasi di ruang digital						
Kemampuan berfikir kritis dengan informasi di ruang digital						

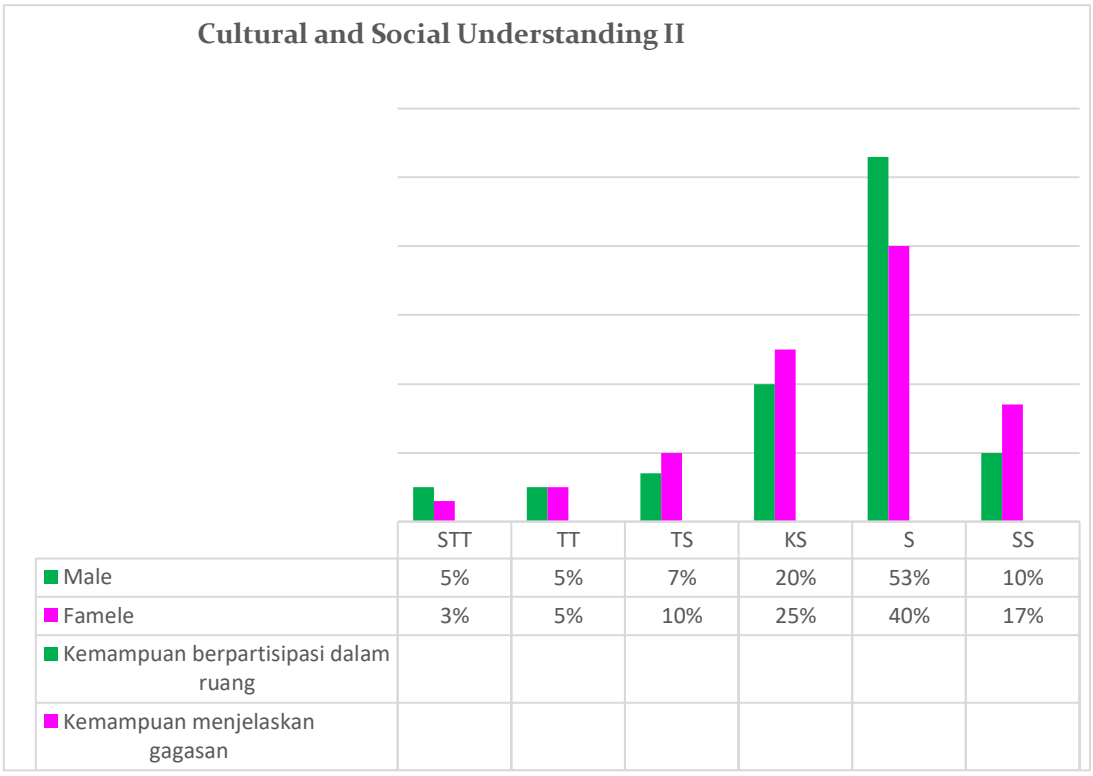
The results of respondents' answers regarding the Critical Thinking and Evaluation component are shown in Figure 12. Figure 12 shows that the majority of female respondents said "Agree" regarding the ability of the Critical Thinking and Evaluation component. If the respondent's data on the Critical Thinking and Evaluation component is analyzed using the average formula in the digital literacy component, then the value obtained for the Critical Thinking and Evaluation component is 78. The value of 78 is then converted using the Assessment Category (Table 2), so that the assessment category is obtained on the Critical Thinking and Evaluation component is "Good". The respondent of Semester 7 is 72 that get the category " Good".And the respondent of semester 5 is 65 in category "Good".

Cultural and Social Understanding

The results of the respondents' answers regarding the cultural and social understanding components are shown in Figures 13 & 14.

	STT	TT	TS	KS	S	SS
Semester 5	5%	5%	7%	23%	50%	5%
Semester 7	5%	5%	10%	30%	50%	0
Kemampuan berpartisipasi dalam ruang digital						
Kemampuan menjelaskan gagasan						

The results of respondents' answers regarding the Cultural and Social Understanding component can be seen in Figure 13. Figure 13 shows that the majority of semester 7 respondents stated "Agree" regarding the ability of the Cultural and Social Understanding component. If the respondent's data on the Cultural and Social Understanding component is analyzed using the average formula in the digital literacy component, then the value obtained for the Cultural and Social Understanding component is 50. The value of 50 is then converted using the Rating Category (Table 2), so that the category the assessment on the Cultural and Social Understanding component is "Enough". And the respondent of semester 5 is also 50. The value in category " Enough".

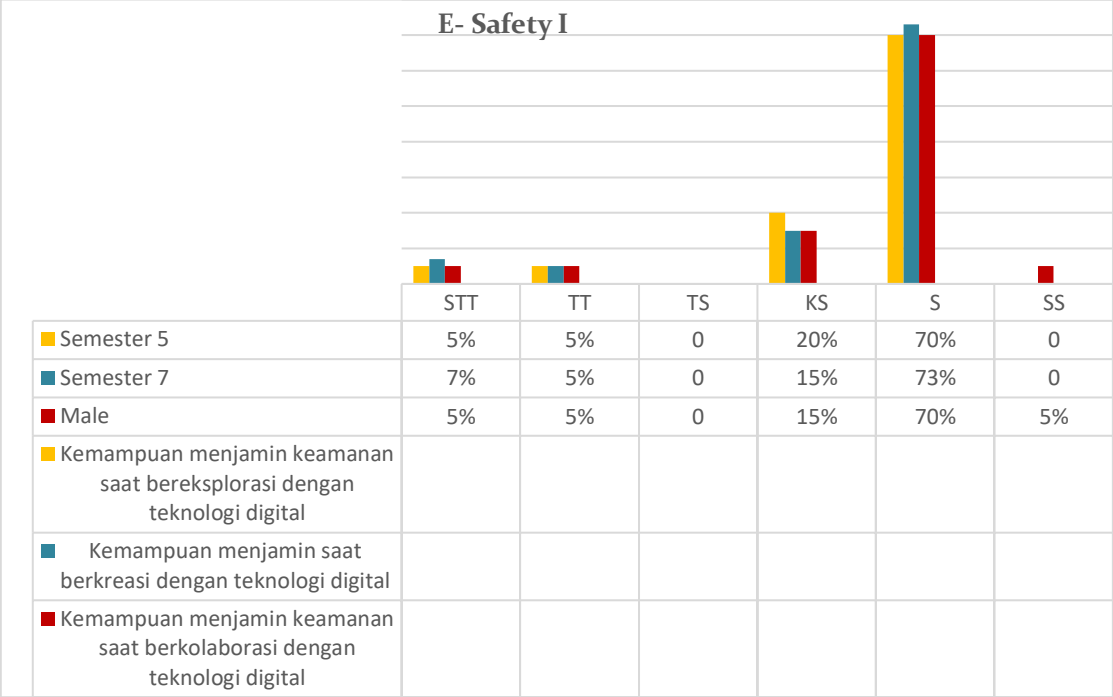


	STT	TT	TS	KS	S	SS
Male	5%	5%	7%	20%	53%	10%
Famele	3%	5%	10%	25%	40%	17%
Kemampuan berpartisipasi dalam ruang						
Kemampuan menjelaskan gagasan						

The results of respondents' answers regarding the Cultural and Social Understanding component can be seen in Figure 14. Figure 14 shows that the majority of Male respondents stated "Agree" regarding their abilities in the Cultural and Social Understanding component. If the respondent's data on the Cultural and Social Understanding component is analyzed using the average formula in the digital literacy component, then the value obtained for the Cultural and Social Understanding component is 53. The value of 53 is then converted using the Assessment Category (Table 2), so that the category the assessment on the Cultural and Social Understanding component is "Enough". And also the respondent of female get the value 40 get the category in " Not Good".

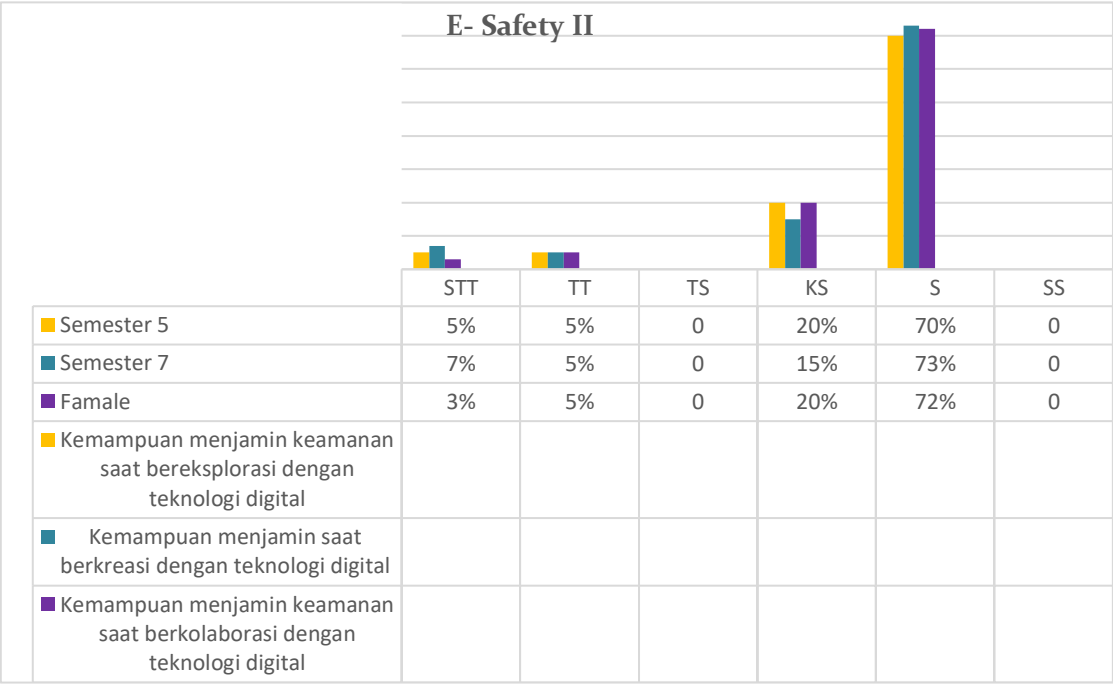
E-Safety

The results of respondents' answers regarding the e-safety component are shown in Figures 15 & 16.



	STT	TT	TS	KS	S	SS
Semester 5	5%	5%	0	20%	70%	0
Semester 7	7%	5%	0	15%	73%	0
Male	5%	5%	0	15%	70%	5%
Kemampuan menjamin keamanan saat bereksplorasi dengan teknologi digital						
Kemampuan menjamin saat berkreasi dengan teknologi digital						
Kemampuan menjamin keamanan saat berkolaborasi dengan teknologi digital						

The results of respondents' answers regarding the E-Safety component are shown in Figure 15. Figure 15 shows that the majority of Semester 7 respondents stated "Agree" regarding the capabilities of the E-Safety component. If the respondent's data on the E-Safety component is analyzed using the average formula in the digital literacy component, then the value obtained for the E-Safety component is 73. The value of 73 is then converted using the Rating Category (Table 2), so that the assessment category is obtained on Cultural and Social Understanding component is “Good”. And the respondent of semester 5 is in value 70 same as the respondent of male. Them get the category “ Good”.



	STT	TT	TS	KS	S	SS
Semester 5	5%	5%	0	20%	70%	0
Semester 7	7%	5%	0	15%	73%	0
Famale	3%	5%	0	20%	72%	0
Kemampuan menjamin keamanan saat bereksplorasi dengan teknologi digital						
Kemampuan menjamin saat berkreasi dengan teknologi digital						
Kemampuan menjamin keamanan saat berkolaborasi dengan teknologi digital						

The results of respondents' answers regarding the E-Safety component are shown in Figure 16. Figure 16 shows that the majority of semester 7 respondents stated "Agree" regarding the capabilities of the E-Safety component. If the respondent's data on the E-Safety component is analyzed using the average formula in the digital literacy component, then the value obtained for the E-Safety component is 73. The value of 73 is then converted using the Rating Category (Table 2), so that the assessment category is obtained on the E-Safety component is “Good”. The respondent of Semester 5 is 70 that get in category “Good”. And for female get the value in 72 also get the category in “ Good”.

From explanation above this research is different with the previous research that has a purpose to analyze the digital literacy abilities of students at the South Tapanuli Institute of Education Padang Sidempuan in terms of length of study, and gender. The research research is quantitative descriptive. Based on the research results, it can be concluded that students’ with different length of study and gender have different ability to use technology especially in digital literacy abilities in South Tapanuli Institute of Education.

CONCLUSION

The aim of this research is to analyze the digital literacy abilities of students at the South Tapanuli Institute of Education in terms of length of study, and gender. This research is quantitative descriptive. Based on the research results, it can be concluded that students' with different length of study and gender have different ability to use technology is in the very good category with an achievement percentage of 85 % and 87% in functional skill and beyond.

For creativity; students in semester 5 got 65%, while students in semester 7 got 72%. Male got 75% and female is 78%. For collaboration; students in semester 5 got 50%, while students in semester 7 got 50%. Male got 53% and female is 40%. For communication; students in semester 5 got 70%, while students in semester 7 got 73%. Male got 70% and female is 72%. For the ability to find and select information; it is found very good category with an achievement percentage of 85 % and 87%. For critical thinking and evaluation; students in semester 5 got 65%, while students in semester 7 got 72%. Male got 75% and female is 78%. For cultural and social understanding; students in semester 5 got 50%, while students in semester 7 got 50%. Male got 53% and female is 40%. For e- safety; students in semester 5 got 70%, while students in semester 7 got 73%. Male got 70% and female is 72%.

From the results of the study it can also be seen that the comparison of digital literacy abilities of students with different length of study that is semester 7 is greater than a study in semester 5. The value of digital literacy for female is 87% higher than the value for digital literacy for women, which is 85%.

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