

# **A Systematic Review of Students' Digital Literacy Ability Towards German Cross-Cultural Understanding**

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*This study describes the relationship between digital literacy skills and students' German cross-cultural understanding. The respondents of this study were 145 students of the German Department Universitas Negeri Malang. The data collection instrument was a questionnaire with a Likert scale and a test to German cross-cultural understanding. Data were analyzed by descriptive statistics with Pearson's Product moment correlation analysis. The results of the data analysis showed a significance value of 0.148. This value is above 0.05. Based on this data, the research rejects  $H_1$ , which means that students' digital literacy skills, including technical skills, critical understanding, and communicative abilities, are not significantly correlated with students' German cross-cultural understanding.*

*Keywords: digital literacy, German cross-cultural understanding*

## **INTRODUCTION**

Digital literacy skills are fundamental because learning tasks are always related to reading activities to find information from various digital sources. Digital literacy is also related to writing skills in terms of academic writing and speaking skills in terms of discussions and presentations. Digital literacy skills are essential in supporting the success of student studies in various subjects. However, it is still unclear how the concept of digital literacy is used and how it is defined (Spante et al., 2018). This study intends to reveal the relationship between the level of digital literacy skills of students of the German Department, Universitas Negeri Malang (UM) and their cross-cultural understanding.

The importance of mastering digital literacy is supported by several studies that have been carried out, for example, the relationship between digital literacy skills and productivity in education. An educational process in society is impossible without increasing digital literacy (Liu et al., 2020). The results of several studies show a significant relationship between digital literacy and research productivity. Other findings show that improving understanding, finding, using, and creating information using digital technology is positively related to students' ability to conduct, complete, present and publish research articles. In addition,

Eshet stated that digital literacy should no longer be just the ability to use digital resources effectively but has become a mindset (Eshet, 2004). The acquisition of digital literacy is still a global issue because digital technology has great potential to grow and develop (Biezā, 2020). Thus, it becomes crucial to understand the concept of digital literacy and how it is applied in the current context. Thus, the role of mastering digital literacy skills becomes essential in learning.

Several studies on digital literacy involving students show that 60% of the Faculty of Letters at UM students have a high level of digital literacy (Mandasari et al., 2021). However, research on the relationship between the literacy skills of students in the German Department and their cross-cultural understanding has not been conducted.

German culture is taught in several courses, either directly or indirectly. German culture learning is indirectly introduced to language skills courses, such as Deutsch 1 - 4. Language learning is a conscious effort to improve language skills as the main target of a learning process, but indirectly students will also be introduced to the culture of the language they are learning (Saleh et al., 2019). Thus, language learning must also teach culture other than the language itself (Hsueh & Hsiao, 2020). Meanwhile, learning about German culture is directly introduced to the course Landeskunde. In this course, students learn about German culture, such as how they eat, dress, beliefs, and traditions.

Apart from classroom courses, learning about German culture has been carried out in various methods. For example, Dewi et al. conducted training for nine students to do student exchanges in Germany (Dewi et al., 2021). Meanwhile, Saleh (2019) conducted learning through the Flipped Learning Model (FLM). Of the several existing studies, only a few studies reveal the relationship between digital literacy skills and cross-cultural understanding. It is interesting to investigate the ability of students to access digital content towards their understanding of German culture. Thus, the hypothesis of this research is:

*H<sub>1</sub>: There is a significant relationship between digital literacy skills and students' German cross-cultural understanding.*

## **RESEARCH QUESTIONS**

- 1) How are the digital literacy skills of students in the German Department?
- 2) How is the cross-cultural understanding of German students?
- 3) How is the relationship between digital literacy skills and students' understanding of German culture? What is the cross-cultural understanding of German students?

## **RESEARCH METHODS**

In this study, students' digital abilities were correlated with a German cross-cultural understanding. The respondents of this study were undergraduate 145 students of the German Department, Faculty of Letters, UM. They are within the range of 18-23 years old. The data were taken by cluster sampling from 44 students. The research instrument is a questionnaire about digital literacy skills. All questions are presented in the form of a google form via the link <https://bit.um.ac.id/dig-compt>. The questionnaire used consists of 12 questions, and it measures the level of student literacy, which includes technical skills, critical understanding and communicative abilities, based on the criteria of the Council of Europe (Celot, 2009). The instrument used is an instrument for measuring media literacy (Simons, M. et al, 2017) which was adopted by Mandasari (2020).

**TABLE 1**  
**MEDIA LEVEL QUESTIONNAIRE**

No	Questionnaire for Media Literacy Level	No Item	Total
1	<i>Technical skills</i>	1,2,3	3
2	<i>Critical understanding</i>	4,5,6,7,8,9	6
3	<i>Communicative abilities.</i>	10,11,12	3
	Sub Total		12

The questionnaire is a Likert Scale that asks the participants to choose one of five options, including strongly disagree, disagree, doubt, agree, and strongly agree. Meanwhile, data on German cross-cultural understanding was obtained from a test via the link [https://bit.um.ac.id/culture\\_underst](https://bit.um.ac.id/culture_underst) which consisted of 25 multiple-choice questions.

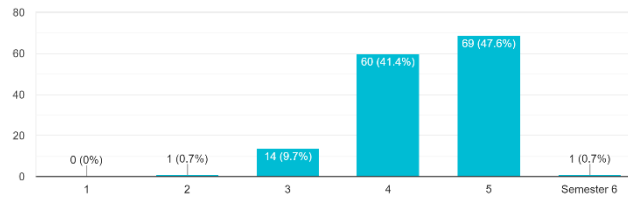
## RESULT

### Students' Digital Literacy Abilities

#### *Technical Skills*

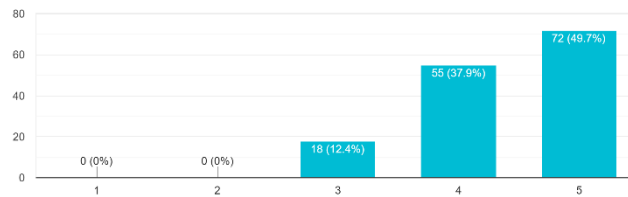
Data collection on *technical skills* obtained data depicted in the following diagram:

**FIGURE 1**  
**USE OF MEDIA**



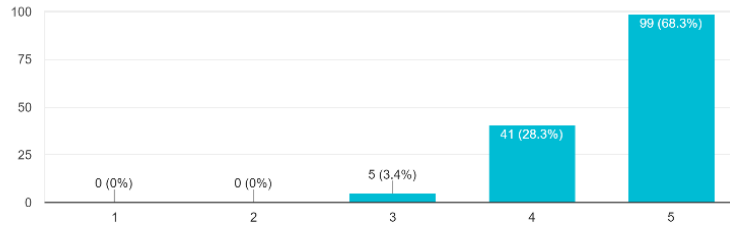
The first question shows that most respondents can technically use media devices on PCs (personal computers), LCD projectors, smartphones, and other electronic devices. Only a small proportion of respondents are not very familiar with the techniques and workings of media devices.

**FIGURE 2**  
**SELECTING MEDIA**



In the second question, almost half of the respondents can distinguish various media devices based on their functions.

**FIGURE 3  
SELECTING THE SOURCE OF INFORMATION**

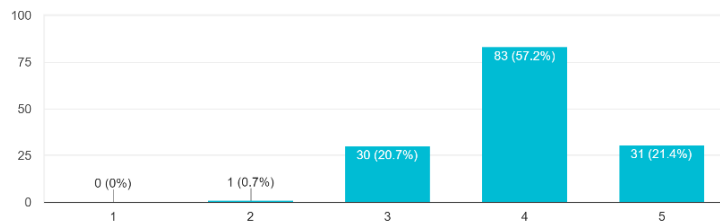


The results of the third question revealed that more than half of the respondents could use various media tools to choose specific information sources, for example, searching for information using social network sites and other internet pages.

*Critical Understanding*

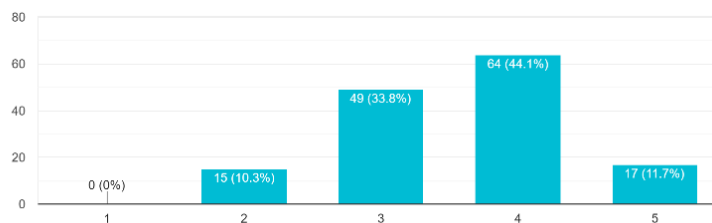
The data shows a critical understanding, and respondents get six questions with the following results:

**FIGURE 4  
INFORMATION SELECTION**



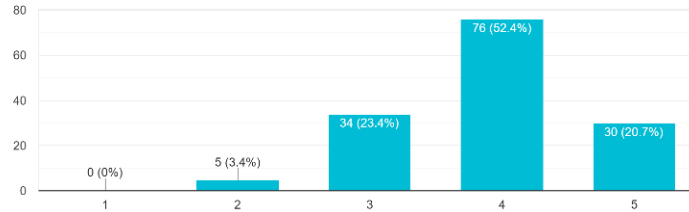
The fourth question shows that more than half of the respondents agree that they are selective in choosing media to represent information and can interpret the messages in the information, both explicit and implicit.

**FIGURE 5  
MEDIA PRODUCTION AND DISTRIBUTION**



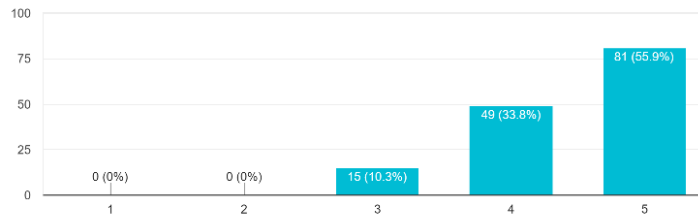
The fifth question revealed that less than half of the respondents agreed that they knew how media production and distribution worked, for example, from source to article. Only a small number of respondents already knew this.

**FIGURE 6  
CONTENT OF EVALUATION**



The diagram above shows that more than half of the respondents agreed that they know how media content is adapted to the targeted audience (e.g. personalized online offerings via cookies, newspapers/television/websites and their target audience).

**FIGURE 7  
MEDIA EFFECTS**

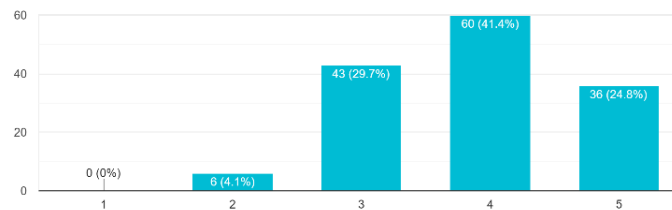


In the seventh question, it was stated that most of the respondents strongly agreed that they could evaluate media content by considering various criteria such as accuracy of the information, comparison of information, and appreciation of aesthetic aspects.

*Communicative Abilities*

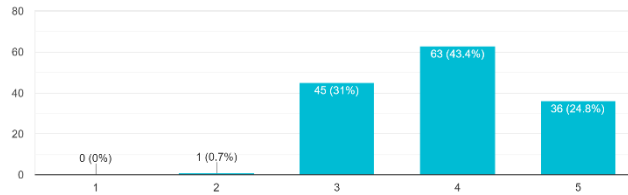
The last three questions in the questionnaire aim to obtain data about students' ability to communicate. After filling out the questionnaire, the following data were obtained:

**FIGURE 8  
ABILITY TO CREATE MEDIA**



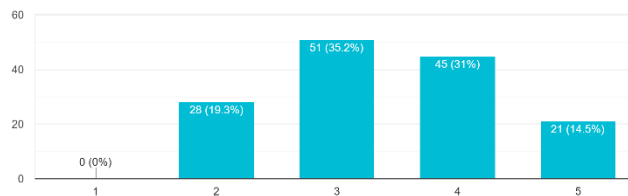
The questionnaire on the tenth question stated that almost a quarter of the total respondents strongly agree that they can communicate and present content using media (e.g. compiling and adapting presentations, publishing media content through appropriate media such as blogs and directories).

**FIGURE 9  
PRESENTING CONTENT**



The eleventh question revealed that almost a quarter of the respondents strongly agreed that they were able to communicate and present media content, such as taking photos or making videos and blogs.

**FIGURE 10  
PUBLIC PARTICIPATION**

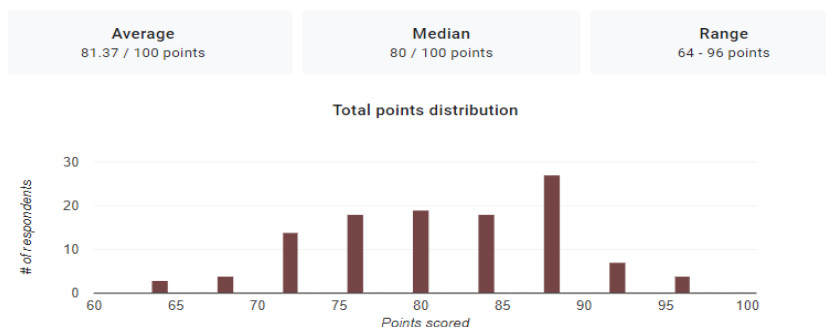


The final question of the questionnaire shows that a small percentage of respondents strongly agree that they can participate in public debates through the media (e.g. demonstrating a commitment to using social media), contacting someone via email, reader reactions, or social media).

### Students' German Cross-Cultural Understanding

A total of 25 questions about the traditions and habits of German society are in the form of multiple choice. This test aims to measure the respondent's understanding of the culture and habits of the German community in various activities.

**FIGURE 11  
DESCRIPTIVE STATISTICS**



Statistical data were obtained based on the 25 questions, as shown in Figure 11 above. The average score obtained by the respondents was 81.37, and the two highest scores were obtained from questions number 14 and number one. Interestingly, almost all respondents, 99.1 percent, stated that Germans are punctual people. Meanwhile, as many as 98.3 respondents stated that the menu for German people commonly eaten at breakfast is bread and jam/cheese.

Meanwhile, the two lowest scores were obtained from questions 12 and 17, which are about German habits when visiting other people and the maximum speed of cars on German highways. In the 12th question, as much as 40 percent of the total respondents answered correctly, and on the 17<sup>th</sup> question, only 40 percent of the total respondents answered correctly.

### **The Relationship Between Digital Literacy Ability and Students' German Cultural Understanding**

A total of 44 respondents have participated in data collection. The students answered 12 questions about digital literacy skills and 25 multiple choice questions to measure their cross-cultural understanding. Based on the data collected, data on students' digital literacy skills and cross-cultural understanding were obtained as follows:

**TABLE 2**  
**SCORES OF TWO VARIABLES**

No.	Questions												Max. value	
	1	2	3	4	5	6	7	8	9	10	11	12	Dig. literacy	Cultural understanding
1	4	5	5	3	3	4	4	4	4	2	3	2	71.67	76
2	5	5	5	4	3	5	4	5	5	4	4	3	86.67	80
3	4	5	5	3	3	5	4	5	4	5	4	4	85.00	88
4	5	5	5	4	3	4	3	5	3	5	3	3	80.00	88
5	5	4	5	4	2	4	4	4	3	5	5	2	78.33	88
6	4	3	4	3	3	3	3	4	4	4	4	3	70.00	88
7	4	5	5	4	3	5	5	5	4	4	4	3	85.00	76
8	4	4	4	4	4	2	4	4	5	4	4	5	80.00	72
9	4	5	5	4	4	4	4	5	5	5	5	4	90.00	80
10	4	4	5	5	4	3	4	5	5	4	5	3	85.00	80
11	5	5	5	5	4	4	4	5	5	4	4	4	90.00	80
12	4	4	5	4	4	3	5	5	5	5	5	5	90.00	92
13	5	5	5	5	5	5	5	5	5	4	4	4	95.00	88
14	3	4	4	4	4	4	3	5	5	3	3	3	75.00	80
15	4	4	4	4	4	4	4	4	4	4	4	4	80.00	84
16	5	5	5	5	2	5	5	5	5	4	4	3	88.33	84
17	5	5	5	4	4	3	3	4	5	3	3	2	76.67	88
18	5	5	5	5	5	5	5	5	5	5	5	5	100.00	88
19	5	5	5	4	4	4	3	4	4	5	4	4	85.00	88
20	4	3	4	3	3	4	4	4	4	4	4	3	73.33	72
21	4	4	4	4	3	4	4	5	4	4	4	4	80.00	96
22	5	5	5	4	3	4	5	5	5	4	4	4	88.33	76
23	4	5	5	3	2	5	4	4	5	3	4	2	76.67	80

24	3	4	5	5	4	5	5	5	5	3	4	4	86.67	72
25	4	4	4	4	4	3	4	5	5	3	3	2	75.00	84
26	5	4	4	3	2	3	2	4	5	4	4	2	70.00	80
27	4	4	5	4	2	2	4	5	5	3	4	4	76.67	76
28	3	3	5	4	3	5	3	5	5	3	3	3	75.00	84
29	5	5	5	4	4	5	4	5	5	5	4	5	93.33	72
30	4	5	5	5	4	5	4	5	5	4	3	3	86.67	80
31	5	4	5	5	4	4	5	5	4	5	5	4	91.67	92
32	4	4	4	3	4	4	3	5	4	4	4	3	76.67	92
33	5	5	5	4	5	5	4	5	3	5	3	4	88.33	88
34	4	5	5	4	3	3	3	4	3	4	5	3	76.67	80
35	4	4	4	3	3	4	4	4	4	2	2	2	66.67	84
36	4	4	4	4	2	3	4	4	4	3	3	2	68.33	96
37	4	4	5	4	2	2	3	3	2	3	4	2	63.33	80
38	5	5	4	4	2	2	4	5	4	4	4	3	76.67	76
39	4	3	3	4	2	4	3	4	4	4	4	3	70.00	64
40	4	4	5	3	2	4	3	3	4	3	3	2	66.67	72
41	5	5	5	4	4	4	4	5	4	4	4	3	85.00	84
42	5	5	5	5	4	4	4	4	4	4	4	3	85.00	88
43	5	5	5	5	4	5	5	5	5	5	5	5	98.33	88
44	4	3	5	4	3	3	3	4	4	3	3	3	70.00	76

Based on the data collected, the following statistical data were obtained:

**TABLE 3**  
**DESCRIPTION STATISTICAL DATA**

	mean	Std. Deviation	N
Digital Literacy	80.8336	8.97487	44
Culture understanding	82.2727	7.13447	44

The data that has been collected were analyzed through SPSS using the Pearson *two tails correlation statistical test*. The results of the analysis show the following data:



**TABLE 4**  
**CORRELATION OF TWO VARIABLES**

		Literacy Digital	Understanding Culture
Digital Literacy	Pearson Correlation	1	.222
	Sig. (2-tailed)		.148
	N	44	44
Culture understanding	Pearson Correlation	.222	1
	Sig. (2-tailed)	.148	
	N	44	44

In the table above, the significance value is 0.148. Based on this value, it can be interpreted that the two variables are not significantly correlated because it has a value above 0.05. Thus, it can be concluded that the two variables are not significantly correlated. On further analysis with Pearson’s statistical analysis, the correlation coefficient value was 0.222. This value is closer to zero, so it can be concluded that the two variables have a weak correlation.

Based on these findings, it can be concluded that this study rejects H<sub>1</sub>. It means that students’ digital literacy skills, which include *technical skills*, *critical understanding* and *communicative abilities*, are not significantly correlated with students’ German cross-cultural understanding.

## DISCUSSION

### Students’ Digital Literacy Skills

The term ‘digital literacy’ was used in 1997 by Paul Gilster, who defined it as the ability to understand and use digital information (Gilster, 1997). Digital literacy is related to the ability to use software or operate digital devices and relates to a wide range of complex cognitive, motoric, sociological, and emotional skills in a digital environment.

The discussion about motoric in this study refers to students’ mastery of technical skills. The data in figures 1-3 above show that most students have mastered technical skills in almost all digital media devices. The availability of various devices on the campus and in the learning process accustom students to using these devices. Nowadays, digital literacy has become a habit in his life and learning (Blummer, 2008).

In the critical understanding section, students have an average score lower than the technical skills section but higher in comparison to the communication abilities. This shows that the students already know and can use various digital devices, but students need to improve their critical understanding and communication abilities. Some of the skills required in this context include reading instructions, utilizing digital reproduction, hypertextual navigation; evaluating the quality and validity of the information; and having a good and realistic understanding of the rules in cyberspace (Eshet, 2004). By mastering these three abilities, students can adequately use various digital facilities, including identifying, accessing, managing, integrating, evaluating, analyzing, synthesizing digital media, building new knowledge, making media for expression, and communicating with others (Lankshear & Knobel, 2008). In addition, students can create, collaborate, and communicate more effectively and understand the use of digital technology to support its process.

It is so important to master digital literacy that Shelyugi et al. developed scientific concepts and modelled a “digital culture” training course, which aimed to develop students’ digital literacy at the undergraduate level in all fields (Shelyugina et al., 2022). The data in this study shows that UM students at German Departmen UM still need to improve their digital literacy skills.

### **Intercultural Understanding of Students' German**

Cultural learning is part of language learning because culture affects habits, daily interactions between people, ways of speaking and behaving, and the socio-cultural life of the community. The role of cross-cultural understanding in language learning becomes essential. Therefore, German Department UM the courses *Landeskunde* for students to learn and understand German culture. Hu examines the inextricable relationship between cross-cultural communication and foreign language teaching, and this is a significant problem in foreign language teaching in achieving cross-cultural communication (Hu, 2014).

As is well known, native speakers can understand the lack of grammar or vocabulary. However, the problem of cultural incongruity could create significant problems for communication and social relations, mainly because people are less aware of their cultural rules (Liddicoat, 2004). For example, the data of this current study indicate that students do not yet understand the habits of the German people regarding visiting procedures and times. This can be a problem in society. Another example, students stated that Germans are punctual people. However, data in Grünewald's research show that many teachers arrive late to class (Grünewald et al., 2020). Lateness is a common thing, including in Germany. However, there is already a cliché that Germans are known for their discipline and punctuality. A delay can be insulting.

In foreign language learning, in this case, students need to improve their understanding of German culture. Through this understanding, students can enter into German society's life, thoughts, and literary works. Therefore, cultural teaching and relevant activities to enhance awareness of cultural understanding become essential in teaching.

### **The Relationship Between Digital Literacy Skills and Students' Understanding of German Culture**

Cross-cultural, which is part of language learning, is usually taught in various forms, and it is often associated with digital literacy-based learning activities. Research or cultural study related to cross-cultural conducted by Gemikonakli et al. revealed significant differences in terms of cognitive and socio-emotional subdimensions of digital literacy between countries. Therefore, his study provides recommendations for increasing digital literacy in various countries.

Sholihuddin's research results show that internet media literacy among students is not influenced by communicative abilities, so his research rejected the hypothesis (Sholihuddin, 2013). Table 4 in this current research also shows that students' digital literacy at the German Department at UM is not significantly correlated with cross-cultural understanding. Thus, this study rejects the hypothesis, which means no significant relationship between the two variables. Researchers suppose that other factors can affect students' digital literacy skills.

## **CONCLUSION**

After undergoing several research stages to data analysis, this study has the following conclusions. The student's digital literacy skills had scores in the excellent category, and students' cross-cultural understanding at the German Department at UM scored in the excellent category. Although students' digital literacy skills and German cross-cultural understanding of students are in a good category, these two things are not significantly correlated. Many factors influence these two variables. This needs a further in subsequent studies.

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