



## Knowledge sharing between elementary teacher education students in online discussion

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### KEYWORDS

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### ABSTRACT

In online discussion activities, there are knowledge-sharing activities in which the factors are trust, equality, intrinsic motivation, and the use of technology. This type of research is descriptive quantitative. Here the researcher wants to explain the factors that influence knowledge-sharing activities among elementary teacher education students in online discussions. The sample of this study was 221 elementary teacher education students in Sumatra, Java, Kalimantan, and Sulawesi. Data analysis technique applied Multiple Linear Regression analysis techniques by using SPSS software version 21.0 with a significance level of 0.05. The results of this study indicated that similarity and technology use are factors that greatly influence knowledge-sharing activities while trust and intrinsic motivation factors are factors that do not significantly affect knowledge-sharing activities. Equality factors such as age, background, and gender provide a major role in the success of knowledge-sharing activities. In order to support knowledge-sharing activities among elementary teacher education students to be effective and efficient, it is necessary to use technology with supportive frequency use.

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## INTRODUCTION

Online technologies such as discussion forums provide opportunities for learners to engage in social interactions by reading and responding to peer and instructor posts (Gallini & Barron, 2001; Pulungan et al., 2022). Online learning requires creativity and innovation from educators as teachers to provide guidance, and transfer knowledge and skills so that it can run well (Oktaviana & Dewi, 2022). Students are motivated to be part of interactions and contribute to online interactions (e.g., online discussions) because it helps them to work collaboratively online with their peers (Gabriel, 2004; Song & Hill, 2009). One of the advantages of online discussion is the possibility of keeping track of all posts in the discussion, which allows saving, following up, and analyzing the knowledge creation process (Lipponen & Lallimo, 2004).

Online discussions are held to enable students to offer mutual support, develop mutual relationships, exchange ideas, perspectives and experiences, open up problems and jointly seek answers for them, link theory and practice in problem-solving, and build high quality, the knowledge that can be used for students (Gasparič & Pečar, 2016). Discussion activities must run effectively because, in discussion activities, students will share knowledge.

Knowledge sharing is the process of transforming individual knowledge into collective knowledge through the reciprocal exchange of information relating to a particular subject (Chua & Balkunje, 2013). Knowledge sharing, as a way to create, retain, and transfer knowledge, has been discovered so that it can affect individuals (Quigley et al., 2007). Now internet-scale knowledge sharing is very exciting. This knowledge sharing includes repositories (including those built socially such as Wikipedia) as well as online forums designed to share knowledge and expertise. As mentioned, these forums are promising and are often capable of leveraging the expertise of other users to answer all kinds of questions, from the mundane questions of everyday life to those that are complex and require expertise (Adamic et al., 2008). Online communities for sharing knowledge are often designed in a discussion forum format (Wang et al., 2014). In the online community, it can indicate that based on previous comments, there are follow-up questions, or students are actively contributing additional knowledge, which is likely to improve the quality of knowledge sharing between students (Liang, 2017).

Based on the article from Babalhavaeji & Kermani, 2011; Bulan & Sensuse, 2013; Gunawan, 2018; Wah et al., 2005; Setiawan, 2012, the factors that influence knowledge sharing include trust, similarity, intrinsic motivation, and the use of technology. In this study, researchers want to explain the factors that influence knowledge-sharing activities among elementary teacher education students in online discussions during the COVID-19 epidemic. The first factor is trust. The trust factor is one of the factors that are closely related to knowledge sharing. The campus must provide an environment that allows students to trust each other, and work together so that students are motivated to share knowledge and engage in discussions (Bulan & Sensuse, 2013). Knowledge sharing will run optimally if trust among students is well developed because knowledge owners prefer to share their knowledge with people who cannot be trusted (Badar & Seniati, 2017; Safitri et al., 2021). The next factor is similarity. People who have similar hobbies will gather together and share knowledge about their hobbies. Like the Android group, they share knowledge about all things related to Android and try to make various applications based on Android (Elizabeth, 2014). Even though in reality each individual is a different person, they can still become groups that become the same for several generations because of relatively similar thought patterns, behavioral styles, and life

experiences (Matoati & Santoso, 2020).

The motivation factor for instruction is an important factor in sharing knowledge. The mutual benefits and enjoyment of helping others provide a strong motivation for knowledge sharing (Sarja, 2016). The higher a person's motivation to increase knowledge by sharing, the higher the influence to increase knowledge sharing activities (Selly Meylasari & Nurul Qamari, 2017). Another factor is the use of technology. The use of information and communication technology in learning as a liaison in the implementation of knowledge transfer (Husain, 2014). Harfiyanto et al. (2015), state that several other things that are done using technology are sharing information, doing assignments or homework, making arrangements with other students to gather at a place (hang out) that they have agreed on together. The use of technology is an important factor in knowledge sharing between students, both about learning and other things. The use of technology (social media) as a means of knowledge sharing has an impact on fulfilling the information needs of its use (Assegaff, 2017). This research contributes to the world of education, especially for teachers, lecturers, and other educators to find out what factors influence knowledge-sharing activities among elementary teacher education students in online discussions so that further efforts for improvement can be made, such as study groups, peer tutors and so on in relevant online discussions based on these factors.

## Method

The type of research used in this research is descriptive research, where descriptive research is research that is used to describe and answer the problems of a phenomenon or event currently occurring, whether about phenomena in single variables, correlations, or comparisons of various variables (Arifin, 2011). The independent variables used in this study are the variables of trust (X.1), similarity (X.2), intrinsic motivation (X.3), and the use of technology (X.4). Meanwhile, the dependent variable is knowledge sharing (Y). These variables are shown in Figure 1.

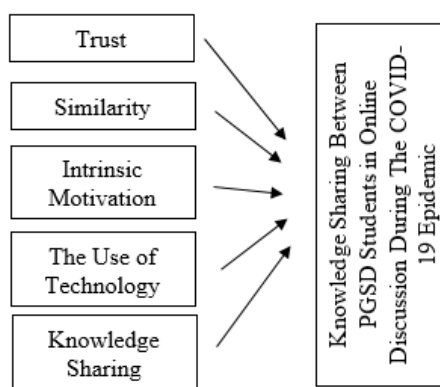


Figure 1. Variables

This research was conducted in 2022. The samples of this study were 221 elementary teacher education students from 11 universities on the island of Sumatra, Java, Kalimantan, and Sulawesi. The data analysis technique used by researchers is by using multiple linear regression analysis techniques assisted by using SPSS version 21.0 software with a significance level of 0.05. This study has tested the validity and reliability of the data. Testing the validity and reliability of data using SPSS version 21.0 software. In the validity test, all variable items have been declared valid where all item values are  $> 0.132$ . To test the reliability of the data, researchers used Cronbach's Alpha, where the Alpha value must be greater than 0.132 to be reliable. Table 1 shows that the items in the questionnaire are reliable.

**Table 1.** Reliability Test

<i>Variabel</i>	<i>Alpha</i>	<i>Keterangan</i>
Trust	0,255	Reliable
Similarity	0,332	Reliable
Intrinsic Motivation	0,250	Reliable
The Use of Technology	0,514	Reliable
Knowledge Sharing	0,216	Reliable

Note. Alpha  $> 0.132$  to be reliable

## RESULTS AND DISCUSSION

### 1. Respondent Profile

Respondents in the study were followed by 221 elementary teacher education students in Sumatra, Kalimantan, Java, and Sulawesi. The following shows the profiles of respondents who participated in the study, which included data on islands, gender, and age as shown in Table 2.

**Table 2.** Respondent Profile

<i>Demographic Variables</i>	<i>Category</i>	<i>Frequency</i>	<i>Percentage (%)</i>
Islands	Sumatra	30	14%
	Kalimantan	40	18%
	Java	91	41%
	Sulawesi	60	27%
Gender	Male	33	15%
	Female	188	85%
Age	17-19	111	50%
	20-22	108	49%
	23-25	2	1%

### 2. Multicollinearity Test

Based on Table 3. The results of the multicollinearity test show a tolerance value of  $> 0.100$  and a VIF value of  $< 10.00$ , which is based on Ghazali (2011); this value means that there are no symptoms of multicollinearity, where the multicollinearity test is one of the requirements for conducting further tests. In this study, there were no symptoms of heteroscedasticity.

**Table 3.** Multicollinearity Test

<i>Model</i>	<i>Collinearity Statistics</i>	
	<i>Tolerance</i>	<i>VIF</i>
(Constant)		
Trust	.735	1.360
Similarity	.786	1.272
Intrinsic Motivation	.748	1.337
The Use of Technology	.957	1.044

### 3. Multiple Linear Regression Test

The results of the first data analysis, namely the analysis of the trust factor (X.1) on knowledge sharing activities (Y), show that the significance value is 0.279. Because the significant value is  $0.279 > 0.05$ , then  $H_1$  is rejected, which means that the trust factor does not affect knowledge sharing among elementary teacher education students in online discussions during the COVID-19 epidemic. These results can be seen in Table 4.

**Table 4.** Multiple Linear Regression Test

<i>Model</i>	<i>Unstandardized Coefficients</i>		<i>Standardized Coefficients</i>	<i>t</i>	<i>Sig.</i>
	<i>B</i>	<i>Std. Error</i>	<i>Beta</i>		
(Constant)	9.787	.721		13.580	.000
Trust	.065	.060	.081	1.085	.279
Similarity	.241	.064	.271	3.754	.000
Intrinsic Motivation	-.033	.072	-.034	-.453	.651
The Use of Technology	.156	.072	.142	2.168	.031

Note. Significance < 0,05

Trust involves belief in one's competence, believes in openness and honesty, believes in intensity and attention, and believes in reliability of the knowledge provided (Mishra, 2012). Confidence can be built through a sense of trust in the individuals around them (Amalina et al., 2013). A person may not be motivated to share knowledge with other individuals or communities if one considers them dishonest or unreliable (Sharratt & Usoro, 2003). However, the trust factor is a controversial construct (Kramer & Tyler, 1996). Furthermore, for the results of data analysis the similarity factor (X.2) on knowledge-sharing activities (Y) shows the result of significance value is 0.000. Because the significant value is  $0.000 < 0.05$ , then  $H_2$  is accepted, which means that there is a significant influence on the similarity factor on knowledge-sharing activities among elementary teacher education students in online discussions.

The similarity factor is one of the most important factors between students in sharing knowledge. One example of the similarity factors that students have such as gender equality, age, and regional background, such as "I feel much more comfortable sharing knowledge with classmates in online discussions who are the same age as me." The results of subsequent data

analysis on the intrinsic motivation factor (X.3) on knowledge-sharing activities (Y) show that the significance value is 0.651. Because the significant value is  $0.651 > 0.05$ , then  $H_3$  is rejected, which means that the intrinsic motivation factor does not affect knowledge sharing among elementary teacher education students in online discussions.

Intrinsic motivation factors include pleasure and reciprocity of knowledge sharing. Someone wants to share knowledge because they have received help at some point in the past (Hew & Hara, 2007) and look forward to future help, such as “by sharing knowledge with classmates in online discussions, my classmates can help with my assignments when needed”. The results of data analysis from the factor of technology use (X.4) on knowledge sharing activities (Y) show that the result of the significance value is 0.031. Because the significant value is  $0.031 < 0.05$ , then  $H_4$  is accepted, which means there is a significant influence on the use of technology on knowledge sharing activities among elementary teacher education students in online discussions. Researchers argue that technical infrastructure is highly dependent on the value of its content (Hall, 2001) and the relationships that can be built. The use of technology such as frequency of use is also an important factor between students to share knowledge. The intensity of use will be illustrated in Table 5.

**Table 5.** Intensity of Use in Online Discussions

<i>Intensity of Use in Online Discussions</i>	<i>Total</i>	<i>Persentase (%)</i>
Every day	68	31%
Sometimes a week	133	60%
Sometimes	20	9%
Never	0	0%

Based on Table 6, it shows that the significance value is  $0.000 < 0.05$  so that the result is that  $H_5$  is accepted, which means that there is a simultaneous influence between the factors of trust, similarity, intrinsic motivation, and the use of technology on knowledge sharing activities among elementary teacher education students. in online discussions. Although it was previously known that the trust factor and the intrinsic motivation factor did not affect knowledge sharing activities if supported by the factors of equality and the use of technology, the trust factor and intrinsic motivation factor became important factors in influencing knowledge sharing activities. Trust involves belief in one's competence, believes in openness and honesty, believes in intensity and attention, and believes in the reliability of the knowledge provided (Mishra, 2012). Confidence can be built through a sense of trust in the individuals around them (Amalina et al., 2013). A person may not be motivated to share knowledge with other individuals or communities if one considers them dishonest or unreliable (Sharratt & Usoro, 2003). However, the trust factor is a controversial construct (Kramer & Tyler, 1996).

The similarity factor is one of the most important factors between students in sharing knowledge. One example of the similarity factors that students have such as gender equality, age, and regional background.

**Table 6.** Anova test

<i>ANOVA<sup>a</sup></i>					
<i>Model</i>	<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
Regression	75.247	4	18.812	7.060	.000 <sup>b</sup>
Residual	575.559	216	2.665		
Total	650.805	220			

a. Dependent Variable: Knowledge Sharing

b. Predictors: (Constant), Trust, Similarity, Intrinsic Motivation, and The Use of Technology

Note. Significance < 0,05

The intrinsic motivation factor does not affect knowledge sharing among elementary teacher education students in online discussions. Intrinsic motivation factors include pleasure and reciprocity of knowledge sharing. Someone wants to share knowledge because they have received help at some point in the past (Hew & Hara, 2007). a significant influence on the use of technology on knowledge-sharing activities among elementary teacher education students in online discussions. Researchers argue that technical infrastructure is highly dependent on the value of its content (Hall, 2001) and the relationships that can be built. The use of technology, such as frequency of use, is also an important factor between students to share knowledge. A simultaneous influence between the factors of trust, similarity, intrinsic motivation, and the use of technology on knowledge-sharing activities among elementary teacher education students. in online discussions. Although it was previously known that the trust factor and the intrinsic motivation factor did not affect knowledge-sharing activities if supported by the factors of equality and the use of technology, the trust factor and intrinsic motivation factor became important factors in influencing knowledge-sharing activities.

Based on the results of Shintia (2020), shows that the results of students' mathematics learning in the cognitive domain by using an Active Learning Strategy of the Active Knowledge Sharing type are better than the learning outcomes of students without using an Active Learning Strategy of the Active Knowledge Sharing type. The research results of Asbari & Novitasari (2020) also concluded that tacit and explicit knowledge sharing had a positive and significant effect on organizational culture. This means that the better the tacit and explicit knowledge sharing of a teacher, the more positive the formation and development of organizational culture in school education institutions. Research from Khoirudin et al. (2020) shows that teacher behavior in knowledge-sharing activities is greatly influenced by each personality. Those with open personalities will express themselves enthusiastically, both in formal and non-formal knowledge-sharing activities. Based on the results of this study, it is in

line with the results of this study that various factors influence knowledge-sharing activities. Follow-up can be done based on these factors so that online communication and discussion activities can run optimally, because after students graduate they will become teachers who can share knowledge with their colleagues, such as being responsible for learning, having metacognitive skills, and using collaborative dialogic teaching and learning models (Dahal et al., 2022).

## CONCLUSION

In this study, it was found that the factors of similarity and the use of technology were factors that influenced knowledge-sharing activities among elementary teacher education students in online discussions. For the trust factor and intrinsic motivation factor, it is known that it is not yet a factor that can influence knowledge sharing activities among elementary teacher education students in online discussions. Similarity factors such as age, background, and gender play a big role in the success of knowledge sharing activities and to be able to make knowledge sharing activities between elementary teacher education students effective and efficient, it is necessary to use technology with a supportive frequency of use. So that educators are advised to carry out online discussions by paying attention to the similarity factor and the use of technology with a frequency of use that supports it.

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