

THE CORRELATION BETWEEN DIGITAL LITERACY SKILLS' LEVEL AND FREQUENCY OF DIGITAL MEDIA USE IN ELT CLASSROOM

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ABSTRACT In this digital era, the era of a digital-dependent society, English teachers have to possess digital literacy skills (*locating and consuming digital contents, creating digital contents, communicating digital contents*) apart of master English language skills and pedagogical skills. The level of English teachers' digital literacy skills is assumed to correlate to the frequency of digital media they used in ELT classes. Thus, to prove that assumption, the researcher conducted this study using a correlational research design. Self-assessment questionnaires were distributed to 24 English teachers in several regions in East Java. Then, the results showed that there was a significant correlation between the level of digital literacy skills and the frequency of digital media use in ELT classes. It leads to the conclusion that the higher the level of digital literacy, the more frequent digital media use in ELT classrooms. Knowing this, improving English teachers' level of digital literacy skills matters.

Keywords: digital literacy, digital media, ELT classroom

INTRODUCTION

Digital media play a prominent role in English Language Teaching or ELT in this digital era. The use of digital media e.g. video in ELT class will engage primary and beginner language learners more in learning the target language (Yolanda Xavier, 2021). Furthermore, the application of social media in ELT classes will facilitate students enrich their vocabulary (Khan et al., 2016). Moreover, the implementation of social media in the process of L2 acquisition can increase students' interest since it is uncomplicated and enjoyable (Khan et al., 2016). Besides, using digital media such as podcasts as assessments in ELT class will advance students' performance in writing and speaking (Hafner, 2020). In addition, employing digital media e.g. infographics, comic strips, brochures, etc. as resources to teach English in ELT classrooms helps students to find out how particular linguistic features can be implemented in certain topics or text genres (Hafner, 2020).

Due to the urgency of digital media use in ELT mentioned above, today's English teachers have to own digital literacy skills to maximize the implementation of digital media in ELT classes (Yolanda Xavier, 2021). Digital literacy skills are the skills to locate and consume; produce; and communicate digital content (Hiller A. Spires and Melissa E. Bartlett, 2012). For providing reliable and suitable resources, English teachers should have the ability to find and consume digital content (Wiannastiti et al., 2019). Also, English teachers have to own the skill to create digital content to meet students' needs because language learners are heterogenous (Hiller A. Spires and Melissa E. Bartlett, 2012). Additionally, the skill to communicate digital content also have to be mastered by English teachers to introduce English learners to the culture of the target language which will ease them to interact with native speakers around the world (Carrasco & Johnson, 2015). In brief, digital literacy skills are essential for English teachers in this digital era.

However, after conducting a preliminary study in several regions in East Java, it resulted that English teachers rarely explore and apply digital media in ELT classes. This phenomenon might be occurred due to having a low level of digital literacy skills. Perdana et al. revealed that digital media might correlate with students' digital literacy skills (Perdana et al., 2019). Another study resulted that the intensity of digital media applications can influence the ability to find and select digital content (Nugroho & Nasionalita, 2020). In addition, Liza and Andriyanti mentioned in their study that English pre-service teachers, who possessed a high level of digital literacy, have positive perception and attitude toward the use of digital

media (Liza & Andriyanti, 2020). Besides, Andeska also proved in his research that English teachers in secluded areas in Indonesia tend to implement printed literacy and even own a low level of digital literacy skills (Andeska, 2018).

Even though past studies have already indicated that digital literacy and digital media might correlate with each other (Sujoko, 2013; Liza & Andriyanti, 2020), the issue of the potential correlation between the two variables is still interesting to investigate. Besides, only a few of the existing studies have addressed the correlation between English teachers' digital literacy skills and the frequency of digital media use in ELT classes. Therefore, the present study aims to find out the correlation between the two variables mentioned. A correlational study was targeted toward English teachers in secondary schools in several regions in East Java, Indonesia.

According to the elucidation above, the research question is formulated as follow: is there any correlation between English teachers' level of digital literacy skills and the frequency of digital media use in ELT classroom? Subsequently, the researcher provides a potential basis for conceptualizing the correlation between digital literacy skills and the frequency of digital media use in ELT classes. In regard to this, the researcher reviewed several works of literature and examine the correlation between two variables.

LITERATURE REVIEW

The Definition and Classification of Digital Literacy

Several experts described and categorized digital literacy in varied ways. First, digital literacy is the skills required to interpret, manage, create, and share meaning effectively on the internet (Dudeney et al., 2013). Another expert suggested that digital literacy is locating and consuming; creating; and communicating digital content (Hiller A. Spires and Melissa E. Bartlett, 2012). While, Chu et al. proposed a classification called information literacy, information and communication technology skills, and media literacy (Chu et al., 2017). Whereas, Eshet-Alkalai argued detailed categorization named photo-visual digital skill, reproduction digital skill, branching digital skill, information digital skill, socio-emotional digital skill, and real-time digital skill (Eshet-Alkalai, 2012).

In the present study, the researcher adopts the definition and classification of digital literacy from Spires and Bartlett (*locating and consuming digital contents; creating digital contents; and communicating digital contents*) since having no complexity in the framework proposed. This framework is also used as guidance to develop measurement instruments for finding out digital literacy levels.

The Use of Digital Media in ELT Classroom

Implementing digital media in ELT class gives several benefits. Digital media can help English teachers to find materials quickly and easily; encouraging English teachers' creativity, and boosting students' motivation to learn English (Liza & Andriyanti, 2020). This is in line with a previous study that stated that digital media can be motivational tools for students to learn English in daily life (Jamalifar & Chalak, 2014). Knowing that, English teachers are suggested to apply various digital media in the teaching and learning process frequently.

However, according to a survey in 2011, English teachers in Indonesia only tend to frequently implement word processing, E-mail, Web, and multimedia program in teaching and learning (Son et al., 2011). They rarely or never applied databases, graphics, concordances, blogs, wikis, online discussion groups, voice chat, and video conferencing programs in the classroom (Son et al., 2011). Then, in 2020, English pre-service teachers used PowerPoint, videos, YouTube, WhatsApp, and Kahoot in ELT classes frequently (Mardiana, 2020).

The explanation above has not depicted the frequency of digital media use in ELT class at the current time. Therefore, the present study aims to do it.

The Correlation Between Digital Literacy Skills and Digital Media

Previous studies indicated the correlation between digital literacy and digital media. Sujoko revealed that English teachers in secluded areas were not familiar with digital tools for teaching which impact indirectly on the low level of their digital literacy skills (Sujoko, 2013). On the contrary, English pre-service teachers in the metropolitan area claimed their readiness in applying digital media in the classroom and had a positive attitude toward digital literacy skills (Liza & Andriyanti, 2020).

From the elucidation above, it can be summarized that English teachers' digital literacy skills might be correlated to the frequency of digital media use in ELT classrooms. So, this study exists.

RESEARCH METHODS

This study used a correlational research design to measure the correlation between two variables in a single group of subjects (Ary et al., 2010). The application of the correlational method in the present study is in line with its objective which figures out the correlation between digital literacy skills level and frequency of digital media use in ELT class.

24 English teachers at a high school in East Java were the participants of this study. The researcher used a convenience sampling technique to determine the sample group. Before examining the correlation, the researcher has to know the level of digital literacy skills and the frequency of digital media use by distributing self-assessment questionnaires in the form of a Likert scale to the participants of the study. The instrument to know the level of digital literacy skills is developed based on Spires and Bartlett's framework (Hiller A. Spires and Melissa E. Bartlett, 2012). Then, to discover the frequency of digital media use, the researcher produced the instrument based on the adaptation of Akayoğlu et al. results (Akayoğlu et al., 2020). The instruments were checked using the content validation technique through expert judgment.

After the data was collected, the researcher calculated the data using Microsoft Excel and IBM SPSS Statistics 25. To determine the level and the frequency rate, the researcher categorized the total score into five categories based on Azwar's formula as Table 1 below (Azwar, 2012).

Table 1: Azwar's Formula to determine the level and frequency rate

Categories	Formula
Very low	$X < M - 1,5SD$
Low	$M - 1,5SD < X < M - 0,5SD$
Medium	$M - 0,5SD < X < M + 0,5SD$
High	$M + 0,5SD < X < M + 1,5SD$
Very high	$M + 1,5SD < X$

After determining the level of English teachers' digital literacy skills, the researcher interpreted each category based on the Likert-scale options in the instruments (*very low=never; low=rarely; medium=sometimes; high=often; very high=always*). It is also implemented after determining the frequency rate of digital media use in ELT class (*very low=never used/do not know; low=rarely/1-2 times in a semester; medium=sometimes/1-2 times in a month; high=often/almost every week; very high=always/every meeting*).

Then, to find the correlation, the researcher used Kendall's Tau-B as an alternative to nonparametric Spearman rank-order correlation especially when the sample size is small with many tied ranks which measure ordinal data (Statistics, 2018). Before measuring, the normality of the data must be measured using Shapiro-Wilk due to having a small sample size ($n < 50$) (Mishra et al., 2019). Last, the researcher interpreted the correlation result based on Botsch (Robert E. Botsch, 2011).

FINDINGS AND DISCUSSION

Findings

The Level of English Teachers’ Digital Literacy Skills

Using Spire and Bartlett’s framework of digital literacy, there are three skills of digital literacy which should be measured namely locating and consuming digital contents skill; creating digital contents skill; and communicating digital content skills. After administering self-assessment questionnaires to 24 participants, the results were displayed in the table below.

Table 2: The Level of Digital Literacy Skills

Skills	Mean	Level
Locating and consuming digital contents	39,42	High level
Creating digital contents	24,58	Low level
Communicating digital contents	21,08	Low level
Total	85,08	Medium level

From the table above, it can be seen that English teachers obtained a high level in locating and consuming digital contents skill. It means that they evenly often locate and consume digital contents (*e.g. filtering all the information obtained on the internet; selecting the relevant video; reading the latest news online; etc.*). Whereas, they got a low level in creating digital contents skill. It shows that, on average, they rarely create digital contents (*e.g. making slides for explaining the materials; making live/online worksheets; making videos to explain certain materials; etc.*). Then, they also possessed low level in communicating digital contents skill which means that they rarely communicate digital contents (*e.g. communicating digital contents using mobile devices; using e-mail to communicate information; uploading self-made teaching videos in social media; etc.*). However, in total, it resulted in English teachers owning a medium level of digital literacy skills which means they evenly sometimes locate and consume digital contents; create digital contents; and communicate digital contents.

The Frequency of Digital Media Use in ELT Classroom

The researcher found that the average frequency rate of digital media use in ELT classrooms is 67 (low frequency). Thus, in the ELT classroom, 24 English teachers evenly use digital media rarely or 1-2 times in a semester.

Table 3: The Frequency Rate of Digital Media Use in ELT Classroom

Statistics		
N	Valid	24
	Missing	0
Mean	67.00	

Furthermore, as additional information, Table 4 below displays the total score of frequency of each digital media used in the ELT classroom.

Table 4: The Sum of the Frequency of Digital Media Use in ELT Class

Digital Media Used in ELT	Σ	
Social Media Tools	Instagram	46
	YouTube	74
	Twitter	30
	WhatsApp	108
	TikTok	32
	Facebook	45
	Line	36
	Blogger	34
	WordPress	32

Digital Media Used in ELT		Σ
LMS	Google Classroom	80
	Schoology	38
	Moodle	41
	School's E-Learning	73
Quiz Tools	Kahoot	45
	Quizizz	65
	Google Form	77
	Hot Potatoes	30
Online Storage	Google Drive	72
	Microsoft One Drive	47
Presentation tools	PowerPoint	94
	Google Slides	51
	Prezi	28
	Canva	41
Video Conferencing Tools	Zoom	80
	Google Meet	80
Word Processing Tools	Word	88
	WPS Office	73
	Google Docs	68

According to Table 4 above, the minimum score is 28, while the maximum score is 108. Therefore, among 28 digital media used in ELT class in this study, the most frequent digital media used by English teachers is WhatsApp ($\Sigma=108$). Whereas, the most infrequent digital media used is Prezi ($\Sigma=28$). Besides, according to Table 4, the most frequent social media used in ELT classrooms is WhatsApp ($\Sigma=108$). The most infrequent social media used in ELT is Twitter ($\Sigma=30$). Furthermore, according to Table 4, the most frequent LMS used in ELT class is Google Classroom ($\Sigma=80$). Then, the most infrequent LMS used in the ELT class is Schoology ($\Sigma=38$). Moreover, Table 4 shows that the most frequent quiz tool used in the ELT classroom is Google Form ($\Sigma=77$), while the most infrequent quiz tool in the ELT classroom is Hot Potatoes ($\Sigma=30$). In addition, according to the data obtained in Table 4, Google Drive is the more frequently used online store by 24 English teachers ($\Sigma=72$) rather than Microsoft One Drive ($\Sigma=47$). Also, according to the data displayed in Table 4, the most frequent presentation tool used in ELT classrooms is PowerPoint ($\Sigma=94$). Then, Prezi occupies the most infrequent presentation tools used in ELT classrooms ($\Sigma=28$). Then, based on Table 4, English teachers use Zoom as frequently as Google Meet ($\Sigma=80$; $\Sigma=80$). Last, based on Table 4, the most frequent word processing tool used in the ELT class is Word ($\Sigma=88$), while the most infrequent word processing used is Google Docs with a percentage ($\Sigma=68$).

The Correlation Between Digital Literacy Skills' Level and Frequency of Digital Media Use

Before finding out the correlation between the two variables, the researcher tested the normality of data gathered using the Shapiro-Wilk method since the respondents is less than 30. The following table shows the result of the normality test.

Table 5: The Result of the Normality Test

	Kolmogorov-Smirnov ^a		Shapiro-Wilk		
	Statistic	df Sig.	Statistic	df	Sig.
Digital Literacy Level	.143	24.200*	.918	24	.052
Frequency of Digital Media Used	.143	24.200*	.938	24	.146

*. This is a lower bound of the true significance.
 a. Lilliefors Significance Correction

According to the table above, the significance value of the results of digital literacy level and the frequency of digital media use are respectively 0,052 and 0,146 which are higher than 0,05. Therefore, using the Shapiro-Wilk method, the data obtained are distributed normally. After knowing that the data gathered are distributed normally, then, the researcher tested the correlation between the two variables. The table below displays the result of the correlation test using Kendall’s Tau B.

Table 6: The Result of Correlational Test Using Kendall’s Tau-B

			Level of Digital Literacy	Frequency of Digital Media Used
Kendall's tau-b	Level of Digital Literacy	Correlation Coefficient	1.000	.328
		Sig. (2-tailed)	.	.081
		N	24	24
	Frequency of Digital Media Used	Correlation Coefficient	.328	1.000
Sig. (2-tailed)		.081	.	
N		24	24	

The table above shows that the value of Sig. (2-tailed) is 0,081 which is lower than 0,05 which indicates a significant or real correlation between the two variables. Moreover, the value of the Correlation Coefficient is 0,328 which means the correlation between the two variables is strong. In addition, the Correlation Coefficient between the two variables is positive (+0,328). Thus, there is a positive or unidirectional correlation between the two variables. It means that the higher the level of digital literacy, the higher the frequency rate of digital media use in ELT classrooms. All in all, the correlation between the level of digital literacy and the frequency of digital media use in ELT classrooms is significant, medium, and unidirectional or positive.

Discussion

The findings demonstrated that there is a significant, strong, and positive correlation between digital literacy level and the frequency of digital media used in ELT class. It means that the higher the level of digital literacy skills of English teachers, the more frequent digital media use in ELT classrooms. The result obviously rejected the first hypothesis (H_0) and accepted the second hypothesis (H_1). Also, this result has not been mentioned in previous studies. However, it confirms the results of Hana Amri Solikhati and Bambang Widi Pratolo’s study in 2019 that the implementation of digital literacy in EFL learning was reflected in the use of digital devices (Solikhati & Pratolo, 2019). Besides, it also corroborates a previous finding by Khaira Liza and Erna Andriyanti in 2020 which revealed that English pre-service teachers in one of the universities in Yogyakarta possessed high digital literacy skills and readiness in using digital technologies in ELT classes (Liza & Andriyanti, 2020).

Additionally, it also revealed that English teachers occupied evenly medium level ($\bar{x} = 85,08$). It differs from the previous study by Khaira Liza and Erna Andriyanti in 2020 which found that English pre-service teachers owned a high level of digital literacy (Liza & Andriyanti, 2020). It also contrasts the result of Rusydiyah et al. (2020) study which revealed that English teacher candidates in Indonesia possessed good scores in digital literacy (Rusydiyah et al., 2020). Besides, it is also distinct from the previous research by Nia Kurniawati et al. in 2018 which stated that digital immigrant English teachers and digital native English teachers were in the adaptation stage based on Apple Class of Tomorrow’s framework (Kurniawati et al., 2018). Also, it is dissimilar to previous findings by Hutagalung and Purbani

which reported that elementary school teachers in Baguala, Ambon District got low level in digital literacy (Hutagalung & Purbani, 2021).

Furthermore, it resulted that in the first skill of digital literacy based on Spires and Bartlett framework viz. locating and consuming digital contents, English teachers evenly had high level ($\bar{x}=39,4$). It means that English teachers, on average, had high skills or often locate and consume digital contents such as providing suitable and reliable sources and materials for their students which is in line with previous results by Wiannastiti et al. (Wiannastiti et al., 2019). On the contrary, in the second and third skills of digital literacy (*creating digital contents; and communicating digital contents*), English teachers evenly possessed low level ($\bar{x}=24,6$; $\bar{x}=21,1$). It means that, on average, they rarely create and communicate digital contents. Having a low level of creating digital contents skill might have a bad impact on their heterogenous students since English teachers might not achieve students' needs as Spires and Bartlett stated in their paper (Hiller A. Spires and Melissa E. Bartlett, 2012). Possessing a low level of communication digital contents skill also might cause their students to lose a chance to interact with native speakers around the world in the digital world Carrasco and Johnson said in their study (Carrasco & Johnson, 2015).

In conclusion, since having digital literacy skills in this digitalization era is prominent for English teachers, they have to improve their skills in digital literacy. Desi Agustini et al. stated in their study that things are possible to do such as asking the school principal to complete the school facilities and attending professional development (Agustini et al., 2020). Besides, knowing that digital literacy level correlate to frequency of digital media use, English teachers must increase their skills of digital literacy in order to use various digital media frequently in ELT classrooms for the improvement of teaching and learning quality.

CONCLUSION

The findings revealed that English teachers possessed a medium level of digital literacy skills ($M=85,08$) which means they sometimes located and consumed; created; and communicated digital contents. Also, English teachers had a low-frequency rate of digital media use ($M=67$) which leads to the conclusion that they seldom use digital media in their practices. Thus, it resulted that there was a significant, medium, and unidirectional correlation between English teachers' digital literacy skills and the frequency of digital media use in ELT classes. It means the higher level of digital literacy skills, the higher the frequency rate of digital media use in ELT class.

The results of the present study can be useful for English teachers to improve their digital literacy skills by joining professional development programs or taking digital literacy courses for the betterment of the second language acquisition process in this digitalization era. For further researchers, it is suggested to have a large sample size and use a probability sampling technique to avoid bias. Besides, exploring and implementing other frameworks or theories to determine digital literacy skills' level and frequency rate of digital media use is prompted too.

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