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The Influence of Using Learning Technology with Digital Literacy Self-Organised Learning Strategy and Technological Pedagogical Content Knowledge in Sumenep, Madura, and the Kurdish Region

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Abstract

This research examines the influence of learning technology on digital literacy, self-organized learning strategies, and technological pedagogical content knowledge in the Indonesian Sumenep Islands and the Kurdish region. This research uses a non-experimental quantitative design with survey methods for the Sumenep Madura region and a literature review for the Kurdish region. The population is 172 students. The determination of the sample using Green's procedures amounted to 74 selected pieces using proportioned random sampling. The development of a digital literacy questionnaire by Rodriguez-De-dios et al., and the development self-efficacy questionnaire from Djokic. Data were analyzed using linearity tests, partial linear regression, and multiple regression analyses. There is a significant influence of digital literacy on students with sig. t is $0.003 < 0.05$; secondly, self-organised learning strategies substantially impact student learning outcomes with sig. t is $0.000 < 0.05$; third, self-efficacy considerably influences student learning outcomes with a big value. t is $0.003 < 0.05$; fourth, digital literacy,

Keywords: Learning Technology, digital literacy, learning, Technological Pedagogical Content Knowledge, Madura, Kurdish.

Introduction

In this modern era, learning technology is essential to use learning technology is very widely used in the education in world and more sophisticated facilities can help students learn, to improve the quality and quality of teaching, learning technology is needed, technology can increase students' interest in learning, because by using learning technology, students' interest in education will increase. The use of learning technology can also prevent children from feeling bored in education, so most schools in Indonesia have implemented the use of learning technology; learning technology is a form of application or learning media that has been developed contemporaneously and is used as a learning resource in learning practices, currently, technology learning in the information world of education.

Students benefit from learning media full of information because it will be easier to find what they need during the learning process. The existence of computers and the Internet in every school has increased students' interest in learning and their understanding of what they are learning.

The progress of education in that country; each country has a different education in that country, and even a region will look for learning systems and technology that are appropriate and suitable for use. in this region, as well as the learning technology system and regulations on the island of Madura, which is an archipelago with an educational tradition that is different from other education. In remote schools, the Madura Islands of Indonesia are more dominant than other state public education institutions, so

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the education management system will also be different from additional general education, which is why in the Madura Islands region, the importance of digital literacy.

Digital literacy can help students search, find, sort, and understand correct and appropriate information. Digital literacy can improve verbal abilities, focus, concentration, reading, composing sentences, and writing data. Meanwhile, self-organised learning is the ability to regulate and control one's learning process independently and responsibly. Self-organized learning has various benefits for students, such as improving academic achievement, keying disciplined behavior.

The belief that one's ability to complete a task or achieve an objective is referred to as self-confidence. Achievement in learning and motivation, effort, and perseverance are all affected by self-efficacy. High self-efficacy students usually try hard, are more courageous and self-assured when faced with challenges, and do not give up on their studies quickly. To help students reach their full potential and acquire the skills they need in the age of technology, these three elements are important. Learning in schools is an educational process, a determining barometer and benchmark for human resources as a national education subsystem. (Parenting et al., n.d.).

Learning in remote schools is classified into three types, namely: (1) Traditional Schools, (2) Modern Schools, and (3) Combination Schools of Religious Sciences and other General Sciences. (Dirjen Pendis no. 3543 of 2018, nd). The weakness of this traditional school is the student graduation system, which is determined directly by the kai or school leaders. The measure of student graduation is the student's submission to the kyai (school leaders) and the ability to obtain knowledge from the kyai. (Afandi-2021-Socio-Relegio-Cultural Dynamics and Changes of Salafiyah and Salafi school boarding, nd).

By paying attention to aspects of learning in schools through constructive thinking in building the nation's mental revolution and transforming universal educational values in Indonesia, and elements of the development of world globalization in the fields of telecommunications, the internet, computer, and digital technology, which have positive and negative impacts both in social aspects, economics, politics, and education which must be addressed wisely so that they are beneficial and have a positive impact, schools, especially religious education schools, are required to modernize and transform education, especially breakthroughs in the learning system by providing a balance between religious education and technology so that school graduates will not be unable to compete when entering college or the world of work, which was previously considered taboo when discussing work or worldly matters. (Hannani & Ajsuksmo, 2021). With this breakthrough transformative learning system, schools can avoid the perception that it is difficult for school graduates to progress because most religious school education systems are still considered ancient or not by current developments. (Literacy Development at Pondok Sabagai Provisions for Living in Society 1 Machsun Rifauddin, nd)

Using modern learning technologies in conjunction with digital literacy, self-organized learning, and self-efficacy to boost student learning accomplishment is one method of transformative learning in this isolated school on the Madura Islands. However, there are several difficulties and barriers to overcome. (Ramadani, nd)

First participation in religious education programs is mandatory for all students, but they must also take part in learning activities in formal education at their school. These are two different things that, of course, need learning strategies for how individual students can regulate their learning (self-organized learning) in following these two lessons to be successful. (Masyhura & Ramadan, 2021). With two different learning activities, which automatically have two dual roles and other demands, it is possible to experience various difficulties in according to the goals. These self-organised learning skills can be developed using various strategies and effectively become challenging learning. (Hertel & Karlen, 2021)

Research results show that students who can determine strategies in setting goals positively influence their learning outcomes; other studies show that self-organized learning influences science learning outcomes and effectively influences educational success in mixed or online education. (Cengiz-Istanbullu & Sakiz, 2022), All

the factors that make up self-organized learning have a positive and significant effect and are relevant for online learning, correlated with academic management skills, and with massive open online courses. (Wei et al., 2023), On the contrary, there are still many students with low self-organized learning due to unknown latent factors that need to be researched, as well as being ineffective due to environmental and structural elements and low levels of help-seeking in online learning. (Hong et al., 2021). Another study explains that school time management does not affect student learning achievement. (Ngoc et al., 2022)

However, the demands of these abilities on students are very time, energy, and thought-consuming. Three problems arise for individuals who have multiple roles, which are categorized into three role conflicts, namely: (1) time-based conflict, namely the emergence of conflict caused by the time spent fulfilling one role reducing the time spent fulfilling the needs of another role; (2) strain-based conflict, namely role conflict because pressure from one role affects the performance of the other; (3) behavior based conflict, namely role conflict due to a mismatch between behavior patterns and the desired goals of the dual role. The study results show that students have positive psychological characteristics such as moderate life satisfaction, meaningfulness of life, patience, and reasonable self-control. Meanwhile, the psychological factors that tend to be weak are self-regulation, courage, creativity, diversity of points of view, and humor.

Second, By applying contemporary learning technology with digital literacy, the children's self-organized learning and self-efficacy in learning environments must have digital literacy skills. This digital literacy competency has become a promising and most-needed demand. (Fadli & Dwiningrum, 2021), To become an ecosystem of educational institutions that demands digital transformation in the industrial revolution 4.0. (Alenezi, 2023). Several research results show that there is an influence of metacognition and digital literacy skills on learning achievement in mastering science concepts. (Sukarno & Widdah, 2020). Digital literacy, also known as virtual learning, has the potential to enhance lifelong learning (Khan et al., 2022); digital literacy also mediates the relationship between self-confidence and learning achievement, having a good level of understanding of digital literacy in online learning according to the Bawden criteria, (Adha et al., nd-a), there is the influence of self-organized learning and digital literacy on economic learning outcomes, there is the influence of digital literacy skills and self-regulation on student creativity in online science learning practices. (Syefrinando et al., 2022), Digital literacy and internet risk behavior simultaneously positively influence science learning achievement. (Fadli & Dwiningrum, 2021)

However, several other research results show the opposite: implementing digital literacy in schools is still less than optimal; the learning process is still teacher-centered (Masyhuri, nd-a). Using Steve Weeler's criteria, the digital literacy level of Karitas Ngaglik Sleman Middle School students is at medium level and has the lowest score on the repurposing content element. (Öztürk & Çakıroğlu, 2021)

Referring to the study results above, we are still faced with real conditions in several schools, which are still hampered by the rule of not being allowed to bring gadgets or mobile phones (HP). (Desi, nd). There are at least five problems faced by educational institutions related to online digital literacy, namely: (1) the internet is considered a negative thing for students because the internet world cannot be controlled, which can lead to negative things; (2) the internet has not yet seen its positive opportunities as a learning and da'wah medium; (3) lack of understanding of news and information from the internet; (4) lack of established traditions in the world of writing creatively and productively; (5) lack of understanding about social media platforms and the like and how to use them for da'wah. (Swadaya Masyarakat et al., 2021). Furthermore, it is explained that there is a negative side to the addiction to the integration of technology for communication and information in digital literacy with content that cannot yet be fully verified for its truth and credibility in schools, the irreplaceability of traditional school learning methods with virtual methods tradition of looking for printed references has been replaced by googling. (Masyhuri, and-b)

By considering the impact of the negative problems above, schools need to take strategic considerations

because schools need and must strive to introduce digital devices in their education system, a skilled generation, and master practical knowledge as provisions for life in the future without abandoning Islamic values. (Ali Ja'far-2019- School Digital Literacy. Change and contestation, nd) because digital literacy has the opportunity to spread Islamic narratives and values that are tolerant, inclusive, and have a national perspective through intense guidance in reading, filtering, and checking again. (Xu et al., 2023)

Third, applying contemporary learning technology with digital literacy empowers students to have confidence in their capacities and is one way to improve learning achievement through self-organised learning and self-efficacy. Self-efficacy is the conviction that one can do a specific activity. (Agung et al., 2022). Self-efficacy determines how a person feels, thinks, motivates himself, and acts. (Wei et al., 2023). With self-efficacy, it can predict a person's academic achievement. (Basith et al., 2020). Task choice, effort, persistence, resilience, and learning achievement. (Alghamdi et al., 2020). However, in reality, we still find many people who feel unsure about being able to do the questions even though they have not tried doing it. (Fetria Trisnawati, 2019). Therefore, building students' self-confidence regarding the various learning problems they face is important.

The following intriguing problem formulation should be investigated, in light of the background information provided above: (1) Does digital literacy affect student learning outcomes on the isolated Indonesian islands of Madura? (2) Do students' learning results in the isolated Indonesian islands of Madura respond differently to self-organized learning strategies? (3) Does student learning on the isolated Indonesian islands of Madura depend on self-efficacy? In the isolated Indonesian islands of Madura, does Technological Pedagogical Content Knowledge have a combined effect on student learning outcomes

Literature Review

Portrait of Higher Education in the Kurdish Region

Most people living in mainland Mesopotamia, the southeastern Turkish highlands, northwestern Syria, northern Iraq, northwestern Iran, and southwestern Armenia are known as Kurds. They are united in their language, race, and culture and still form a unique community. Most of them are Sunni Muslims, but they have different religions and beliefs. In the early 1900s, Kurds began to consider creating a state known as "Kurdistan", located between Turkey (Northern Kurds), Iran (Eastern Kurds), Iraq (Southern Kurds), and Syria (Western Kurds). After the First World War and the collapse of the Ottoman Caliphate, the Treaty of Sevres allowed the creation of the state of Kurdistan. However, the plan was abandoned three years later by the Treaty of Lausanne, which established Turkey's contemporary borders. As a result, ethnic Kurds became a minority group in the newly formed countries after the First World War. The Lausanne Peace Treaty, signed by the new Turkish state in 1923, has hampered efforts to establish an independent Kurdish state for the past eighty years. However, the Treaty of Lausanne only provided limited protection to the Kurds, who are mostly Muslim, as it only protected non-Muslim minority groups. According to the agreement, primary schools in minority languages should be opened in cities and districts where most non-Muslim citizens live. After the 1980 military coup, the Turkish government's assimilation policy reached its peak, and the Kurdish language was banned in public places and institutions, in the 1980s stipulated "no language other than Turkish shall be taught as a mother tongue to Turkish citizens in any training or educational institution." If people speaking, publishing, or singing in Kurdish are deemed to be separatists, they may be arrested, punished, or imprisoned. Therefore, a large number of Kurds are forced to hide their cultural, linguistic, and ethnic identity. Repression like this makes the Kurdish problem worse, with significant economic, political, security, and social repercussions. The Turkish government removed the ban on using the Kurdish language in 1991. The Justice and Development Party (Adalet ve Kalkınma Partisi, AKP) is an Islamic political party based on nationalism and religion in Turkey in 2002. Educational reforms were carried out by EU standards

and neoliberal policies that characterized AKP governments in 2002 and 2007. Turkey took several positive and critical steps to support democratic and universal values, integrate legislation with European standards, and increase prosperity and well-being in Turkey. Community. In short, Turkey has been one of the most successful countries in improving democracy and reducing human rights violations. Kurdish education and cultural expression in Türkiye have changed greatly since the democratization reforms. In 2003, the AKP government allowed private education in Kurdish as it legalized teaching in various languages and dialects used by Turkish citizens daily. The government approved the teaching of Kurdish at Artuklu University in Mardin and several other high schools in the Kurdish region in 2010. The AKP government made Kurdish an optional subject in the MEB curriculum by adding a two-hour per week "Living Languages and Dialects" course. Schools nationwide began teaching Kurdish as an elective subject starting in fourth grade in 2012-2013. A democratization package issued by the government in March 2014 allows Kurdish language learning in private schools. The Turkish and Kurdish governments have also begun a peace process to end the three-decade conflict. More than 40,000 people have died in the battle between members of the Kurdish Workers' Party (PKK). Since 1984, the PKK has fought for broader cultural and political rights against the Turkish government.

H.1. *The Kurdish region has advanced in education and learning technology, as proven by providing access to learning and education.*

C. Research Methods

Research on the influence of using learning technology with digital literacy, self-organized learning strategies, and technological pedagogical content knowledge in Sumenep, Madura, and the Kurdish region uses quantitative methods. Researchers use quantitative methods because The data that was collected is given as a numeric value. or the amount of data in the form of numbers. (Mohajan, 2020), with non-experimental design (without control/treatment) and survey methods, which aim to describe objects, situations, and populations (Riyaz Ansari et al., 2022) by measuring the level of relationship between two or more variables under study. Data is analyzed statistically inferentially because it concludes the research results to explain a problem by producing generalizations. (Rukminingsih. et al. 2020. Educational research methods, nd)

Three independent factors were among the variables examined in this study by the researchers namely, Technological Pedagogical Content Knowledge, namely student learning outcomes in the remote islands of Madura, Indonesia.

This study had 172 junior high school pupils as its population, with 69 male and 104 female students. By using the sample size provisions from Green's procedures where $N \geq 50 + (8) (3/\text{number of independent variables})$. (Ali Memon et al., 2020), the number of samples studied was 74 people. Samples were taken with a Proportioned random sampling technique. The locations for this research were chosen in the Central Talango Islands, East Talango, and Talango Aeng.

The data collection procedure uses a Self-organised learning instrument of a Likert scale questionnaire developed by Magsino, namely Self-organised learning variables and learners' performance (SRLVLP). The questionnaire comprises 70 items covering 7 aspects, each comprising 10 items. (Magsino, 2021). Student digital literacy data was collected using a 22-item digital literacy questionnaire covering 5 aspects, adapted from Nisa and Fitriyani sourced from Rodreguiz-De-dios et al.(Nisa & Fitriyati, 2022). Student self-efficacy data was collected using a 13-item Likert self-efficacy scale questionnaire adapted from Muhammad, Ardini, and Djokic.(Rismayanti et al., 2022)The scale ranges from strongly agree (5), agree (4), unsure (3), disagree (2), and strongly disagree (1). Data on learning outcomes was collected through students' national exam results documents in the Madura district area. Before the instrument is given to the sample, the first validity test, Cronbach's Alpha reliability test, and classical assumption test with normality test, multicollinearity,

heteroskedasticity, and linearity test. The researcher's technique for analyzing data is to use linearity tests, partial linear regression analysis, and multiple regression with the help of SPSS Version 26.0

Discussion

The objective of the research is to determine the extent to which the independent simultaneous, partial effect on the dependent variable. The research results prove that there is an influence of digital literacy on student learning outcomes in schools in the Madura Islands of Indonesia, Self-organized learning strategies on student learning outcomes in schools in the Madura Islands of Indonesia, there is an influence of self-efficacy on student outcomes in schools in the Madura Islands of Indonesia. The research results show a simultaneous influence of digital literacy, self-organized learning strategies, and self-efficacy on learning outcomes in Madura Island schools.

The study's findings, which suggest that self-organized learning methods have an impact on learning outcomes, are corroborated by earlier research findings that indicate self-organised learning has a major impact on Madrasah Aliyah Ponorogo students' English language proficiency.(Nadhif & Rohmatica, 2020). The results of other research state that self-organized learning significantly influences the learning outcomes of students in the Educational Administration Study Program at Puangrimanggalatung University.(Mataram et al., nd). The results of another study suggest self-organised learning on student achievement in the Madura archipelago.(Hakiki & Rembulan, 2019). Support from other research results explains that self-organised learning and learning motivation simultaneously significantly affect learning achievement.(Ilknur Istifci & Nil Goksel, 2022)Intervening with self-organised learning has proven effective in increasing self-organised learning activities and student learning achievement.(Jansen et al., 2019)

H.3. *The research results of self-organised learning strategies on learning outcomes*

The research results state that self-organised learning strategies and digital literacy influence several previous research results and support student learning outcomes in the Madura Islands. Support from relevant research results explains that digital literacy skills and self-regulation influence physics learning practice by 74%. Another study concluded that self-organised learning and digital literacy positively and significantly influence economic learning outcomes through the intervening variable of self-efficacy. (Adha et al., nd-b). Students perceived level of self-organized learning increases in parallel with their digital literacy skills.(Ilknur Istifci & Nil Goksel, 2022). On the other hand, the research results show that self-organized learning and digital literacy have a significant and linear positive relationship with a conceptual understanding of the excretion system.(Rusdi et al., 2023). Another study concluded that digital literacy is a determining factor in academic achievement.(Syamiya et al., 2022)

H. 4. *Research results show self-organised learning strategies and digital literacy on student learning outcomes in the Madura Islands*

Previous research results support the influence of self-organised learning and self-efficacy strategies on learning outcomes in the Madura Islands region. First, the results of research conducted by Woottipong concluded that self-organized learning strategy skills and self-efficacy had a significantly higher level in technology-assisted English writing. (Woottipong, 2022). Even self-efficacy and self-organised learning strategies significantly predict English writing proficiency on campus. (Sun & Wang, 2020). On the other hand, the research results stated that self-efficacy significantly predicted the self-organised learning strategies used by students. (Lee et al., 2020). From another perspective, it is explained that self-organized learning strategies and academic self-efficacy, academic involvement, and consistency are correlated with students' grade point averages. (Pérez-González et al., 2022). Achieving brilliant learning achievements in traditional schools is not only influenced by self-organized learning. However, it is also determined by gender, age, length of study, and parental education.(Agus Fawait & Safaruddin, 2021)Another study

concluded that the success of students' learning at school, apart from being influenced by self-organized learning, is also determined by resilience, that those who enter school for their reasons have high resilience. (Merianda & Rozali, 2020)

H.5. *The research results stated that self-efficacy was significantly able to predict the self-organised learning strategies used by students.*

Having the ability to manage one's learning independently, accompanied by the ability to manage time well and with discipline, and having digital literacy skills with the willingness to continuously learn through the computer and network facilities provided at school, as well as having a strong sense of self-confidence with the will to control, assessing progress and high enthusiasm for learning can have a positive influence on learning outcomes.

Research Findings

The test criteria state that if the Alpha-Cronbach value is greater than 0.6, the questionnaire items are declared reliable. The summary of the interpretation of the reliability of the questionnaire according to the SPSS output is in the table below:

Table 1: Sample Test.

Variable	Alpha-Cronbach	Information
Digital Literacy (X1)	0.974	Reliable
Self-Organised Learning (X2)	0.983	Reliable
Self-Efficacy (X3)	0.925	Reliable

The table above shows that the Alpha-Cronbach value for all variables is greater than 0.6. In this way, all questionnaire items are declared reliable and suitable for use as a data collection tool.

Classic assumption test

The classical assumption test is carried out to provide certainty that the regression model obtained has the best estimation accuracy, is not biased, and is consistent so that the model is valid as an estimation tool. Therefore, the classical assumption test requirements that must be met are as follows.

Table 2: Normality Test Results.

One-Sample Kolmogorov-Smirnov Test					
		Learning Achievement (Y)	Digital Literacy (X1)	Self-Organised Learning (X2)	Self-Efficacy (X3)
N		74	74	74	74
Normal Parameters, b	Mean	6.9372	3.7918	3.8425	3.9304
	Std. Deviation	.65484	.59779	.47568	.54737
Most Extreme Differences	Absolute	.073	.071	.087	.075
	Positive	.073	.052	.047	.059
	Negative	-.059	-.071	-.087	-.075
Statistical Tests		.073	.071	.087	.075
Asymp. Sig. (2-tailed)		.200c, d	.200c, d	.200c, d	.200c, d

From the table above, it can be concluded that the variables used are normally distributed because the probability value (Sig.) > 0.05, namely 0.200.

Test of Multicollinearity

VIF (Volume Inflation Factor) was used to test for multicollinearity. To find out if independent variables in one model are similar to the independent variables in another, multicollinearity is required. Multicollinearity does not exist if the independent variable's VIF is less than 10, and vice versa, if VIF is greater than 10. The following table displays the analysis's data:

Table 3: Multicollinearity Assumption Test Results.

Model		Coefficients	
		Collinearity Statistics	
		Tolerance	VIF
1	Digital Literacy (X1)	,732	1,366
	Self-Organised Learning (X2)	,841	1,189
	Self-Efficacy (X3)	,708	1,411
a. Dependent Variable: Learning Achievement (Y)			

Based on the results of the multicollinearity assumption test, information was obtained that each variable digital literacy (X1), self-organized learning (X2), and self-efficacy (X3) have a tolerance value of less than 1, namely 0.732; 0.841; and 0.708, likewise the VIF number is still between the numbers 1-10, namely 1.366; 1,189; and 1,411. This means that multicollinearity does not occur.

Table 4: Heteroscedasticity Assumption Test Results.

Model	Unstandardised Coefficients		Standardized Coefficients	Q	Sig.
	B	Std. Error	Beta		
(Constant)	,187	,306		,612	,543
1 Digital Literacy (X1)	-.028	,062	-.062	-.451	,654
Self-Organised Learning (X2)	,085	,073	,149	1,156	,252
Self-Efficacy (X3)	-.014	,069	-.029	-.203	,840
a. Absolute Residual					

Information that all Sig. > 0.05, namely 0.654, 0.252, and 0.840, depending on the provisions, can be found based on Table 4 above. Heteroscedasticity is not present in the regression model if the difference between the independent variable and the absolute residual is greater than 0.05.

The study employed multiple linear regression analysis to assess the impact of self-organized learning practices, digital literacy, and self-efficacy factors on the learning outcomes of Madura students. The following table displays the analysis results:

Table 5: Recapitulation of Multiple Regression Analysis.

Model	Unstandardised Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2,400	,510		4,710	,000
1 Digital Literacy (X1)	,315	.104	,288	3,033	,003
Self-Organised Learning (X2)	,502	.122	,365	4,124	,000
Self-Efficacy (X3)	,359	,115	,300	3,113	,003
a. Dependent Variable: Learning Achievement (Y)					

On the other hand, the variable value of digital literacy (X1) is 0.315, the value of the self-organized

learning strategy variable (X2) is 0.502, and the value of the self-efficacy variable (X3) is 0.359. If you put it into the herself-organized, you get the result $Y = a + b_1X_1 + b_2X_2 + b_3X_3$ or $Y = 2,400 + (0.315) + (0.502) + (0.359)$. This equation means that if there is an increase in digital literacy by one unit, student learning outcomes will increase by 0.315, assuming the other variables are constant. When there is an increase in the self-organized learning strategy by one unit, student learning outcomes will increase by 0.502, assuming other variables are constant. An increase in self-efficacy by one unit means student learning outcomes will increase by 0.359.

The constant of 2,400 means that if digital literacy (X1), self-organised learning strategies (X2), and self-efficacy (X3) have a value of 0, then student learning outcomes (Y) have a value of 2,400. This value means that increasing the three independent variables will affect student learning outcomes.

Hypothesis Testing Results

Table 6: Coefficient of Determination Test Results.

Model Summary b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.734a	.539	.519	.45415
a. Predictors: (Constant), Digital Literacy (X1), Self-Organised Learning (X2), Self Efficacy (X3)				
b. Dependent Variable: Student Learning Outcomes (Y)				

Based on Table 6 above, the coefficient of determination (Adjusted R. Square) value is 0.519, meaning that Technological Pedagogical Content Knowledge y influences changes in student learning outcome variables by 51.9%. Meanwhile, 48.1% was influenced by other factors.

F test

The F test proves whether the independent variable, Technological Pedagogical Content Knowledge, simultaneously influences the dependent variable, student learning outcomes. A recapitulation of the F test results can be seen in the following table:

Table 7: Recapitulation of F Test Analysis Results.

ANOVAa						
	Model	Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	16,866	3	5,622	27,258	,000b
	Residual	14,438	70	,206		
	Total	31,303	73			

Based on Table 7 F value is 27,258 with a of 0.000, which means the F is less than 0.05. This shows that the three independent variables jointly influence student learning outcomes. Thus, it can be concluded that the hypothesis is accepted that digital literacy (X1), self-organised learning strategies (X2), and self-efficacy (X3) simultaneously influence student learning outcomes in remote schools on the Madura Islands.

Effect of Independent Variables on Dependent Variables Partially

The t-test is used to partially test the influence of the independent variable on the dependent variable. The results of the partial regression coefficient test from the t-test can be seen in the following table:

Table 8: Recapitulation of T-Test Analysis Results.

		Coefficients	
	Model	t	Sig.
1	(Constant)	4,710	,000
	Digital Literacy (X1)	3,033	,003
	Self-Organised Learning (X2)	4,124	,000
	Self-Efficacy (X3)	3,113	,003
a. Dependent Variable: Learning Achievement (Y)			

Based on Table 8 above, it can be seen that first, the digital literacy variable (X1) shows a value of $0.003 < 0.05$. This means the digital literacy variable has a significant influence on student learning outcomes (Y). Thus, it can be concluded that the hypothesis that digital literacy (X1) partially influences student learning outcomes (Y) in Madura Island schools is accepted. The higher the digital literacy (X1), the higher the student learning outcomes (Y) in the Madura Islands. Second, the self-organized learning strategy variable (X2) shows a value of $0.000 < 0.05$. This means that the self-organised learning variable (X2) significantly influences student learning outcomes (Y) in the Madura Islands. The higher the self-organised learning (X2), the higher the student learning outcomes (Y) in the Madura Islands. Third, the self-efficacy variable (X3) shows a value of $0.003 < 0.05$. This means that the self-efficacy variable (X3) significantly influences student learning outcomes (Y) in Madura. The higher the self-efficacy (X3), the higher the student learning outcomes (Y) in the Madura Islands.

Effective Contribution

Effective contribution is used to test which independent variable influences the dependent variable and the amount of contribution to the dependent variable. By using the formula $\text{Effective Contribution} = \text{Beta} \times \text{Zero order} \times 100\%$, the contribution percentage for each independent variable is obtained as in the following table:

Table 9: Summary of Results of Effective Contributions.

Digital Literacy (X1)	=	0.288	x	0.553	x 100%	=	15.93%
Self-Organised Learning (X2)	=	0.365	x	0.567	x 100%	=	20.70%
Self-Efficacy (X3)	=	0.3	x	0.575	x 100%	=	17.25%

Table 9 shows that the digital literacy variable effectively contributes 15.93%. In contrast, the self-organized learning variable has a dominant influence on learning achievement because it has the highest effective contribution value, namely 20.70%. The self-efficacy variables and variables contributed 17.25%.

F. Implications

Several theoretical implications emerge in research on the influence of using learning technology with digital literacy, self-organized learning strategy, and technological pedagogical content knowledge in Sumenep, Madura, and the Kurdish Region.

Among these implications is the importance of using learning technology in each school so that using learning technology in schools will increase students' interest in learning and will foster students' enthusiasm for learning.

The use of A self-organized learning strategy and technological pedagogical content knowledge is important in the teaching and learning process in schools because this strategy has a positive influence on increasing student achievement. This is because using digital literacy with the self-organized learning strategy and technological pedagogical content knowledge strategy creates attraction. Specifically in motivating and encouraging students to learn

Conclusion

Based on the results of the study, several conclusions can be made about the Effect of Using Modern Learning Technology with Digital Literacy, Self-Organised Learning, and Self-Efficacy in Remote Schools of the Madura Islands of Indonesia and the Kurdish Region. Firstly, digital literacy has a positive impact on learning outcomes in the Madura Islands region, particularly in the East Talango, Central Talango, and Talango Aeng areas; and secondly, digital literacy has a positive impact on learning outcomes in the Madura Islands region.

The simultaneous positive influence of Technological Pedagogical Content Knowledge on learning outcomes in the Madura Islands region has implications for the importance of using contemporary learning technology with digital literacy, self-organized learning, and self-efficacy in remote schools in the Madura Islands, namely in the East Talango region, Talango Tengah and Talango Aeng to improve Technological Pedagogical Content Knowledge in the Madura archipelago region, namely in the East Talango, Central Talango and Talango Aeng regions even better with the hope that learning outcomes can be further improved.

Of course, this research has several limitations: first, the population and research sample; second, the level of education that the researcher used as a sample secondary education level; and third, the research design. In this regard, further research is recommended to involve larger population data by taking data from other districts in the Madura archipelago, namely in the East Talango, Central Talango, and Talango Aeng regions. In addition, it is necessary to consider the level of education.

Finally, future researchers can develop other research designs such as controlling variables. By implementing these three suggestions, the influence of Technological Pedagogical Content Knowledge in Madura can be seen in a larger population and sample, education level, and other research designs.

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