

EFL Learners' Motivation and Achievement: A Study in the Use of Technology-enabled EIP at Madrasah Tsanawiyah

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Abstract

This study aimed to determine the correlation between interactive multimedia for English for Islamic Purposes (EIP) in Madrasah Tsanawiyah (MTsN) Padang Bolak and students' willingness to learn; and their impact on improving learner motivation and learning achievement. A quantitative approach was used with regression analysis of data to determine the effect of using learning technology (variable X1) and a willingness to learn (variable X2) on learning achievement (variable Y). This study involved 33 students who answered the questionnaire. The results showed that there was a significant influence of the use of technology enabled EIP on learning achievement as well as the students' willingness to learn. In other words, this study concluded that the application of learning technology at MTsN Padang Bolak on students' willingness to learn and student achievement was positive for various reasons, but mainly because students in these times are greatly rooted in technology and their motivation to learn is positively impacted by its integration in the learning process. The implementation of this study is expected to make a new contribution to education at MTsN Padang Bolak.

Keywords: *EIP, Learning achievement, Learning technology, Willingness to learn, Motivation*

Introduction

With English ruling the roost as the preferred international language of communication, many need-based, specialised sub-fields have developed under the blanket of EFL or English

as a Foreign Language. This is logical in a knowledge society that is fast moving towards unification of diversities, and English as a medium is an ideal language for this. EIP is a developing field of English for Specific Purposes and there is no formal corpus consisting of relevant language input. However, its basic premise is to enable readers of the Holy Qur'an across cultures to be able to access usable translated versions of it. This serves a dual function: Strengthening of the learners' language base across Qur'anic Arabic and standard English; two, enabling modern readers of the Qur'an to appreciate it through the prism of a new language and ethos. Educational technology is a medium in learning and is used to facilitate the learning process efficiently and effectively (Sharma, 2018; Bhakta & Dutta, 2016). It facilitates students' understanding of the material presented and increases the development of science and technology (Al-hariri & Al-hattami, 2017). The learning process is the most basic activity in the educational process. The achievement of educational goals depends on how the learning process is designed and whether or not it is conducted professionally. Any learning activity involves teachers and students, while the role of teachers cannot be overstated, the role of technology as a facilitator in the learning process is growing (Sudarsana, et al., 2019). Moreover, it makes is a popular choice as a supplementary support to understand the material presented. With the expanding realm of science and technology which is spilling into practically all fields of knowledge (Martinez, 2018), teachers too, have assumed the function of facilitators, playing an important role in the education process.

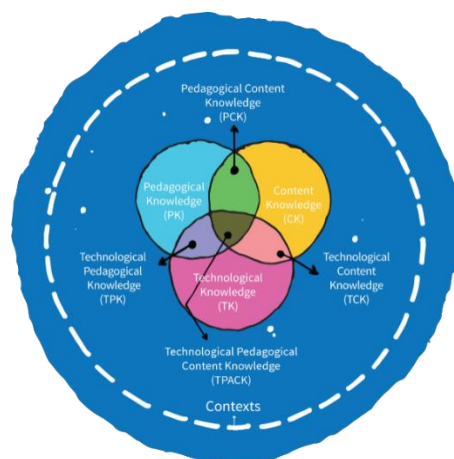


Figure 1: Integration of knowledge technology on pedagogical content (Jamshidifarsani, Garbaya, Lim, Blazevic, & Ritchie, 2019)

As shown in Figure 1, technology and knowledge work together to develop good learning environment in the pedagogical context (Jamshidifarsani et al., 2019). Learning, using technology based on knowledge increases students' willingness to learn. Meanwhile, learning

using technology based on pedagogic knowledge also increases student achievement. Therefore, the use of learning technology contributes more to student willingness to learn as well as learning achievement if it is used optimally and on target. Teachers play a major role in the success of teaching and learning. A wise teacher is aware of the students' weaknesses whether it be related to the lesson at hand or difficulties with curricular materials. At the same time, no teaching situation in today's world has remained untouched by technology given the fact that no other medium engages or relates the learners as technology-based aids. Therefore, teachers at MTsN Padang Bolak use media in education, such as in Fiqh and Alquran Hadith material.

Students often fail to follow the learning process because they easily get bored in learning. A teacher's explanation may sometimes be difficult to understand, or does not focus on the problems presented, and does not use media in the learning process, which then become challenges in teaching-learning. These conditions lead to learners' demotivation, poor or no engagement and difficulty in relating to the teacher or the taught content. Therefore, learning objectives cannot be achieved. Besides, a teacher who does not use media in the learning process is a factor in reducing student presence toward the learning process. On the contrary, a teacher who uses media in the learning process will increase student motivation, thus making it easier to achieve effective teaching goals. We understand the crucial role that motivation plays in learning as a mandatory condition to achieve teaching goals.

The onus to provide a wholesome learning experience to the students lies with the teacher. Whatever the teacher imparts must be based on learner needs and be perceived as such by them. The teacher must not only give the scientific material to students but must also be conscious of the philosophy of the subject taught and the process of education. The presence of these trigger motivation in the process of interaction with students. Learning technology improves the quality of critical thinking (Gökçearsan, Solmaz, & Coşkun, 2019). In addition, EIP education teachers must be able to take advantage of educational technology as a source of learning, giving students new experiences in learning Islamic education through English.

In the present study, we investigate the following problems:

- 1) Is there a significant influence between the use of learning technology and the willingness to learn EIP at MTsN Padang Bolak?
- 2) Is there a significant influence between the use of learning technology and student achievement at MTsN Padang Bolak?
- 3) Is there a significant influence between the use of learning technology and the motivation to learn at MTsN Padang Bolak on learning achievement?

This study aimed to determine the use of learning technology in Madrasah Tsanawiyah (MTsN) Padang Bolak and the willingness to learn in improving student learning, as well as the significant effect of the use of learning technology enabled EIP on learning achievement.

Literature Review

Learning technologies

Technology has made the life of human race comfortable like never before, assisting them in all spheres of life much like a daily need. In fact, technology and the very existence of human race have a deep relationship with each other. Learning is an effort by teachers to students in the application of scientific knowledge about learning and learning conditions (Sudarsana, et al., 2019). It is useful to increase effectiveness and efficiency in teaching and training. Learning technology tools (e.g., laptops, posters, tape recorders, and slides) which can assist in achieving learning goals have become essentials to support the learning process.

Learning technology has a crucial role to play in the design, development, utilization, management, and evaluation of the learning process (Drozdova, 2007; Ritonga et al., 2020; Sadler et al., 2013; Alkamel & Chouthaiwale, 2020). Technology is related to the description of tools (Warner, Bell, & Odom, 2018). Learning technology plays an important role in solving educational and learning problems by (1) combining various approaches such as economics, management, psychology, and engineering; (2) solving learning problems in humans simultaneously, by studying all conditions and their interrelationships; (3) using technology as a process and product to solve learning problems; and (4) realizing the emergence of a multiplicity or synergy effect (Stosic, 2015; Thieman, 2008; Shastri, 2020).

Students' willingness to learn

Willingness is a desire in every human being in the sense of developing all his/her talents and abilities to increase standards, whether in life, education, or occupation. Empirical research mostly conducted in secondary schools shows that willingness to learn helps in predicting task scores (Blazar & Kraft, 2017). Willingness can also be interpreted as desire to achieve something (Oroujlou & Vahedi, 2011), Willingness comes from the impulses that lead to achieving goals (Yasmadri et al., 2020). Therefore, to distinguish one from the other, impulses need to look at the characteristics possessed by the symptoms. Willingness is a conscious internal impulse, based on considerations of thought and feeling, as well as the achievement of specific goals related to the needs of his/her personal life.

Learning achievement

A student's learning achievement is reached after carrying out learning activities. It is an assessment result of the learning activities that reflect the results achieved by each student in a certain period (Vermunt & Donche, 2017; Jamoom & Al-Omrani, 2021). Moreover, it is a student who achieves the goals set in each field of study (Riswanto & Aryani, 2017; Ritonga et al., 2021). In this case, students have the ability in a particular field, and this ability is determined by an evaluation form (Febriana, 2017; Husna et al., 2020). Learning is not an independent activity. The learning teaching process, environmental input, and instrumental are all equal factors in education.

METHODS

Place and time of research

This study was conducted at MTsN Padang Bolak, Gunung Tua, Padang Bolak District, Padang Lawas Utara Regency, from June to August 2018.

Study design

A quantitative research method was used in this study. This method also used the multiple regression model to analyze the relationship between several independent variables (X) and a dependent variable (\hat{Y}). The model for multiple regression analysis was as follows:

$$\hat{Y} = a + b_1X_1 + b_2X_2 + \dots + b_nX_n + \varepsilon \quad (1)$$

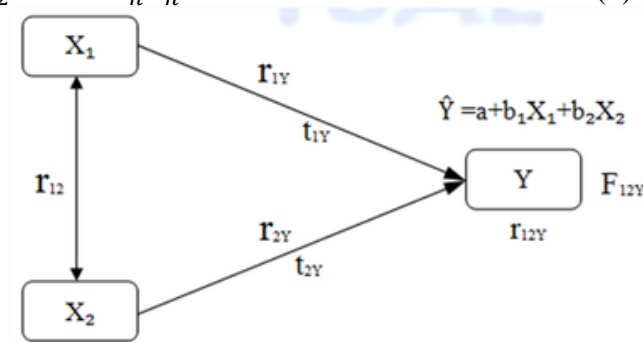


Figure 2
Research variable

Sampling

Proportionate random sampling was used in this study. A total of 226 students were included in this study, coming from classes VII 1, VII 2, VII 3, VIII 1, VIII 2, and VIII 3 at MTsN Padang Bolak.

Data collection and analysis techniques

A questionnaire was used to measure students' willingness to learn. The instrument validity was used to determine data validity. The Pearson product-moment formula was used to measure the correlation value for each test item. A p-value < 0.05 was considered as different significantly. The Pearson product-moment was 0.003. Therefore, the instrument can be used in this research.

Data reliability is also performed to produce a consistent score. A p-value < 0.05 indicated that the instrument was reliable. In the present study, the reliability test was 0.02. Therefore, the instrument was reliable and can be used in this research. The data were analyzed using several techniques, including (a) the data normality test, (b) linearity of data, (c) multicollinearity test of data, (d) correlation test of final data, and (e) multiple correlation test of final data. Table 1 presents the interpretation of achievement level.

Table 1: Interpretation of achievement level

Score	Interpretation
81%–100%	Very good
61%–80%	Good
41%–60%	Moderate
21%–40%	Bad
0%–20%	Very bad

Results

The data description of research was used to understand research results and two research variables, namely, the use of learning technology (variable X1) and students' willingness to learn (X2) and learning achievement (Y) at MTsN Padang Bolak. Table 2 presents a statistical summary of learning technology variables.

Table 2: Statistical summary of learning technology variables

Statistics	Score
Highest score	68
Lowest score	47
Mean	55.91
Median	55.00
Mode	51
Standard deviation	5.589
Range	21
Interval	4

The highest and the lowest scores were 68 and 47, respectively. The median, mode, and mean were 55.00, 51, and 55.91, respectively. The standard deviation was 5.589. The data distribution was conducted by grouping the variable scores, as shown in Table 3.

Table 3: Frequency distribution of variable scores on the use of learning technology

Interval	Frequency	Percentage
47–50	5	15.15%
51–54	10	30.30%
55–58	10	30.30%
59–62	4	12.12%
63–66	1	3.03%
67–70	3	9.1%
I = 4	N = 33	100%

Learning technology (X1 variable) obtained a score between 47 and 50 with 5 students (15.15%), between 51 and 54 with 10 students (30.30%), between 55 and 58 with 10 students (30.30%), between 59 and 62 with 4 students (12.12%), between 63 and 66 with 1 student (3.03%), and between 67 and 70 with 3 students (9.1%). Figure 3 shows the frequency of learning technology at MTsN Padang Bolak.

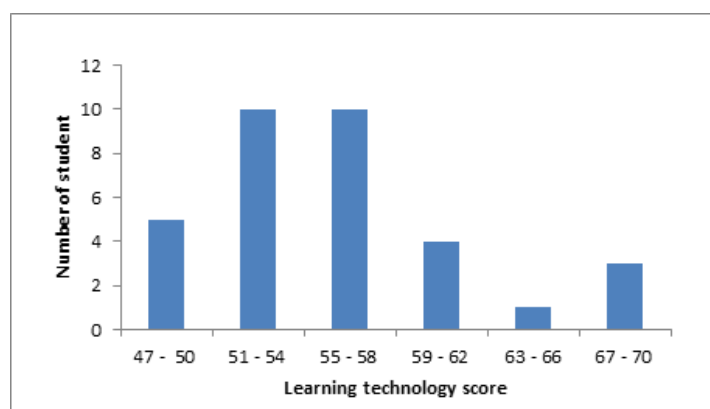


Figure 3: Histogram for the use of learning technology.

The assessment criteria were classified as ‘very good’ for the use of learning technology. It was indicated by 82.2% at MTsN Padang Bolak use learning technology.

Students’ willingness to learn

The score of the student’s willingness to learn was obtained from the respondent’s answers. Thirty-three students were involved in this study. Table 4 presents the statistical summary of students’ willingness to learn.

The highest and lowest scores of students' willingness to learn were 80 and 56, respectively. The median value, mode, mean value, and standard deviation were 63, 63, 64.91, and 6.436, respectively. The data distribution was carried out by the group score of student's willingness to learn at MTsN Padang Bolak by determining the number of classes, as shown in Figure 4.

Table 4: Statistical summary of students' willingness to learn

Statistics	Score
Highest score	80
Lowest score	56
Mean	64.91
Median	63.00
Mode	63
Standard deviation	6.436
Range	24
Interval	4

The students' willingness to learn (X2 variable) was between 56 and 59 as reported by 8 students (24%), between 60 and 63 as reported by 7 students (21%), between 64 and 67 as reported by 9 students (28%), between 68 and 71 as reported by 4 students (12%), between 72 and 75 as reported by 1 student (3%), and between 76 and 80 as reported by 4 students (12%) (Figure 4). Students' willingness to learn at MTsN Padang Bolak was measured through the level of achievement since achievement is a good measure of willingness and readiness of learners. The assessment criteria for student learning willingness were reached at 80.98%, demonstrating that students' willingness to learn at MTsN Padang Bolak can be classified as 'very good'.

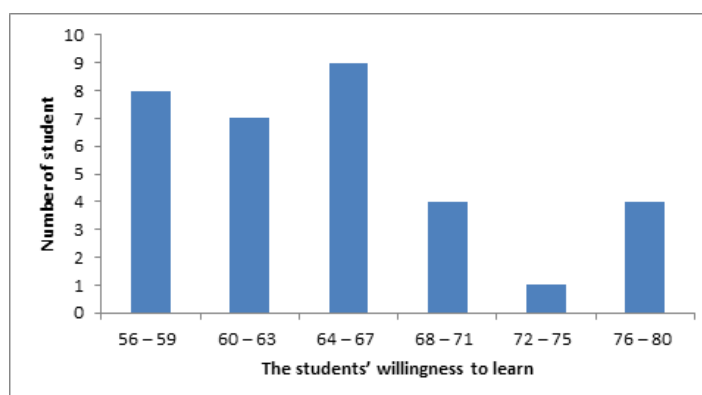


Figure 4: Histogram of student willingness.

Learning achievement

Table 5 presents the score of the student's willingness to learn.

Table 5: Statistical summary of learning achievement variables

Statistics	Score
Highest score	81
Lowest score	58
Mean	66.76
Median	65
Mode	65
Standard deviation	6.052
Range	23
Interval	4

The highest and lowest scores of learning achievement were 81 and 58, respectively. The median value was 65.00, and the mode was 65 by 6 classes with an interval of 4. The data distribution was conducted by the group score of the learning achievement variable at MTsN Padang Bolak by the number of classes, as shown in table 6.

Table 6: Frequency distribution of learning achievement

Interval	Frequency	Percentage
58–61	8	24.24%
62–65	9	27.27%
66–69	8	24.24%
70–73	3	9.09%
74–77	2	6.06%
78–81	3	9.09%
I = 4	N = 33	100%

Learning achievement (Y variable) obtained scores between 58 and 61 with 8 students (24.24%), between 62 and 65 with 9 students (27.27%), between 66 and 69 with 8 students (24.24%), between 70 and 73 with 3 students (9.09%), between 74 and 77 by 2 students (6.06%), and between 78 and 81 with 3 students (9.09%). The assessment criteria for learning achievement were reached at 84.31%, demonstrating that the learning achievement at MTsN Padang Bolak can be classified as 'very good'.

Normality test

The normality test was conducted using the Kolmogorov–Smirnov test and followed by SPSS series 21. A p-value > 0.05 was categorized as normally distributed data, while p-value < 0.05 was categorized as not customarily distributed data.

Table 7: Kolmogorov–Smirnov normality test^a

	Kolmogorov–Smirnov ^a		
	Statistic	df	Sig.
Learning technologies	.122	33	.200*
Willingness to learn	.130	33	.171
Learning achievement	.129	33	.175

The learning technology was significant. It was indicated by a p-value of $0.200 > 0.05$, the willingness to learn of $0.171 > 0.05$, and learning achievement of $0.175 > 0.05$.

Linearity test

The linearity test was conducted after the data was known to be normally distributed. Had the data not been normally distributed, it was not necessary to perform the linearity test. This test was conducted to determine the linear relationship between X₁, X₂, and Y. The linearity test was used as a prerequisite before testing the hypothesis using the product-moment correlation test. Table 8 presents the result of the linearity test.

Table 8: Result of the linearity test

Variable	Significant	Alpha	Description
X ₁ and Y	0.02	0.05	Linear
X ₂ and Y	0.00	0.05	Linear

The significant value for the linearity of the learning technology variable (X₁) with the learning achievement of Islamic religious education (Y) was 0.02. There was a linear relationship between learning technology (X₁) and learning achievement in Islamic religious education (Y). Moreover, the willingness to learn (X₂) and learning achievement (Y) had a linear relationship as well.

Multiple correlation test

Multiple correlation analysis was used to determine the relationship between two or more independent variables and the dependent variable simultaneously. This coefficient shows the relationship between the independent variable and the dependent variable. Table 9 presents the results of multiple correlation test.

Table 9: Results of the multiple correlation test

Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	1171.322	2	585.661	23798.583	.000 ^a
	Residual	.738	30	.025		
	Total	1172.061	32			

a. Predictors: (constant), willingness_study, technology_learning

b. Dependent variable: achievement_learning

The Sig. F value was 0.000 ($p < 0.05$), indicating that the hypothesis was accepted. It revealed that learning technology and motivation variables had a significant effect on the learning achievement of Islamic religious education. Table 10 presents the value of the regression value coefficient.

Table 10: Coefficient table of regression value

Model		Unstandardized coefficients		Standardized coefficients		Sig.
		B	Std. Error	Beta	T	
1	(Constant)	2.532	.359		7.056	.000
	X1	.006	.005	.006	1.256	.02
	X2	.986	.005	.998	211.816	.000

a. Dependent variable: Y

The relationship can be obtained using the formula $Y = Y = a + b_1X_1 + b_2X_2 + b_3X_3 + \dots + b_nX_n$. The value was obtained from the value of SPSS $Y = 2.532 + 0.061X_1 + 0.986X_2$.

Discussion

The use of learning technology enabled EIP at MTsN Padang Bolak has a significant effect on students' willingness to learn. The significance is established by a value smaller than 0.05. The use of technology can improve student achievement as well as the teaching and learning process (Alammary, 2012). Information and communication technology play an important role in the teaching and learning process. The use of EIP with technology integration can increase students' willingness to learn because they have more opportunities to learn more enthusiastically. It is following the increased use of electronics as a teaching method

(Ratheeswari, 2018). Mobile and electronic learning have shifted learning from traditional classrooms to virtual spaces (Basak, Wotto, & Belanger, 2018).

Although mobile devices, computers, and interactive technology are prevalent and easily accessible, teachers still lack necessary skills and knowledge about how to integrate these technologies into the curriculum (Sabzian, Gilakjani, & Sodouri, 2013). Technology tools are used by students to find learning topics, solve problems, and provide solutions to problems in the learning process (Bara & Xhomara, 2020; Ghavifekr & Rosdy, 2015; Ritonga et al. 2016). It makes the acquisition of knowledge more accessible and engages students in the application of technological tools. Technology tools also support the student by providing opportunities of learning independently (Yang & Baldwin, 2020). Learning technology and the willingness to learn can improve student achievement as they increase student motivation to think critically and easily understand through the virtual mode at a place and time of their choice. Therefore, students become more creative to find new learning on the desired material and affect student achievement.

From the results of the current study, it is concluded that the use of learning technology enabled EIP in MTsN Padang Bolak has a significant influence on the willingness to learn students. Based on the data, the analysis shows that the use of technology and EIP in the given environment has a significant influence on the students' willingness to learn in MTsN Padang Bolak. This has been derived from the results of simple regression by using SPSS obtained that the significant value is less than 0.05 where $0.000 < 0.005$. It is adequately apparent that the use of technology can improve student achievement because students are more motivated in engaging in learning because it helps improve the global teaching and learning process, a finding which is in accordance with other notable studies, most conspicuously that conducted by Ratheeswari (2018) which concluded that information and communication technology has an important role to help improve teaching and learning process.

Judging from the results it has been found that the application of technology with EIP can increase the willingness of students to learn, because students have a wider opportunity in expressing their ability as they are comfortable with the use of technology, these findings are in accordance with the results of Serdyukov (2017) who found that technological advances have resulted in improving students' ability to maximize the use of technology as a media in learning (Serdyukov, 2017). In addition, Susanti et al (2020) concluded that learning media such as power point presentations, in addition to providing encouragement and motivation to students, also make it easier for teachers to provide immediate feedback using learning technology. Somewhat before this study, Ritonga et al (2016) have also hinted that teachers

foster innovative attitudes, especially in using technology-based media because students in the digital era are more interested in learning using this media.

The current study has also revealed that the use of effective learning technology has a central role in improving learning outcomes, the same findings were also presented by Lillejord et al. (2018) with the conclusion that educational technology has a great impact on maximizing learning outcomes. The difference observed between the two studies is that whereas the latter did an analysis on higher education, the results of this study were at the level of Madrasah Tsanawiyah which is equivalent of junior high school. This difference in education level can be used as justification for differences in findings. The results of Garcia-Martinez's et al.'s (2019) study also supported the findings of this study, in which in the conclusion arrived at was that learning with everything related to technology, such as methods, materials, strategies can bring about a change in the learning outcomes.

In accordance with the findings of the study and its relevance to the conclusions of the researchers, it can be said that the willingness of learners in following religious learning in MTs Negeri can be improved by utilizing learning technology. In line with that, learning outcomes can also be improved by using learning technology, this statement is based on the results of research that show the effectiveness of learning media on increasing the willingness of learners and also learning achievements.

Conclusion

The potential of educational technology is immense, but there may be some pitfalls on the way. The quality of instruction is paramount and institutions must be wary of allowing educational standards to fall. Teachers must be made efficient in the use of technology-specific to their curriculum. The application of learning technology in EIP education at MTsN Padang Bolak on students' willingness to learn and student achievement has proven to be positive. In addition to heightened engagement, it ensures that students focus on modules that they have not read earlier, thus saving learning time. Effective ethnological content is also highly interactive, utilizing the power of technology to process student responses, providing specific feedback, and modifying instructional paths based on student performance. While developing high-quality courses may be expensive for the institution, the rewards in terms of promotion of Islamic thought will actually outweigh the costs involved. The results of this study are expected to make a novel contribution to education, EIP, and technology integrated learning at MTsN Padang Bolak.

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References

- Alammary, J. (2012). Educational Technology: A way to enhance student achievement at the University of Bahrain. *Procedia -Social and Behavioral Sciences*, (55), 248–257.
<https://doi.org/10.1016/j.sbspro.2012.09.501>
- Al-hariri, M. T., & Al-hattami, A. A. (2017). Impact of students' use of technology on their learning achievements in physiology courses at the University of Dammam. *Journal of Taibah University Medical Sciences*, 12(1), 82–85.
<https://doi.org/10.1016/j.jtumed.2016.07.004>
- Alkamel, M., & Chouthaiwale, S. S. . (2020). ICT Availability and Uses among Yemeni University EFL Students. *TESOL and Technology Studies*, 1(1), 1–9.
<https://doi.org/10.48185/tts.v1i1.63>
- Basak, S. K., Wotto, M., & Belanger, P. (2018). E-learning, M-learning and D-learning: Conceptual definition and comparative analysis. *E-Learning and Digital Media*, 15(4), 191–216. <https://doi.org/10.1177/2042753018785180>
- Bhakta, K., & Dutta, N. (2016). Impact of Information Technology on Teaching-Learning Process. *International Research Journal of Interdisciplinary & Multidisciplinary Studies (IRJIMS)*, 7969(131), 131–138.
- Blazar, D., & Kraft, M. A. (2017). Teacher and Teaching Effects on Students' Attitudes and Behaviors. *Educ Eval Policy Anal*, 39(1), 146–170.
<https://doi.org/10.3102/0162373716670260>
- Drozdova, M. (2007). Learning technology. *Journal of Information, Control and Management Systems*, 5(1), 19–24.
- Febriana, B. W. (2017). Analysis of student's achievement motivation in learning chemistry. *International Journal of Science and Applied Science*, 1(2), 117–123.
<https://doi.org/10.20961/ijsascs.v1i2.5132>
- Gökçearsan, Ş., Solmaz, E., & Coşkun, B. K. (2019). Critical Thinking and Digital Technologies: An Outcome Evaluation. In *Handbook of Research on Individualism and Identity in the Globalized Digital Age* (pp. 141–167).
<https://doi.org/10.4018/978-1-5225-8060-7.ch066>
- Husna, S. A., Ritonga, M., Lahmi, A., Saputra, R., & Ayu, S. (2020). The Teachers

- Unpreparedness in Carrying Out Islamic Education Learning using the Revised 2013 Curriculum in Elementary School. *European Journal of Molecular & Clinical Medicine*, 7(2), 1520–1528.
- Jamoom, O., & Al-Omrani, M. (2021). EFL University Teachers' Engagement in Research: Reasons and Obstacles. *International Journal of Linguistics and Translation Studies*, 2(1), 135-146. <https://doi.org/10.36892/ijlts.v2i1.121>
- Jamshidifarsani, H., Garbaya, S., Lim, T., Blazevic, P., & Ritchie, J. M. (2019). Technology-based reading intervention programs for elementary grades: An analytical review. *Computers & Education*, 128(October 2017), 427–451. <https://doi.org/10.1016/j.compedu.2018.10.003>
- Martinez, W. (2018). How science and technology developments impact employment and education. *PNAS Latest Articles*, 115(50), 12624–12629. <https://doi.org/10.1073/pnas.1803216115>
- Oroujlou, N., & Vahedi, M. (2011). Motivation, attitude, and language learning. *Procedia - Social and Behavioral Sciences*, 29, 994–1000. <https://doi.org/10.1016/j.sbspro.2011.11.333>
- Ratheeswari, K. (2018). Information Communication Technology in Education. *Journal of Applied and Advanced Research*, 3(Suppl.1), 45–47.
- Riswanto, A., & Aryani, S. (2017). Learning motivation and student achievement: description analysis and relationships both. *COUNSE-EDU The International Journal of Counseling and Education*, 2(1), 42–47. <https://doi.org/10.23916/002017026010>
- Ritonga, M., Nazir, A., & Wahyuni, S. (2020). *Pengembangan Model Pembelajaran Bahasa Arab Berbasis Teknologi Informasi & Komunikasi dalam dialektika Revolusi Industri 4.0 [Development of Arabic language learning Model based on information Technology & Communication in dialectic Industrial Revolution]* (Januari; Bambang, I. Naska, & F. Alrasi, eds.). Yogyakarta: Deepublish.
- Ritonga, M., Widodo, H., Munirah, & Nurdianto, T. (2021). Arabic language learning reconstruction as a response to strengthen Al-Islam studies at higher education. *International Journal of Evaluation and Research in Education (IJERE)*, 10(1), 355–363. <https://doi.org/10.11591/ijere.v10i1.20747>
- Sabzian, F., Gilakjani, A. P., & Sodouri, S. (2013). Use of Technology in Classroom for Professional Development. *Journal of Language Teaching and Research*, 4(4), 684–692. <https://doi.org/10.4304/jltr.4.4.684-692>
- Sadler, P. M., Sonnert, G., Coyle, H. P., Cook-Smith, N., & Miller, J. L. (2013). The

- Influence of Teachers' Knowledge on Student Learning in Middle School Physical Science Classrooms. *American Educational Research Journal*, 50(5), 1020–1049. <https://doi.org/10.3102/0002831213477680>
- Serdyukov, P. (2017). Innovation in education: what works, what doesn't, and what to do about it? *Journal of Research in Innovative Teaching & Learning*, 10(1), 4–33. <https://doi.org/10.1108/JRIT-10-2016-0007>
- Shatri, Z. G. (2020). Advantages and Disadvantages of Using Information Technology in Learning Process of Students. *Journal of TURKISH SCIENCE EDUCATION*, 17(3), 420–428. <https://doi.org/10.36681/tused.2020.36>
- Stosic, L. (2015). The Importance of Educational Technology in Teaching. *International Journal of Cognitive Research in Science, Engineering and Education*, 3(1), 111–114. <https://doi.org/10.23947/2334-8496-2015-3-1-111-114>
- Sudarsana, I. K., Nakayanti, A. R., Sapta, A., Haimah, Satria, E., Saddhono, K., ... Mursalin, M. (2019). Technology Application in Education and Learning Process. *Journal of Physics: Conference Series*, 1363(1–6). <https://doi.org/10.1088/1742-6596/1363/1/012061>
- Thieman, G. Y. (2008). Using technology as a tool for Learning and Developing 21st Century Citizenship Skills : An Examination of the NETS and Technology Use by Preservice Teachers With Their K-12 Students. *Contemporary Issues in Technology and Teacher Education*, 8(4), 342–366.
- Vermunt, J. D., & Donche, V. (2017). A Learning Patterns Perspective on Student Learning in Higher Education: State of the Art and Moving Forward. *Educ Psychol Rev*, 29, 269–299. <https://doi.org/10.1007/s10648-017-9414-6>
- Warner, C. K., Bell, C. V, & Odom, A. L. (2018). Defining Technology for Learning: Cognitive and Physical Tools of Inquiry. *Middle Grades Review*, 4(1), 1–9.
- Yang, D., & Baldwin, S. J. (2020). Using Technology to Support Student Learning in an Integrated STEM Learning Environment. *International Journal of Technology in Education and Science (IJTES)*, 4(1), 1–11.
- Yasmadri, D., Ritonga, M., Lahmi, A., Bambang, Sartika, F., Desminar, & Sakban. (2020). Mental Health and Its Impact on Behavior: an Islamic Perspective. *European Journal of Molecular & Clinical Medicine*, 7(11), 241–246.