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# English Teacher Competencies in Technology-Assisted Learning and Its Correlation with Learning Motivation of Senior High School Students in Buleleng Regency

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## ABSTRACT

This study aimed to investigate the correlation between English language teachers' competence in technology-assisted teaching and the English learning motivation of senior high school students in Buleleng Regency, Indonesia. The English teachers' competence, especially in conducting technology-assisted teaching and learning activity is a crucial aspect for ensuring a successful English language instruction. The present study analyzed the level of the English teachers' competence in technology-assisted teaching from the students' perspectives. This study also explored whether or not the students would be motivated by technology-assisted learning. The data were collected through surveys, interviews, and observations. The findings revealed that both teachers's competence and the students' motivation were categorized as high. This study also confirmed a positive correlation between teacher competence in technology-assisted teaching and student motivation. However, this correlation was at a moderate level suggesting that other factors might influence the students' motivation. The results emphasize the importance of teachers enhancing their technology-assisted teaching skills to improve students' motivation to learn English.

**Keywords**: *Teacher competencies, technology-assisted learning, learning motivation*

## A. Introduction

The learning process cannot be separated from the role of a teacher. A teacher serves as one of the intermediaries for students to acquire knowledge. Teachers play a crucial role responsible for the effectiveness and success of the teaching and learning process (Rahim, Suherman, & Murtiani, 2019). Recognizing the importance of a teacher's role in the learning process, the competence of a teacher in carrying out their tasks in teaching and educating students becomes a matter of shared concern (Djumanova, 2020; Ratminingsih et al., 2021; Rosadi et al., 2022). This is because the competence and professionalism of teachers are related to the success of educational

activities that have implications for determining the success of the next generation, especially in mastering English as their competence (Dewi et al., 2023; Paragae, 2023).

English teachers are required to have four main competencies; pedagogical, professional, individual, and social (Yaccob, 2022). Among the competencies, pedagogical and professional competencies are the two fundamental aspects that need to be maximally prepared (Sanabria, 2017). According to the Regulation of the Minister of National Education Number 16 of 2007 on Academic Qualifications and Competence Standards for Teachers, it is stated that teachers must be able to utilize information and communication technology for learning. In line with it, the Government Regulation of the Republic of Indonesia Number 74 of 2008 concerning teachers, states that the pedagogic professional competence that must be possessed by an educator in the teaching process is the ability to use and utilize technology-based learning. In addition, the development of technology should also influence the enhancement of technology used in education.

Even though the use of technology was required, Fadli, Suharno, & Musadad (2017) reported that only 10% to 15% of teachers in Indonesia can make use of technology in the teaching and learning process. The percentage shows that the ability of teachers to utilize technology is far from expectations.

The role of technology in the educational process is considered highly beneficial, both from the perspective of students and teachers (Latorre-Cosculluela, 2021; Sugiharni, 2018 Syam et al., 2023). Therefore, at present, teachers are required to be able to provide technology-based learning in their teaching activities, especially in the case of English language learning(Alakrash, 2021). Technology, as a gateway to the modernization and advancement of a nation, encourages students to enhance their science process skills (Permanasari, 2016) and has proven to be able to make instruction more efficient (Hosnan, 2014).

The report on the positive impact of the use of technology in instruction was not in line with the result of observations and interviews conducted with senior high school students in Buleleng Regency. It was found that even though English teachers made some efforts to provide distance learning processes using various technological innovations over the past two years, the students reported negatively on its use. They

LUNAR (Language and Art)
ISSN: 2541-6804
Vol. 7 No. 2 November 2023

stated that the English learning conducted through technology-based methods was unsatisfactory for them; they preferred conventional face-to-face learning in the classroom and learning activities with minimal involvement of digital technologies. Some students also stated that working on assignments and learning from various digital technologies made them feel bored and quickly lose interest in the English learning process. Students admitted that they preferred learning directly with their classmates or with their teachers rather than using their smartphones or computers.

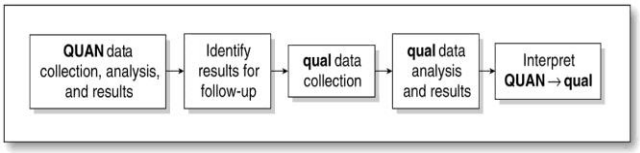
This phenomenon is certainly an interesting issue that needs to be addressed collaboratively. Based on government regulations and expert opinions, the use of technology in the learning process is believed to have a positive impact on the learning process and outcomes. However, in reality, after conducting initial observations on some senior high school students in Bulelelng Regency, it appears that the presence and use of technology in English language learning do not meet expectations. Students do not find technology-based learning engaging and it causes boredom in their learning. Therefore, this issue needs to be explored more deeply to serve as an evaluation of the English language learning process in senior high schools.

This study analyzed teachers' capability to use technology in their English instructions at the senior high school level. Moreover, this study also analyzed whether it has any influence on students' motivation.

**B. Research Method**

This research was conducted in a mixed-method study. A non-experimental method was carried out by utilizing an explanatory-sequential approach and the follow-up explanation research design (Edmonds & Kennedy, 2017), as explained in Figure 1.

Fig 1. Mixed method research model (Edmonds & Kennedy, 2017)



LUNAR (Language and Art)
ISSN: 2541-6804
Vol. 7 No. 2 November 2023

The population of the study was Senior High Schools in Buleleng Regency, Bali, Indonesia, which is 14.317 students, spread over 9 districts. From the population, the number of samples was decided by the Taro Yamane formula (Adam, 2020) as follows.

$$n = \frac{N}{N.d^2+1}$$

$n$ : number of samples
$N$ : Number of population
$d^2$ : degree of error of sampling technique accepted (0,05)

Based on the formula, the accepted sample is 389 students. Then proportionate stratified random sampling was used to create more accurate sampling with an even distribution of samples in each population stratum. The sample taken from each stratum was decided by using the formula of Proportionate Stratified Random Sample as follows (Akdon & Riduwan, 2009).

$n_i = \frac{N_i}{N}$ x n

$ni$ : sample for each stratum
$Ni$ : population for each stratum
n : total number of sample
N : total number of population

Based on the formula, the number of samples for each district was decided, so it can make 389 samples in total.

To get data about teachers' competence in conducting English instruction with technology, the technology acceptance model (TAM) and the Technological Pedagogical Content Knowledge (TPACK) model were used. In TAM, several indicators were used to collect data, namely (1) perceived ease of use, (2) perceived usefulness, (3) attitude toward using, (4) behavioral intention to use, and (5) actual usage system. For the TPACK model, the indicators were (1) content knowledge, (2) pedagogy knowledge, (3) technology knowledge, (4) pedagogy content knowledge, technology content knowledge, and (5) technology pedagogy content knowledge.

To get the data about students' motivation, a questionnaire based on indicators proposed by Uno (2008), namely: (1) the desire to succeed; (2) the encouragement and need for learning; (3) the hopes and aspirations for the future; (4) the appreciation for learning; (5) the interesting activities in learning; (6) the existence of a conducive

LUNAR (Language and Art)
ISSN: 2541-6804
Vol. 7 No. 2 November 2023

learning environment.

The instruments were checked for their validity and reliability before they were used to collect the data. For their validity, Gregory interrater agreement and Pearson product-moment were used, while for reliability formula of Cronbach Alpha was used. The data collected was analyzed by using descriptive statistic analysis, classic assumption of a test, and hypothesis testing by using a t-test in SPSS.

## C. Research Finding and Discussion

Based on the analysis results conducted on 389 senior high school students samples distributed in senior high schools in Buleleng Regency, it was found that the distribution of research samples based on gender is presented in Table 1. Based on the data, it can be seen that out of the 389 randomly selected senior high school students, the majority of the samples were females, totaling 215 individuals (55.3%), while the remaining were males, totaling 174 individuals (44.7%).

Table 1. The Result of Prefix Test

**Respondent Gender**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Male | 174 | 44.7 | 44.7 | 44.7 |
| | Female | 215 | 55.3 | 55.3 | 100.0 |
| | Total | 389 | 100.0 | 100.0 | |

### Level of Competence of English Teachers in Teaching English with Technology Assistance

The data about the level of teachers' competence in teaching English with technology as shown in Table 2 was analyzed based on the criteria shown in Table 3.

Table 2. Result of Descriptive Statistical Analysis of Teacher Competence

**Statistics**

Teachers' TPACK

| | | |
|---|---|---|
| N | Valid | 389 |
| | Missing | 0 |
| Mean | | 95.3162 |
| Median | | 96.0000 |
| Mode | | 96.00 |
| Std. Deviation | | 11.40538 |
| Variance | | 130.083 |

LUNAR (Language and Art)
ISSN: 2541-6804
Vol. 7 No. 2 November 2023

| | |
|---|---|
| Skewness | -1.123 |
| Std. Error of Skewness | .124 |
| Kurtosis | 4.751 |
| Std. Error of Kurtosis | .247 |
| Range | 88.00 |
| Minimum | 32.00 |
| Maximum | 120.00 |
| Sum | 37078.00 |

Table 3. Basic Interpretation of Teacher Competence Variable Values

| Value/Scale | Interpretation |
|---|---|
| 1 – 24 | Very Low |
| 25 – 48 | Low |
| 49 – 72 | Intermediate |
| 73 – 96 | High |
| 97 – 120 | Very High |

It can be seen from Table 2 that the average or mean value of the variable "competence of English teachers in teaching English with technology assistance" was 95, with a median value of 96, and the mode was 96. It indicates that the competence of English teachers in teaching English with technology assistance, as perceived by senior high school students in Buleleng Regency, was in the high category.

This is reinforced by the frequency of responses given by the students in the variable "level of teacher competence. The students' perceptions showed that teachers with very low teaching competence were 0%, teachers with low teaching competence were 0.5%, teachers with moderate teaching competence were 5.4%, teachers with high teaching competence were 47.7%, and teachers with very high teaching competence were 46.8%.

**Level of Student Motivation in Learning English**

The data about students' motivation in learning English as shown in Table 4 was analyzed by using the category presented in Table 5.

LUNAR (Language and Art)
ISSN: 2541-6804
Vol. 7 No. 2 November 2023

Table 4. Result of Descriptive Statistical Analysis of Student Learning Motivation

**Statistics**
Students' Motivation

| | | |
|---|---|---|
| N | Valid | 389 |
| | Missing | 0 |
| Mean | | 46.8201 |
| Median | | 47.0000 |
| Mode | | 48.00 |
| Std. Deviation | | 6.10210 |
| Variance | | 37.236 |
| Skewness | | -.122 |
| Std. Error of Skewness | | .124 |
| Kurtosis | | .333 |
| Std. Error of Kurtosis | | .247 |
| Range | | 33.00 |
| Minimum | | 27.00 |
| Maximum | | 60.00 |
| Sum | | 18213.00 |

Table 5. Basic Interpretation of Student's Motivation Values

| Value/Scale | Interpretation |
|---|---|
| 1 – 12 | Very Low |
| 13 – 24 | Low |
| 25 – 36 | Intermediate |
| 37 – 48 | High |
| 49 – 60 | Very High |

Based on the results of the statistical tests conducted, it was found that the level of motivation of senior high school students in Buleleng Regency in learning English was in the high category. As seen in Table 4, the mean value of the student motivation variable in learning English was 46.8, with a median value of 47, and the mode was 48. The interpretation of data in Table 5 indicates that the motivation level of senior high school students in Buleleng Regency for learning English was in the high category.

This is further supported by the frequency of responses provided by the students regarding their motivation. The table indicates that students perceive their motivation as follows: 0% of students have very low motivation, 0% have low motivation, 7% have

LUNAR (Language and Art)
ISSN: 2541-6804
Vol. 7 No. 2 November 2023

moderate motivation, 65.1% have high motivation, and 32.6% have very high motivation.

Furthermore, when examined based on the gender category of senior high school students in Buleleng Regency who were the research sample, the comparison of motivation levels between male and female students in learning English can be made.

Table 6. Comparison of Male and Female Student Motivation

**Statistics**

| | | Students' Motivation (Male) | Students' Motivation (Female) |
|---|---|---|---|
| N | Valid | 174 | 215 |
| | Missing | 215 | 174 |
| Mean | | 46.1494 | 47.3628 |
| Median | | 48.0000 | 47.0000 |
| Mode | | 48.00 | 47.00 |
| Std. Deviation | | 7.15805 | 5.04267 |
| Variance | | 51.238 | 25.429 |
| Range | | 33.00 | 24.00 |
| Minimum | | 27.00 | 36.00 |
| Maximum | | 60.00 | 60.00 |

As shown in Table 6, indicates that their average motivation levels were nearly equal. The motivation level for male students in learning English was 46.14, while for female students, it was 47.36.

**The Relationship between the Level of Competence of English Language Teachers Teaching Technology-Assisted Language and Student Learning Motivation.**

The hypothesis testing method used to address the research problem in this study was correlation testing. However, before that, a normality test needs to be conducted to determine whether the data distribution is normal or not. This testing is intended to determine which statistical method will be used to test the research hypotheses. The normality test used in this test is the Kolmogorov-Smirnov method using SPSS application. Based on the results of the normality test for the workload variable with work motivation, the output obtained is presented in Table 7.

LUNAR (Language and Art)
ISSN: 2541-6804
Vol. 7 No. 2 November 2023

Table 7. Tests of Normality

**Tests of Normality**

| | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|
| | Statistic | Df | Sig. | Statistic | df | Sig. |
| Teachers' TPACK | .162 | 389 | .000 | .908 | 389 | .000 |
| Students' Motivation | .097 | 389 | .000 | .978 | 389 | .000 |

a. Lilliefors Significance Correction

Based on the normality test, the Sig. value in the Kolmogorov-Smirnov test indicated a coefficient smaller than 0.05. Therefore, it can be concluded that the data distribution did not meet the criteria for a normal distribution. Therefore, the statistical test used to test the research hypotheses was the non-parametric correlation test, namely Spearman's rho correlation test.

After normality testing, the research proceeds with hypothesis testing. The hypotheses tested in this research are (1) Ho: The level of competence of English teachers in conducting technology-based language learning is not significantly related to students' motivation in the process of learning English in senior high schools in Buleleng Regency and (2) Ha: The level of competence of English teachers in conducting technology-based language learning is significantly related to students' motivation in the process of learning English in senior high schools in Buleleng Regency.

The correlation test used in hypothesis testing was conducted using Spearman's rho correlation test calculated using the SPSS application. The results of this analysis can be seen in Table 8.

Table 8. Results of Korelasi Spearman's Rho Test

**Correlations**

| | | | Teachers' TPACK | Students' Motivation |
|---|---|---|---|---|
| Spearman's rho | Teachers' TPACK | Correlation Coefficient | 1.000 | .452** |
| | | Sig. (2-tailed) | . | .000 |

LUNAR (Language and Art)
ISSN: 2541-6804
Vol. 7 No. 2 November 2023

| | | | |
|---|---|---|---|
| | N | 389 | 389 |
| Students' Motivation | Correlation Coefficient | .452** | 1.000 |
| | Sig. (2-tailed) | .000 | . |
| | N | 389 | 389 |

**. Correlation is significant at the 0.01 level (2-tailed).

To provide an interpretation of the strength of the relationship, guidelines following the table presented by Sugiyono (2006) can be used as a guideline.

Table 9. Level of Correlation Strength

| Koefisien Interval | Level of Relationship |
|---|---|
| 0,00 | No Correlation |
| 0,01 - 0,20 | Very Low Correlation |
| 0,21 - 0,40 | Low Correlation |
| 0,41 - 0,60 | Intermediate Correlation |
| 0,61 - 0,80 | High Correlation |
| 0,81 - 0,99 | Very High Correlation |
| 1,00 | Absolute Correlation |

Based on the analysis results, it was found that there was a correlation or relationship between the level of competence of English teachers in teaching language with the assistance of technology and the level of motivation of senior high school students in Buleleng Regency in learning English. However, according to Table 9, the correlation test results showed that the correlation coefficient between the two variables under study indicated a moderate level of correlation. This was evident from the correlation test results in Table 8, which show a correlation coefficient of 0.45. In terms of the relationship strength in Table 9, a coefficient of 0.45 falls into the moderate category. Based on this, it can be concluded that the strength of the relationship between the variables of English teacher competence was moderate. The direction of the relationship between these two variables indicated a positive correlation, which means that an increase in teacher competence in teaching will be followed by an increase in student learning motivation, and vice versa.

The significance value of the tested variable relationship indicates that the significant value (2-tailed) is 0.00. Significance represents the level of confidence in the

LUNAR (Language and Art)
ISSN: 2541-6804
Vol. 7 No. 2 November 2023

research results we conducted (Jaya & Ahmad, 2021). The level of confidence in the research results of the relationship between variables is considered significant if the Sig. (2-tailed) value is less than 0.05. Therefore, based on the results of the statistical analysis, it was found that the value of Sig. (2-tailed) is 0.00, which means it is smaller than 0.05. Thus, the analysis concludes that the relationship between English teacher competency in teaching technology-assisted language and the motivation of senior high school students in Buleleng Regency has a moderate level of association with a significant level of research confidence. Based on this analysis, in this hypothesis test, the null hypothesis is rejected, and the alternative hypothesis is accepted. So it can be concluded that the level of English teacher competency in delivering technology-based language instruction is significantly related to student learning motivation in the process of learning English in senior high schools in Buleleng Regency.

Furthermore, a determination coefficient test was conducted to determine the percentage of the contribution of the relationship between the variables under study. Based on Table 4.12, it is shown that the coefficient of determination (R) between the two variables under study is 0.452. Therefore, it can be concluded that the contribution of the English teacher's competence variable in teaching language with the assistance of technology to the motivation of senior high school students in Buelelng District is 45.2%, and the remaining 54.8% of the contribution is explained by other variables not investigated in this study.

Table 10. Determination Coefficient Test

**Model Summary[b]**

| Model | R | R Square |
|---|---|---|
| 1 | .452[a] | .204 |

a. Predictors: (Constant), Teachers' TPACK
b. Dependent Variable: Students' Motivation

## Discussion

The results of the analysis conducted on senior high school students in Buleleng Regency revealed a positive correlation at a moderate level between the level of competence of English teachers in using technology-assisted teaching methods and the level of motivation among students to learn English. This implies that as the competence of teachers in using technology as an aid in the English language learning

process increases, students' motivation to learn also tends to increase. However, it is essential to understand that the improvement of teacher competence in using technology in the learning process does not automatically guarantee an increase in students' motivation to learn English. This is reflected in the moderate strength of the relationship between these two variables. Thus, in this context, other factors still need to be considered, which may have a closer correlation with the process of enhancing students' motivation to learn English.

The rapid development of technology has had a significant impact on the world of education. The integration of technology into every aspect of society necessitates that educators adapt to these technological advancements in their teaching techniques, particularly in the context of English language instruction. An analysis of the variables concerning teachers' competency in technology-assisted learning, conducted with 389 senior high school students sampled from nine districts in Buleleng Regency, reveals that, based on students' perceptions, the teachers' abilities and competencies in teaching are considered satisfactory. A majority of the students believe that their teachers demonstrate optimal skills in teaching English using technology. This is in line with the high motivation of students to learn English.

In-depth interviews with students indicated that the use of technology in the English language learning process made the students more interested in classroom activities. What particularly captivated students was when teachers employed various media and technologies that made learning more engaging and less monotonous. Using tools such as YouTube, Quizizz, Google Classroom, Zoom, and TikTok for learning English created enthusiasm among teenage students. They found that learning with such technological aids kept them awake and attentive during lessons.

Students commonly express that traditional English language classes at school can be difficult and often lead to boredom and drowsiness. However, when teachers change the learning approach by incorporating frequent video viewing and internet-based learning, students become more motivated to learn. In this context, it is evident that the presence of technology and teachers' proficiency in using technology for instruction are well-received by students and serve as a motivator for their desire to learn.

The phenomenon of the acceptance of technology in the learning process can be explained based on the Technology Acceptance Model (TAM). This model or theory is constructed to analyze and understand the factors influencing the acceptance of technology, explaining, and predicting user acceptance of a technology (Jogianto, 2009). The TAM model focuses on the acceptance of a technology by looking at various aspects of the technology that will ultimately affect user attitudes and behaviors toward that technology. TAM consists of 5 main constructs, namely: (1) perceived ease of use, (2) perceived usefulness, (3) attitude toward using technology, (4) behavioral intention to use, and (5) actual technology use.

Perceived ease of use is defined as the extent to which someone believes that using technology will be free from hard work and more effective. In this context, students express that it is easier for them to learn English when teachers assist them in utilizing available technology. For example, when it comes to listening exercises, students feel more motivated to practice their English listening skills when the teacher guides the learning process using the YouTube application on their respective smartphones.

**D. Conclusion**

The research titled "Analysis of English Language Teacher Competence in Technology-Assisted Learning and Its Relationship with the Motivation of Senior High School English Language Students in Buleleng Regency" can provide three conclusions. Firstly, the level of competence of English language teachers in teaching English with technology assistance in senior high schools in Buleleng Regency was categorized as high. Secondly, the level of motivation of senior high school students in Buleleng Regency to learn English was categorized as high. Finally, the competence of English language teachers in teaching language with technology assistance and the motivation of senior high school English language students in Buleleng Regency had a positively correlated relationship with a moderate level of confidence in the significant research results.

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