Teacher Performance Evaluation through Knowledge Sharing and Technology during the COVID 19 Pandemic

I Made Suparsa
Department of Technology and Vocational, Faculty of Teacher Training and Education, University of Nusa Cendana, Indonesia.
E-mail: madeparsa@staf.undana.ac.id

Made Setini*
Department of Management, Faculty of Economics and Business, Bali Indonesia.
E-mail: made.setini@student.unud.ac.id

Daru Asih
Faculty of Economic and Business, Mercu Buana University, Jakarta, Indonesia.
E-mail: daru.asih@mercubuana.ac.id

Ni Luh Wayan Sayang Telagawathi
Faculty of Economics, University Pendidikan Ganesha, Singaraja, Bali, Indonesia.
E-mail: gemilangsuryawan@gmail.com

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Abstract

One of the worlds of education is an independent and intelligent student program. This study aims to determine the role of KBV theory and training through work skills and technology in evaluating teacher teaching performance in Kupang and Bali, Indonesia. This research method is quantitative; with SEM analysis, the sample used was 450 high school teachers, the sample was taken deliberately. Sharing knowledge that is done by the teacher motivates to improve work ability. Technology during the COVID-19 pandemic played a very big role in improving teacher teaching performance with the support of training because this gave teaching abilities for every teacher in Kupang and Bali, Indonesia. The ability to distinguish between knowledge and training in the absorption of technology to create quality and sustainable education. This study only uses two provinces in Indonesia as an analytical study with implementation only in the world of education. Knowledge, ability, and training are forms of understanding that require stimulation, while technology is a means of infrastructure during the Covid-19 pandemic. The results of this study contribute to the world of education, especially at the high school level because there is no concept of quality continuing education.
Keywords

Technology, Quality Sustainable Education, Knowledge Sharing, Training, Workability.

Introduction

The education sector around the world must have implemented quality continuing education by 2021. In Indonesia, the Ministry of Education of the Republic of Indonesia stated that the Ministry of Education will evaluate the teaching performance of teachers but this is still not ideal at all and is a problem in the ongoing world of education. The concept of quality continuing education has standards used for the education department, especially in Indonesia, teachers not only face demands for efficiency and quality in accreditation but also excellent service that provides satisfaction in various aspects of the efforts made to make it happen (Budiyanto et al., 2020). The existence of education with the concept of quality continuing education is one of the choices of education majors that have a vision of progressing into superior education with superior performance for teachers, including in terms of educational materials (Stracke, 2020; Luyben et al., 2017). The ability to share knowledge starts from the process of assessing the level of professionalism, teaching materials, and infrastructure (McCowan, 2018). Delivering material will create a more comfortable learning atmosphere; the teaching performance achieved, resulting in teaching performance in a sustainable manner which means producing quality students (Ismail Raisal, et.al., 2020).

Realizing teacher performance is supported by the KBV theory which provides an increase in the ability of each individual or team in educational organizations to be more structured in managing teaching abilities (Shafait et al., 2021). The abilities obtained from knowledge and training make the teaching system more structured, organized so that the final evaluation of learning can be achieved and teacher performance is achieved (Mora et al., 2020). The teacher's knowledge of the material to be given to students is an important element to answer all questions and problems posed by students; another thing that becomes a problem is the knowledge that teachers have cannot solve technical problems in the school where they work. Low training has an impact on the weak ability of teachers in teaching (Hartinah et al., 2020). In general, training aims to improve skills in improving teaching performance (Al-Omari et al., 2020). The Covid-19 pandemic, maintaining distance has made technology one of the driving factors in the delivery of knowledge (Colombo et al., 2021). Knowledge of the material, how to teach is important because it becomes the main support base in producing high achieving students and creating excellent schools (Su & Li, 2020), (Desfiandi, A., et.al., 2019). Training must be carried out continuously so that one's knowledge will continue to increase and of course the errors
that arise can be reduced (Mason, 2020). In the school work environment, the way of teaching and delivering material that is not good gives bad results for schools and does not produce productive graduates (Agbo et al., 2021). The right training material with a sufficient level of time will provide a better transfer of knowledge for students (Su & Li, 2020).

The ability of a teacher to teach creates comfort for students, because the way the material is presented is easily accepted by students and has an impact on improving school performance. Sometimes knowledge and training do not always produce good performance for teachers, because they are not supported by other factors (Backfisch et al., 2021). Work ability can have a positive influence on teacher performance (Rohma et al., 2020). The ability to work in absorbing training materials will be more appropriate in the implementation process (Pak et al., 2021). The workability variable is expected to mediate well from the knowledge training provided. The work ability of teachers in Indonesia only focuses on teacher qualifications, but in reality not all of the knowledge and education possessed by educators can meet the quality standards of teaching at the upper education level, as well as training that has not been maximized so that it has a negative impact on the performance of teacher. This study seeks to evaluate teaching and how much influence knowledge and training has on teacher performance.

**Literature Review**

**Knowledge Sharing on Workability and Technology**

Sharing knowledge is a way to obtain resources that can be done directly or indirectly (Lei e al., 2020). The main and fundamental job is to build a strong semantic knowledge base, experience in teaching can be shared with others so that it can provide knowledge benefits and improve the performance of the education sector (Li & Huo, 2021). Workability is an output from the results of training carried out because it affects a person in carrying out various kinds of work activities, this is in line with what Vroom stated (Nguyen et al., 2020). The ability to work to lead the process influences individual choices for the types of activities they desire. Previous research results that support this research include Basińska-Zych and Springer (2021) which concluded that there is positive and significant knowledge on workability. Knowledge is the main need for someone who wants to improve his ability to complete tasks and work well (Pursio et al., 2021). Technology can be a supporting factor in the delivery of knowledge (Mänttäri et al., 2021). Technology is a means of honing one's abilities both through formal education and through informal activities which in nature will cause changes in one's mindset.
towards a certain object (Al-Kurdi et al., 2018). Based on studies and empirical theory, the research hypothesis is:

H₁: Knowledge sharing positive effect on Quality Sustainable
H₂: Knowledge sharing positive effect on Workability
H₃: Knowledge sharing positive effect on Technology

Technology on Performance

The choice of technology in education will open the possibility for its birth of various alternative forms of new institutions that provide learning facilities and create a quality learning environment (Kumar & Mahendraprabu, 2021). Technology is the main need for someone who wants to improve his abilities in the digital era (Kawiana et al., 2020). Through technological advances, all the abilities a person has certainly have a goal to be achieved but to achieve it is not easy because there must be a push from within him to achieve that goal (Backfisch et al., 2021). From previous research the hypothesis is as follows:

H₄: Technology positive effect on Teaching Performance

Training and Teaching Performance

This training activity is a form and process of training someone to get a new placement with the basic skills they need (). This is as stated by (Hanaysha, 2016) that training is the process of training new employees or employees who will get new placements with the basic skills needed to carry out work. As stated by Silic and Lowry (2020), training is a learning process that involves the acquisition of skills, concepts, rules, or attitudes to improve employee performance. This is in line with what Vroom stated in Nguyen et al. (2020) that the ability to lead the process influences individual choices for the various types of activities they want. Thus, the training that a person follows in improving ability at work will certainly strengthen to do work more effectively and efficiently. The results of previous studies that support this research include (Kimseng et al., 2020) which concluded that there is positive and significant training on workability. Based on empirical studies and theories, the research hypotheses are:

H₅: positive effect on Teaching Performance

Training on Knowledge Sharing and Technology

The training that a person follows in improving ability at work will certainly strengthen to do work more effectively and efficiently (Zhao et al. 2014). Knowledge, training, and ability refer to encouragement and efforts to meet and satisfy a need or to achieve a goal.
Workability is the output from the results of the training carried out because it affects person in carrying out various kinds of work activities (Mänttäri et al., 2021). The ability to work is a form of strong encouragement to be able and able to complete a job effectively and efficiently. Knowledge obtained directly or indirectly will provide success in performance supported by technology (Igbal, 2021). Previous research results that support technology have a positive influence on knowledge (Aryanti & Adhariani, 2020). The training process has a positive influence in technology and also has a positive effect on supporting self-creation (Engelmann et al., 2021). From previous research the hypothesis is as follows:

H₆: Training positive effect on Workability  
H₇: Training positive effect on Technology  
H₈: Workability positive effect on Teaching Performance

The relationship between variables, both directly and indirectly, can be illustrated in the conceptual framework in Fig 1, as the hypothesis has been built in the literature review.

![Research Framework](image)

**Fig. 1 Research Framework**

**Method**

This research was conducted in all secondary schools located in Kupang and Bali, Indonesia, from. The number of samples is 450 informants and the teachers must teach more than six months, and then it can be adjusted to the question scale with 1-5 according to the variables used. Data analysis with SEM-PLS using the Smartpls application. To
measure the performance variable (Laurie et al., 2016); Technology (Ho, 2004). Knowledge (Ganguly et al., 2019); Training (Khan et al., 2017).

Result

The majority of teachers are men with the percentage being 60%, while the productive age in creating teaching performance is between the ages of 31 to 40 with 55% of 200 informants. The majority of teachers have an undergraduate education level of 50% with a total of 40 out of 200 respondents, and the majority of teachers in Kupang and Bali, Indonesia, have a work period of less than 5 years with a total of 55% and most of them are married as much as 83%.

According to Ghozali (2016), an indicator is said to be valid if the factor loading coefficient is above 0.60 and significant Alpha 0.05 or has a t-statistic value greater than 1.96. The factor loading of all indicators is above 0.60 and all show a significant level of significance (PV = 0.000). The Composite Reliability value presented in Table 1 shows that the six constructs have Composite Reliability above 0.6.

This means that the predetermined indicators can measure each construct well or it can be said that the six measurement models are reliable. The better the Convergent Validity value is indicated by the higher the correlation between the indicators that make up a construct. In this study, the AVE value of each construct was above 0.5 (Chin, 2010). Therefore, there was no convergent validity problem in the model tested.

Structural Model Test (Inner Model Evaluation)

R-Square (R2)

R-Square (R2) shows the strengths and weaknesses caused by the variation of exogenous variables to endogenous variables. The value of R-Square (R2) is the coefficient of determination in the endogenous construct. According to Sarstedt and Cheah (2019) the R-Square (R2) values are 0.67 (strong), 0.33 (moderate) and 0.19 (weak). Table 1 shows that the endogenous variable Teaching Performance (Z) has R-Square R2 at the strong level (0.420), while the Technology variable (Y2) has a strong R-Square level (0.732) and workability (Y1) has R-Square (R2) is at a strong level, namely (0.483). Thus it can be said that the model formed by the five variables is quite strong. The R-Square value (R2) of each endogenous variable is presented in Table 2 below:
Table 1 Value coefficients of R-Square

<table>
<thead>
<tr>
<th></th>
<th>R Square Adjusted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching performance</td>
<td>0.410</td>
</tr>
<tr>
<td>Technology</td>
<td>0.714</td>
</tr>
<tr>
<td>Workability</td>
<td>0.427</td>
</tr>
</tbody>
</table>

Source: Authors' processed data

Q-Square (Predictive Relevance)

Q2 measures how good the observed value is generated by the estimation model and its parameters. Q2 Value > 0 shows that the model has a good predictive relevance. Otherwise, if Q2 Value < 0 shows that the model has poor predictive relevance. Value of Q2 can be calculated as follows:

\[
\text{Q2} = 1 - (1 - R^2_1) (1 - R^2_2)
\]

\[
\text{Q2} = 1 - (1 - 0.410) (1 - 0.714) (1 - 0.427)
\]

\[
\text{Q2} = 1 - (0.58) (0.268) (0.517)
\]

\[
\text{Q2} = 1 - 0.919
\]

The Q-square calculation yields a value of 0.919 or 91.9%, which means that the model has a very good observation value. This means that 91.9%, the relationship between variables can be explained by the model. Based on the Table 1 results of the Inner Model assessment above where R2 is at a moderate and strong level and Q2 is at a very good level.

GoF (Goodness of Fit) Test

GoF index, used in evaluating structural models and overall measurements which can be calculated by the root of the average AVE multiplied by the average R2.

Average R2 = 0.420 + 0.732 + 0.483/3 = 0.455
Average AVE = (0.587) + (0.684) + (0.723) + (0.674) + (0.802)/5 = 0.694
Root of average AVE = \(\sqrt{0.694} = 0.833\)
Root of average AVE x average R2 = 0.833 x 0.455
GoF = 0.379. (Large)

The GoF test criteria are 0.1 (GoF small), 0.25 (moderate GoF), and 0.36 (GoF large), (D'Agostino, 2017). So thus the overall evaluation of the research model can be declared good, and then it can be continued with hypothesis testing analysis.
Estimate for Path Coefficients

The results of the statistical test of the relationship between variables (Estimate for Path Coefficients) are the significance of the path coefficient value which shows the strong influence of exogenous constructs on endogenous constructs carried out by the Bootstrapping procedure in the Partial Least Square (PLS) application program. The bootstrapping process can produce an image of the research model. The results of testing the significance of the path coefficient of the research model using Smart-PLS 3 are recapitulated.

Discussion

Table 2 Path Coefficients

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>T-Statistic</th>
<th>P-Values</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1: Knowledge Sharing → Teaching Performance</td>
<td>0.190</td>
<td>0.894</td>
<td>Not Significant</td>
</tr>
<tr>
<td>H2: Knowledge Sharing → Technology</td>
<td>0.616</td>
<td>0.538</td>
<td>Not Significant</td>
</tr>
<tr>
<td>H3: Knowledge Sharing → Workability</td>
<td>2.536</td>
<td>0.012</td>
<td>Significant</td>
</tr>
<tr>
<td>H4: Technology → Teaching Performance</td>
<td>2.009</td>
<td>0.045</td>
<td>Significant</td>
</tr>
<tr>
<td>H5: Training → Teaching Performance</td>
<td>1.448</td>
<td>0.148</td>
<td>Not Significant</td>
</tr>
<tr>
<td>H6: Training → Technology</td>
<td>7.772</td>
<td>0.000</td>
<td>Significant</td>
</tr>
<tr>
<td>H7: Training → Workability</td>
<td>3.442</td>
<td>0.001</td>
<td>Significant</td>
</tr>
<tr>
<td>H8: Workability → Teaching Performance</td>
<td>0.559</td>
<td>0.576</td>
<td>Not Significant</td>
</tr>
</tbody>
</table>

Source: Results of the analysis

Table 2 shows that of the 8 causal relationships between exogenous variables and endogenous variables, there are four insignificant relationships (hypothesis rejected) at α 0.05 with a statistical value <1.96. On the other hand, there are four causal relationships between exogenous variables and significant endogenous variables (hypothesis is accepted) at α 0.05 with a statistical value > 1.96.

Conclusion

This means that teachers in Kupang and Bali are always required to share knowledge between teachers. Increasing the ability to work (teaching) becomes much more effective by sharing knowledge. This is in line with research (Jekauc et al., 2021; Nguyen et al., 2020; Li & Huo, 2021; Basińska-Zych and Springer, 2021; Pursio et al., 2021).
Technology plays an important role in improving the teaching performance because it is not an obstacle in improving quality performance strategies for pursuers but instead becomes a more efficient and effective means of creating time-flexible learning. This means that technology has been felt by eastern Indonesia, namely Kupan, because technology is able to provide good evaluations in producing teaching performance, this is in line with research conducted by (Kawiana et al., 2020; Kumar & Mahendraprabu, 2021). Either by conducting training or by exchanging information, technology becomes a bridge in sharing knowledge. Training or training that is conducted between teachers in Kupang or Bali provides an increase in teaching performance of the education sector. During the Covid 19 pandemic like today, technology has become a mediator in sharing knowledge and training in the education sector in Kupang and Bali. This research is supported by findings from (Zhao et al. 2014; Amrutha & Geetha, 2021).

References


