



# Prospective Teachers Teaching Abilities at Vocational Schools

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## ABSTRACT

Vocational education in the modern era is still the center of education in creating a professional workforce and professional teachers. Technological advances demand graduates who are adaptive and able to explore themselves creatively, innovatively and independently. Vocational education is always ready for these challenges, but the quality of Indonesian vocational teachers is a question because currently the highest unemployment rate is filled by vocational education graduates such as diploma III and vocational high school (SMK). This research was conducted on prospective vocational teacher students who carried out teaching practices at vocational schools. They were given a treatment of the project-based learning model, then they were assessed during teaching exercises at school. This research was conducted at two vocational schools in Sumatra Barat, SMK N 1 Batipuh and SMK N 1 Bukittinggi. The results showed that of the five indicators assessed, vocational teacher candidates had weaknesses in designing learning objectives and implementing learning strategies, but were good at making teaching materials, learning media, and conducting learning evaluations. The results of this study contribute to educational evaluation materials, and further research materials to determine new policies to improve the quality of vocational education. This result is very useful for higher education institutions.

**Keywords:** *Teaching Practice, Learning Model, Vocational, Education.*

## 1. INTRODUCTION

The challenges and threats of the 21st century are the talk of the world [1], especially in terms of improving the quality of life and sustainability of life [2]. Education has a central role for all aspects in responding to these challenges [3]. Therefore research on education is always developed because it is dynamic [4] and in accordance with human development [5]. In 2019 there was a major change in human life habits [6], namely the presence of covid 19 which caused a significant change in the form of activity in humans [7]. Education, which has a central role, is also feeling the impact of Covid-19, namely the emergence of new habits such as learning to use technology more than face-to-face learning in class [8], which of course makes this a challenge for a teacher [9].

Professional teachers must carry out their duties and functions in accordance with the demands of the

curriculum [10]. Vocational teachers have a more difficult task because they have to adjust the implementation of theoretical and practicum learning in the midst of technological advances [11], especially with the demands of implementing learning models [12] such as project-based learning and teaching factories [13]. In further research studies it was found that vocational teachers were formed through a long process and experience [10], one of which was through the education program to form prospective vocational teachers [12].

In addition, improving the quality of prospective vocational teachers is also in line with teaching skills in the Teaching Skills That Matter aspect (TSTM) [14].

In figure 1, there are several abilities that will become the standard for future professional teachers, including; adaptability and willingness to learn, communication, critical thinking, interpersonal skills,

navigating systems, problem-solving, processing and analyzing information, respecting differences and diversity, and self-awareness [15].



Figure 1. Teaching Skills That Matter [14]

Therefore it is necessary to do research on the condition of prospective vocational teachers in preparing them to practice teaching to become vocational teachers [16]. The main objective is to obtain competency standard data for prospective vocational teachers so that they can be used as a benchmark for the development of vocational research to form new policies, particularly in improving the quality of Indonesian vocational teachers. This research is also related to the Vocational School revitalization program in Indonesia, and the current development of world vocational education.

## 2. RESEARCH METHOD

### 2.1. Types of research

This research is an experimental research, which is suitable for use in educational research [17]. In this study, prospective vocational teachers were given treatment (in this case based on five indicators). This research uses a qualitative and quantitative approach, in order to obtain more complete data [18].

### 2.2. Population and Sampel

17 undergraduate students in the vocational education program who carry out teaching practices at SMK N 1 Bukittinggi and SMK N 1 Batipuh. The sample selection is based on a limited number of population, so the number of samples is as much as the number of population [19]. 17 students spread across 2 Vocational Schools where they do teaching practice, 8 students at SMK N 1 Batipuh and 9 students at SMK N 1 Bukittinggi.

### 2.3. Instrument

Lesson plan assessment sheet, is a sheet assessing the task of making a lesson plan. Second, teaching practice assessment sheets in class, assessing student performance in class, especially assessing learning objectives, teaching materials, learning strategy, learning media, and evaluation

### 2.4. Data analysis technique

Research data analysis technique using anova analysis.

### 2.5. Hypothesis

The research hypothesis is that the two schools do not have significant differences in the readiness of prospective vocational teachers (H0).

## 3. RESULT

### 3.1. Result

Based on data collection, the following results were obtained (Table 1):

Table 1. Research descriptive data.

Indicator		N	Mean
Learning Objectives	X1	8	6.1
	X2	9	7
	Total	17	6.5
Teaching Materials	X1	8	7.5
	X2	9	7.5
	Total	17	7.5
Learning Strategies	X1	8	6.1
	X2	9	6.8
	Total	17	6.5
Learning Media	X1	8	6.9
	X2	9	7.3
	Total	17	7.1
Evaluation	X1	8	7.1
	X2	9	7.5
	Total	17	7.3

X1= SMK N 1 Batipuh,  
X2= SMK N 1 Bukittinggi

Based on these results, it can be described in Figure 1.

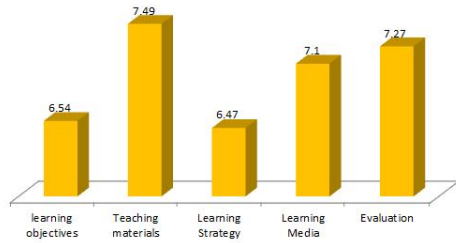


Figure 2. average data per indicator

In Figure 2, the highest average is obtained by the Teaching material indicator of 7.49%. Followed by an evaluation indicator of 7.27% and a learning media indicator of 7.10%. The lowest indicator is owned by learning strategy (4.47) and the second lowest is the indicator of learning objectives (6.54%). Next, it can be seen from the average comparison of the two schools assessed, namely SMK N 1 Batipuh (X1) and SMK N 1 Bukittinggi (X2) in Figure 3.

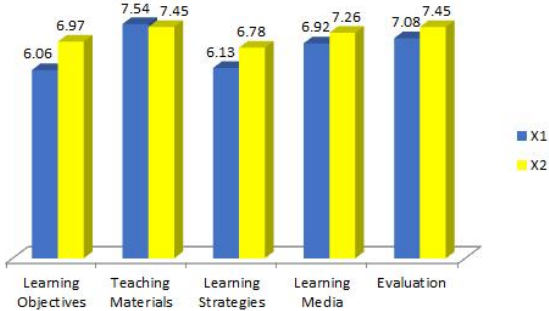


Figure 3. Average comparison by school

In Figure 3, information is obtained that there are four indicators whose highest scores are owned by X2, namely indicators of objective learning, learning strategies, learning media, and evaluation. However, there is one indicator that has the highest score, which is the teaching materials indicator. Therefore, an Anova test was carried out to see the significance of the difference between the two data.

Table 2. Anova test results and Test of Homogeneity of Variances.

Indicator	F	Sig.	Levene Statistic	Sig.
Learning Objectives	1.59	0.23	6.15	0.03
Teaching Materials	0.07	0.80	4.18	0.06
Learning Strategies	2.95	0.11	3.08	0.10
Learning Media	1.02	0.33	0.88	0.36
Evaluation	0.35	0.56	0.20	0.66

Based on the results of the homogeneity test, it was found that there was 1 indicator below 0.05, namely the

learning objectives indicator, which means that the data is not homogeneous, but this does not apply because the number of samples is close together. Therefore, the Anova test can be used. Next in table 2, the results of the Anova test show that all indicators have a significance value above 0.05 or H0 is accepted, meaning that the two schools have an average that is not significantly different.

### 3.2. Discussions

The importance of preparing vocational graduates who are able to adapt to technological developments must be supported by the quality of professional teachers [20]. Vocational teachers are one of the frontline agents of change in this regard [21]. Preparing great vocational teachers is a strategic move to get a good workforce [22]. Through this research an attempt was made to reveal the condition of the readiness of prospective professional vocational teachers (vocational teacher students) through five teaching indicators for prospective vocational teachers which were compiled based on teacher competency regulations [23]. On a descriptive average, the first indicator of learning objectives, vocational teacher candidates are still weak in planning learning objectives. This applies to both schools X1 and X2, in this case X2 has the highest average. But this average difference is not significant. This means that both schools have the same average. This result is in line with previous research which states that vocational teachers are still weak in designing learning objectives [4].

The second indicator is teaching materials, both schools have a high average score on this indicator. Descriptive differences are also not significant. This means that students have good abilities on teaching materials indicators. This result is in line with previous research which stated that vocational teachers still need to be improved [24]. Learning strategies indicators, the two have differences in terms of learning strategies seen from the descriptive average. However, after the Anova test, the difference was not significant. This result is in line with previous research which stated that vocational teachers still need to be developed and improved [4]. Learning media indicators, the two schools have differences in this indicator seen from the descriptive average, but these differences are not significant based on the Anova test. This result is in line with previous research which stated that vocational teachers have started to export themselves to a variety of learning media [24]. Evaluation indicators, the two schools have differences in evaluation indicators seen from the descriptive average, but these differences are not significant based on the Anova test. This result is in line

with previous research which stated that vocational teachers have started well [25], but need to be improved [24]. The results of this research, there was no significant difference between the two training places for teaching prospective teachers. The results are more likely to be the same for each indicator assessed, or have almost the same abilities.

In general, based on the results of the five indicators research, it was found that this research is relevant to previous research in 2020 and 2021 on prospective professional teachers [10], where professional vocational teachers really master teaching materials, learning media, and carry out learning evaluations. but very weak in preparing learning objectives and implementing learning strategies. In addition, these results are also relevant to research which states that vocational teacher competence is still good in terms of making lesson plans, making teaching materials, as well as assessment and evaluation [24]. These findings contribute to the education sector to conduct evaluations, as well as contribute to the development of research in the vocational education sector to improve quality and focus on learning objectives and learning strategies. The results of this study also serve as a reference for increasing the focus of lecturers in higher education to develop curricula and learning methods.

#### 4. CONCLUSION

Based on the results of the research and discussion associated with previous research, it can be concluded that prospective vocational teachers have started to have readiness in preparing themselves as vocational teachers. Indicators of learning objectives and learning strategies still need to be improved as a learning focus. Indicators of teaching materials have begun to be mastered by prospective teachers, as well as indicators of learning media and evaluation. There is no significant difference in abilities between prospective teachers, in fact they tend to have almost the same abilities. However, in general, these results still need to be improved. These results can be used as an evaluation of learning in the vocational field to improve its quality. as well as contributing as a basis for further research that indicators of learning objectives and learning strategies are still weak, as well as developing other indicators.

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