

## THE VOCATIONAL HIGH SCHOOL TEACHERS' AWARENESS LEVEL AND IMPLEMENTATION OF THE STUDENTS' LEARNING STYLE ASSESSMENT

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### ABSTRACT

As a reflection of teachers' awareness of the students' learning styles, teachers are required to have a good understanding of how the learning materials will be delivered to them through the teaching method and media, which are appropriate for their preferences. However, the uniqueness of learners' learning styles has not become an important consideration for most of teachers. This study was aimed at finding out, to what extent vocational high school teachers were aware of the students' learning styles. The data were collected through a survey and analyzed with the descriptive quantitative analysis. The results revealed that most of the respondents with the percentage of 65.7% (n=67) do not know the term of learning styles. Most of the respondents with the percentage of 77.6% do not assess the students' learning styles. Although most of the respondents do not assess the students' learning styles, the aspects of assessing the learning styles, using the instructional media appropriate with the students' learning styles, and care about the students' preferences in learning were categorized as good with the percentages of 43.3%, 71.6%, and 56.7% respectively. The overall of the vocational high school teachers' awareness level of the students' learning styles is categorized as good with the percentage of 76.1%.

**Keywords:** awareness, students' learning style, teachers

### INTRODUCTION

Individuals have their own way of learning called learning styles. Learning styles refer to the ways people behave and feel while they learn. It is mentioned that a learning style is an innate pattern of an individual or habits of obtaining and processing information in the learning situation. The core concept of learning styles is that every individual has various ways of learning (James & Gardner, 1995). A learning style is defined as a particular way in which an individual learns, a mode of learning – an individual's preferred or best manner(s) in which to think, process information and demonstrate learning (Pritchard, 2009).

Many learners cannot identify what learning styles they employ and which learning styles they prefer during the teaching and learning process, whether in the forms of video, audio, writing, or physical movements. According to Kolb & Goldman (1973), everyone can uniquely develop learning styles, which have strengths and weaknesses.

Similarly, the understanding of styles and preferences will grow sometimes depending from the learners' self-reflection on their learning, and at some other time will be increased by combining their good and bad experiences in learning (Kolb & Goldman, 1973). Teachers can help them by observing and advising them as well as challenging them to think about what they like and dislike in learning (Smith & Dalton, 2005).

On the teachers' side, the uniqueness of learners' learning styles has not become an important consideration for most of them. The way in which they teach in the class indicates this. What teachers commonly do when starting to teach at the beginning of the semester are having an introduction, telling what the materials are to learn, and then they teach. The uniqueness of the learners' learning styles serve only as knowledge for them, and there is no consciousness about that implemented in the teaching strategies. Only a few teachers start to teach by exploring the information of the students' learning styles.

Awareness is defined as the state or condition of being aware, having knowledge, consciousness. In other words, it means knowing that something exists, or having knowledge or experience of a particular thing (Dictionary.com). Dourish & Bly (1992) say that awareness involves knowing who is around, what activities are occurring, who is talking with whom. It provides a view of one another in the daily work environments (Dourish & Bly, 1992). Teachers' awareness of students' learning styles refers to the awareness of what activities teachers do before teaching related to their students' preferences in the learning process. Slamet (2014) and Sulistiyarini & Sukardi (2016) suggest that learning styles has a positive correlation with the learning intensity and learning outcomes.

Learning styles as individual characteristics can only be identified through an assessment of the learning behaviors. As a reflection of teachers' awareness of the students' learning styles, teachers are required to have a good understanding of how the learning materials will be delivered to them through the teaching method and media, which are appropriate for their preferences. To identify the learners' preferences in the teaching process, teachers can simply observe the learners' behaviors at the beginning of the teaching process. Unfortunately, such an observation will not bring accurate results. That is why the understanding of the concept of learning styles becomes important when teachers want the observation on the students' learning styles to be more detailed, effective, and efficient. In this way, teachers are able to use the available instruments of learning style assessment in the teaching and learning process. After finding out the learners' preferences, teachers must have the awareness to use the appropriate teaching media so that the teaching and learning process achieves the objectives as the students' learning styles in the teaching and learning process will influence the use of media by teachers because students learn more effectively when content drives the choice of

modality (Holden et al., 2010). Geiser et al. (2000) reveals that the students who applied learning-style-responsive strategies had significantly higher in their subject matter achievement and attitude scores than the students who applied traditional study strategies (William, et al., 2000).

Thus, teachers' awareness of the students' learning styles can be characterized by the use of teaching media. The use of various teaching media will accommodate the students' various learning styles. The use of only one type of teaching media, for example, using only text-based media (boards, textbooks), or only audio-based media (teaching audio) can cause those who prefer other learning styles to be bored during the teaching and learning process.

Learning style is defined as a particular way in which an individual learns, a mode of learning – an individual's preferred or best manner(s) in which to think, process information and demonstrate learning (Pritchard, 2009), the ways people behave and feel while they learn (Rothwell & Kazanas., 1992), every individual has various ways of learning (James & Gardner, 1995). DePorter & Hernacki (2002) say that a learning style is a combination of absorbing, organizing, and processing information (DePorter & Hernacki, 2002).

There are three learning styles based on the modality employed by an individual in processing the information (perceptual modality). Learning modalities consist of visual, auditory, and kinesthetic (V-A-K). This approach is commonly called sensory preference approach. According to this approach, visual learners learn through what they see, auditory learners learn through what they hear, and kinesthetic learners learn through movement and touch. Although each learner learns through the three of the modalities, according to DePorter et al. (1999) in a certain stage most people show a tendency to one of them (DePorter, et al., 1999).

To identify the learners' learning style, a learning style instrument is required. The

application of one or more learning style instruments will provide them with extra information that teachers can use in designing the lessons (Hawk & Shah, 2007). Learning style assessments are important tools to learn how individuals take in information (receptive sense) and how information is processed and displayed (expressive sense). Self-knowledge allows an individual to understand and access his/her strongest style for effective and efficient learning (Trio Dissemination Partnership, Southeastern Louisiana University, 2006).

Models of assessing learning styles have been developed and today there are more than 70 schemes of learning style (Coffield et al., 2004). One of them is Learning Style Inventory (LSI) by Kolb (1973) using the learning style instrument to classify someone's learning style. The instrument classifies learners into four types, namely converger, diverger, assimilator, dan accommodator (Kolb & Goldman, 1973).

In addition to Learning Style Inventory (LSI), another learning style often used is the one proposed by DePorter et al. (1999), stating that to identify the learners' learning style we need to look at the learning modality which refers to which sense is the most effective in someone's learning process to understand learning materials (DePorter, et al., 1999). Coffield (2004) states that the most influential models and instruments of learning styles are as follows (Coffield et al., 2004). (1) Allinson and Hayes' Cognitive Styles Index (CSI), (2) Apter's Motivational Style Profile (MSP), (3) Dunn and Dunn model and instruments of learning styles, (4) Entwistle's Approaches and Study Skills Inventory for Students (ASSIST), (5) Gregorc's Mind Styles Model and Style Delineator (GSD), (6) Herrmann's Brain Dominance Instrument (HBDI), (7) Honey and Mumford's Learning Styles, (8) Questionnaire (LSQ), (9) Jackson's Learning Styles Profiler (LSP), (10) Kolb's Learning Style Inventory (LSI), (11) Myers-Briggs Type Indicator (MBTI), (12) Riding's Cognitive Styles Analysis (CSA), (13) Sternberg's Thinking

Styles Inventory (TSI), (14) Vermunt's Inventory of Learning Styles (ILS).

One kind of strategies for good teaching of all styles of learning is assessing students' learning styles must be carried out before teaching (Vincent & Ross, 2001). So, it is necessary for teachers to identify the learners' learning styles when starting a teaching and learning process because by doing so they can determine an appropriate method, process, and media. In the conclusion of their study, Felder & Spurlin (2005) mention that the index of learning styles has two principal applications. The first is to provide guidance to instructors on the diversity of learning styles within their classes and to help them design instruction that addresses the learning needs of all of their students and the second is to give the individual students insights into their possible learning strengths and weakness (Felder & Spurlin, 2005).

## **METHOD**

The study on the awareness of learning styles was aimed at examining the vocational high school teachers' awareness level and implementation of assessment on the students' learning styles. The study on the vocational high school teachers' awareness of assessing students' learning styles was conducted by employing a survey technique carried out by distributing questionnaires to the teachers of the Electronics, Electrical, and Computer Departments of vocational high schools. The sample was taken from the population of vocational high school teachers by using a purposive sampling technique.

The survey was aimed at revealing the awareness and implementation of the use of learning style assessment in general in the vocational high school teachers. The data were collected to answer some of the research questions about to what extent vocational high school teachers use the learning style instrument in their teaching process, how much

the learning style instrument has been used by them, and whether they are aware of students' learning styles. The data were collected through an instrument in the form of questionnaires with open and closed questions, and in the form of a Likert scale.

The construct validity of the instrument was tested by correlating the item score with the total score. The reliability test was carried out to find out the consistency of the research instruments as measurement tools so they could be used repetitively. The test employed Alpha Cronbach value.

The obtained data were then given a normality test using Kolmogorov-Smirnov/ Shapiro-Wilk to see whether the data were distributed normally or not. The results of the data normality test were used to determine the analysis method used in the next stage. If the normality test shows that data are normally distributed, then the interpretation of the result employed the normal distribution by categorizing the data based on the mean score ( $\mu$ ), deviation standard ( $\sigma$ ) and score ( $X$ ) obtained by the respondents.

Table 1. Categorization of the Result of the Study Employed the Normal Distribution

Criteria	Category
$X \geq (\mu + 1.\sigma)$	Very Good
$(\mu + 1.\sigma) > X \geq \mu$	Good
$\mu > X \geq (\mu - 1.\sigma)$	Fair
$X < (\mu - 1.\sigma)$	Poor

If the result of the data normality test is not normally distributed ( $\rho$  (sig.) is less than 0.05) so the analysis technique used to analyze them was non parametric statistics, where the data were analyzed by describing and categorizing them based on the data quartile. Data quartile divides the data range into four equal parts so the obtained interquartile range. From the data quartile obtained (Q1, Q2 and Q3) the interpretation of the measurement result is carried out by grouping the data based on the criteria presented in Table 2.

Table 2. Categorization of the Result of the Study Employed Quartile Data

Criteria	Category
$X \geq Q3$	Very Good
$Q3 > X \geq Q2$	Good
$Q2 > X \geq Q1$	Fair
$X < Q1$	Poor

## RESULTS AND DISCUSSION

The number of respondents in the survey is 67, and the whole data from them could be processed (Valid=100%). It is shown in the missing value is 0%. All respondents are teachers of Electronics, Electrical, and Computer Departments of vocational high schools. Table 3 below shows the frequency distribution of the respondents based on departments and working areas.

Table 3. Profile of Respondents Based on Departments and Working Areas

			Departement			Total
			Electronic	Electrical	Comp	
Province	Yogyakarta	Count	20	13	14	47
		%	29.9%	19.4%	20.9%	70.1%
	Central Java	Count	11	2	5	18
		%	16.4%	3.0%	7.5%	26.9%
	Others	Count	0	0	2	2
		%	.0%	.0%	3.0%	3.0%
Total	Count Total	31	15	21	67	
	% of Total	46.3%	22.4%	31.3%	100.0%	

Table 3 shows the frequency distribution of where the respondents come from. The respondents who come from the Electronics Department, the Electrical Department, and the Computer Department are 31 or 46.3%, 15 or 22.4%, and 21 or 31.3% respectively. The respondents with the working areas in Yogyakarta, Central Java and other provinces are 47 or 70.1%, 18 or 26.9%, and 2 or 3% respectively

As mentioned in the introduction, this study is aimed at examining the level of the

vocational high school teachers' awareness of the students' learning styles, where the parameter of the awareness level in general is knowing that something exists, or having knowledge or experience of a particular thing. So, to assess the awareness level, to what extent a teacher knows and implements what he knows needs to be tested. All respondents' awareness level of learning styles obtained in the survey is shown in Table 4.

Table 4. Frequency Distribution of Knowing the Term of Learning Styles

		Department			Total	
			Electronic	Electrical	Comp.	
Knowing The Term of Learning Style	No Answer	Count	0	0	1	1
		%	.0%	.0%	1.5%	1.5%
	Yes	Count	8	7	7	22
		%	11.9%	10.4%	10.4%	32.8%
Total	No	Count	23	8	13	44
		%	34.3%	11.9%	19.4%	65.7%
		Count	31	15	21	67
		% o	46.3%	22.4%	31.3%	100.0%

Table 4 shows the percentage of respondents who know the term of learning styles is 32.8% (11.9%, 10.4% and 10.4% are from the Electronic Department, the Electrical Department and the Computer Department respectively) and those who do not know the term of learning styles is 65.7% (34.3%, 11.9%

and 19.4% are from the Electronic Department, the Electrical Department and the Computer Department respectively). It can be concluded that the number of respondents who do not know the term of learning styles is bigger than those who know it ("not knowing the term" > "knowing the term", 65.7% > 32.8%).

Table 5. Frequency Distribution of Teachers Using Learning Style Instruments

		Department			Total	
			Electronics	Electrical	Comp	
Using The Learning Style Instrument	No Answer	Count	3	6	5	14
		%	4.5%	9.0%	7.5%	20.9%
	Yes	Count	28	9	15	52
		%	41.8%	13.4%	22.4%	77.6%
Total	No	Count	0	0	1	1
		%	.0%	.0%	1.5%	1.5%
		Count	31	31	15	21
		% o	46.3%	46.3%	22.4%	31.3%

Table 5 shows that 20.9% of vocational high school teachers (4.5%, 9%, and 7.5% are from the Electronic Department, the Electrical Department and the Computer Department respectively) used learning style instruments,

77.6% of them (41.8%, 13.4% and 22.4% are from the Electronic Department, the Electrical Department and the Computer Department respectively) did not, and 1.5% of them did not answer the question.

It reveals that the number of respondents who did not use the learning style instruments is bigger than those who did (77.6%>20.9%). The respondents who did not answer the question (15%) could be classified as those who did not use the learning style instruments. To describe the data of how many respondents know the

term of learning styles and how many of them use learning style instruments, the data were put into a cross table. Table 6 presents the data cross tabulation for the vocational high school teachers who know the term of learning styles and use learning styles instruments.

Table 6. Cross Tabulation for the Vocational High School Teachers Who Know the Term of Learning Styles and Use Learning Styles Instruments

		Using learning style instrument			Total
		Yes	No	No Answer	
Knowing the term of learning Style	No Answer	Count	0	0	1
		% of Total	.0%	.0%	1.5%
	Yes	Count	10	12	0
		% of Total	14.9%	17.9%	.0%
	No	Count	4	40	0
		% of Total	6.0%	59.7%	.0%
Total	Count	14	52	1	
	% of Total	20.9%	77.6%	1.5%	

Table 6 shows that 32.8% of the respondents know the term of learning styles (consisting of 17.9% of them do not use learning style instruments and 14.9% of them use the instruments), 65.7% of the respondents do not know the term of learning styles (6% of them say that they use learning style instruments although they do not know the term of learning styles) and 43.1% of the respondents know the term of learning styles and use learning style instruments. The conclusion is that (a) 14.9% of the respondents know the

term of learning styles and use learning style instruments, (b) 17.9% of them know the term of learning styles but do not use learning style instruments, (c) 6% of them do not know the term of learning styles but use learning style instruments, and (d) 59.7% of them do not know the term of learning styles and do not use learning style instruments. Table 7 below shows which learning instruments are used to assess learning styles by a number of the respondents who stated that they used learning style instruments.

Table 7. Frequency Distribution of Learning Style Instruments Used by Vocational High School Teachers

		Using learning style instrument			Total
		Yes	No	No Answer	
Which learning Style Instrument	No Answer	Count	8	52	1
		%	11.9%	77.6%	1.5%
	VAK	Count	4	0	0
		%	6.0%	.0%	.0%
	LSP	Count	1	0	0
		%	1.5%	.0%	.0%
	I don't know	Count	1	0	0
		%	1.5%	.0%	.0%
	Total	Count	14	52	1
		%	20.9%	77.6%	1.5%

Table 7 above shows that 6% of the respondents using learning style instruments mentioned VAK model, 1.5% of them mentioned LSP, 11.9% did not give any answer, and 1.5% of them answered "I did not know." the conclusion is that from 20.9% of the respondents who stated that they used learning style instruments, only 4 respondents used the VAK model, and only 1 respondent (1.5%) used LSP model, and 1.5% of the respondents answered that they did not know. Most of them did not answer this question (11.9%). Of the 20.9% respondents who stated that they used learning style instruments, the respondents assessing learning styles with paper-based media, online media, offline media and other media were 7.5%, 3%, 1.5%, and 4.5% respectively. While 6% of the respondents did not answer the question.

This study is also aimed at answering the research question of how much the vocational high school teachers' awareness of the students' learning styles is. The awareness is seen from three aspects, namely (1) assessing of learning styles, (2) using the instructional media appropriate with students' learning styles and (3) being care about the students' preferences in learning. The score of each aspect was then categorized based on the scores of mean and deviation standard or the data quartile. The aspect consists of 6 question items with the score range of 1 to 5 for each item answer from the research subjects. The result interpretation of the data in this aspect used the normal distribution and was conducted by grouping the data based on the hypothetical mean and hypothetical deviation standard as shown in Table 8.

Table 8. Description of Hypothetical Data in the Aspect of Teachers' Assessment of Students' Learning Styles

Aspect	n	Hypothetical Data			
		Mean (μ)	Score I <sub>min</sub>	Score I <sub>max</sub>	Deviation Standard (σ)
Teachers' assessment of students' learning styles	67	18	6	30	4

The I<sub>min</sub> hypothetical score shows the data with the assumption that if the subjects answered all questions on score 1 in all question items (item=6), the value would be Score I<sub>min</sub>= 1 X 6 =6, and if the subjects answered all questions on score 5, the value would be Score I<sub>max</sub>=5 X 6=30. so the mean obtained was  $\mu = (I_{max} + I_{min}) / 2 = 18$  and the deviation standard is  $\sigma = \frac{1}{6} (I_{max} - I_{min}) = \frac{1}{6} (30 - 6) = 4$ .

The hypothetical data obtained (μ dan σ) were then put into the formula to categorize the data as shown in Table 9.

Table 9. Data Categorization in the Aspect of the Vocational High School Teachers' Awareness of Students' Learning Styles

Criteria		Category
$X \geq (\mu + 1.\sigma)$	$X \geq 22$	Very Good
$(\mu + 1.\sigma) > X \geq \mu$	$22 > X \geq 18$	Good
$\mu > X \geq (\mu - 1.\sigma)$	$18 > X \geq 14$	Fair
$X < (\mu - 1.\sigma)$	$X < 14$	Poor

The vocational high school teachers' awareness level of the students' learning styles was interpreted by categorizing the scores obtained by the subjects into four: Poor, Fair, Good, and Very Good. The frequency distribution of the scores related to the tested aspect obtained by the subjects is shown in Figure 1.

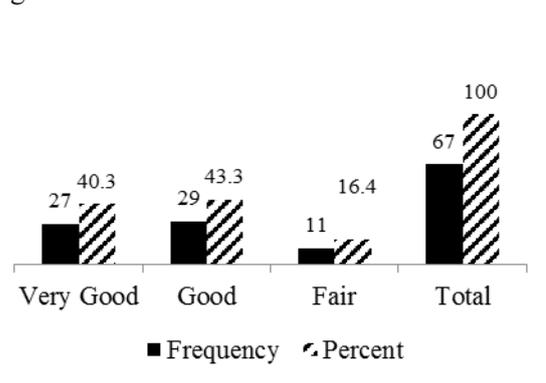


Figure 1. Interpretation of Results on the Aspect of Teachers' Assessment of Students' Learning Styles

Figure 1 above shows that the vocational high school teachers' awareness level of learning styles viewed from the aspect of teachers' assessment of students' learning styles

can be categorized as very good, good and fair with the percentages of 40.3%, 43.3%, and fair 16.4% respectively. Thus, it can be concluded that in this aspect the teachers' awareness is good with the percentage of 43.3%. Then, the results in the aspects of using instructional media appropriate with students' learning styles and teachers' care about the students' preferences in learning were interpreted. The data in these two aspects were not normally distributed ( $p < 0.05$ ) so the interpretation of the results was carried out by grouping the data based on the value of the data quartile as shown in Table 10.

The hypothetical data in the aspect of using instructional media appropriate with students' learning styles have 7 items of statements related to attitude using a Likert scale with 5 options. The highest score is 5 and the lowest score is 1, so the lowest item score is  $I_{min} = 1 \times 7 = 7$  and the highest item score is  $I_{max} = 5 \times 7 = 35$ . The obtained data range is  $range = I_{max} - I_{min} = 35 - 7 = 28$ . The data quartile divides the data range into four equal parts so the interquartile range is  $28 : 4 = 7$ , with the item scores  $I_{min} = 7$  and  $I_{max} = 35$ . The quartiles are  $Q1 = 14$ ,  $Q2 = 21$ , and  $Q3 = 28$ .

Table 10. Description of Hypothetical Data for Not Normally Distributed Data

Aspect	n	Number of Item	Hypothetical Data			Data Quartile		
			Score $I_{min}$	Score $I_{max}$	Range	Q1	Q2	Q3
Using Instructional Media appropriate with Students' Learning Styles	67	7	7	35	28	14	21	28
Teachers' Care about the Students' Preferences in Learning	67	4	4	20	16	8	12	16

The description of the hypothetical data for the aspect of teachers' care about the students' preferences in learning was obtained in the same way. The item lowest score for the tested aspect is  $I_{min} = 1 \times 4 = 4$ , and the highest item score is  $I_{max} = 5 \times 4 = 20$ . The data range obtained is  $I_{max} - I_{min} = 20 - 4 = 16$ , the interquartile range is  $16 : 4 = 4$ , with the item score  $I_{min} = 4$  and  $I_{max} = 20$ . So, the quartile values are  $Q1 = 8$ ,  $Q2 = 12$ , and  $Q3 = 16$ . From the values of the data quartiles of the two aspects obtained ( $Q1$ ,  $Q2$  and  $Q3$ ), the interpretation of the results was carried out by categorizing the data based on the criteria in Table 11.

Tabel 11 above presents the data categorization based on the value of hypothetical quartile in the aspect of using instructional media appropriate with students' learning styles where the values of the hypothetical data quartile are  $Q1 = 14$ ,  $Q2 = 21$ , and  $Q3 = 28$ . Table 12 presents data categorization in the aspect of teachers' awareness of students' preferences in learning.

Table 11. Data Categorization in the Aspect of Using Instructional Media Appropriate with Students' Learning Styles

Criteria	Category
$X \geq Q3$	Very Good
$Q3 > X \geq Q2$	Good
$Q2 > X \geq Q1$	Fair
$X < Q1$	Poor

Table 12. Data Categorization in the Aspect of Teachers' Awareness of Students' Preferences in Learning

Criteria	Category
$X \geq Q3$	Very Good
$Q3 > X \geq Q2$	Good
$Q2 > X \geq Q1$	Fair
$X < Q1$	Poor

Based on the data categorization, the results of the interpretation are presented in Figure 2.

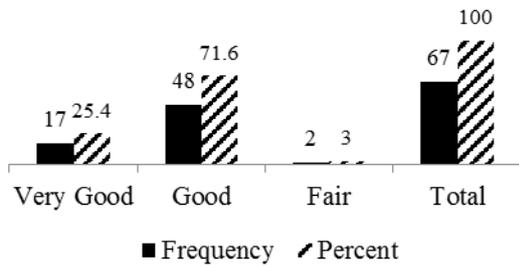


Figure 2. Interpretation of the Results in the Aspect of Teachers' Use of Instructional Media Appropriate with Students' Learning Styles

Table 11 and Figure 2 show that the vocational high school teachers' awareness level of learning styles viewed from the aspect of teachers' use of instructional media appropriate with students' learning styles can be categorized into very good, good, and fair with the percentages of 25.4%, 71.6%, and 3% respectively. The interpretation of the results in the aspect of teachers' care about the students' preferences in learning is presented in Figure 3.

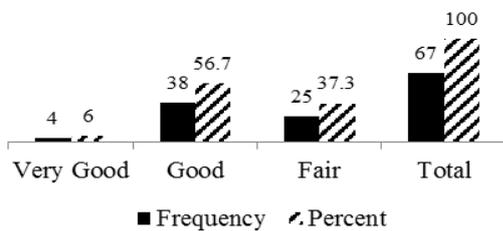


Figure 3. Interpretation of the Results in the Aspect of Teachers' Awareness of the Students' Preferences in Learning

Table 12 and Figure 3 show that the vocational high school teachers' awareness level of learning styles viewed from the aspect of teachers' care about the students' preferences in learning can be categorized into very good, good, and fair with the percentages of 6%, 56.7%, and 37.3% respectively.

The interpretation of the results discussed above is the interpretation of the results of the vocational high school teachers' awareness level of the students' learning styles viewed from the aspects related to the teachers' awareness of learning styles. Table 13 shows

the interpretation of the whole results of the vocational high school teachers' awareness level of the students' learning. Data of the vocational high school teachers' awareness level of the students' learning styles as a whole are normally distributed so the categorization of the results uses mean ( $\mu$ ) and deviation standard ( $\sigma$ ) in the normal distribution.

Table 13. Hypothetical Data of All Aspect of Teachers' Awareness Level of the Students' Learning Styles

Aspect	n	Hypothetical Data		
		Mean ( $\mu$ )	Score $I_{min}$ $I_{max}$	Deviation Standard ( $\sigma$ )
All Aspects of awareness	67	51	17 85	11,33

The values of both mean and deviation standard were then used to categorize the data as shown in Table 14.

Table 14. Data Categorization of All Aspect of Teachers' Awareness of Students' Learning Styles

Criteria	Category
$X \geq (\mu + 1.\sigma)$	Very Good
$(\mu + 1.\sigma) > X \geq (\mu - 1.\sigma)$	Good
$\mu > X \geq (\mu - 1.\sigma)$	Fair
$X < (\mu - 1.\sigma)$	Poor

Table 14 shows the result of data categorization based on the mean ( $\mu$ ), hypothetical deviation standard ( $\sigma$ ), and scores obtained by the respondents (X). The results were analyzed and the interpretation is shown in Figure 4

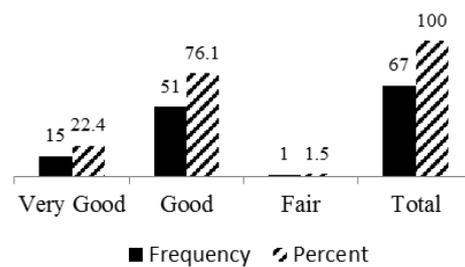


Figure 4. Interpretation of the Results on the Vocational High School Teachers' Awareness of Students' Learning Styles

Table 14 and Figure 4 show that vocational high school teachers who have very good, good, fair awareness levels of students' learning styles are 15 (22.4%), 51 (76.1%), and 1 (1.5%) respectively. To conclude, most of the vocational high school teachers are shown to have a good awareness level of students' learning styles.

## CONCLUSION

It can be concluded from the study on the teachers' awareness level of students' learning styles discussed above that most of the respondents of vocational high school teachers with the percentage of 65.7% do not know the term of learning styles. The respondents consisted of the respondents from Electronics Department, Electrical Department, and Computer Department with the number of respondents in each department were 31 with the percentage of 46.3%, 15 with the percentage of 22.4%, and 21 with the percentage of 31.3% respectively. Of all respondents (vocational high school teachers), most of them with the percentage of 77.6% do not use learning styles instrument or do not assess the students' learning styles. A few of respondents who use learning style instruments with the percentage of 20.9% answer the question of which model of learning style instrument they use with the percentage of 7.5%, and most of them with the percentage of 92.5% do not answer the question. Although most of the respondents with the percentage of 77.6%, do not use learning style instruments the respondents' awareness level of the students' learning styles is good with the percentage of 76.1%.

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