
Development of responsibility attitude competency assessment instruments for vocational high school students

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Received: 25 June 2019; Revised: 10 October 2022; Accepted: 24 October 2022

Abstract: This study aims to obtain a standardised responsibility attitude competency assessment instrument to measure the value of responsibility attitude competencies of students of SMK Negeri 8 Purworejo and to determine the results of the implementation of responsibility attitude competencies in students of SMK Negeri 8 Purworejo Central Java as measured by the assessment instrument developed so that the level of responsibility attitude value of SMK Negeri 8 Purworejo students can be known. This research is a development research. The development stages were carried out with expert judgement validation, first revision, readability test, second revision, content validity test, construct validity test, third revision, final assessment instrument, and implementation of the final assessment instrument. The content validity test used the Aiken index. Reliability was tested with Cronbach Alpha formulation. Construct validity test used factor analysis. After the preparation of the assessment model and the pilot test, it was concluded that First, an assessment instrument was obtained to measure the attitude of responsibility as many as 50 items, consisting of 25 valence (attitude) items and 25 factual (behaviour) items. Second, the indicators of the attitude of responsibility assessment instrument are (a) Carry out individuals well, (b) Accept the risks of actions taken, (c) Do tasks according to procedures, (d) Return borrowed items, and (e) Do group work together. Third, it has measured the attitude of responsibility of 72 students of SMK Negeri 8 Purworejo with the measurement results in the Very High category.

Keywords: Assessment instrument, Attitude, Responsibility

How to Cite: Mujiyono, M., Setiawan, A., & Harun, M. H. (2022). Development of responsibility attitude competency assessment instruments for vocational high school students. *Wiyata Dharma: Jurnal Penelitian Dan Evaluasi Pendidikan*, 10(1), 48-59. <https://doi.org/10.30738/wd.v10i1.4587>



INTRODUCTION

Assessment and evaluation are the most important part of the learning process since the two activities are conducted by a teacher in order to identify the learning progress and the learning results of the students, diagnose the learning difficulties of the students, provide feedback for improving the teaching-learning process, and determine the grade promotion. The definition of assessment is defined in Government Regulation Number 32 of 2013 Regarding the Changes in Government Regulation Number 19 of 2005 Regarding the National Education Standards (2013). According to the definition, assessment is a process of collecting and processing information for measuring the achievement of the students' learning results. The assessment of the learning results by the teachers is conducted in order to monitor the learning process, the learning progress, and the learning result improvement of the students in a continuous manner.

On the contrary, assessment can be defined as a process of identifying (testing) whether the activity, the activity process, or the output from a program has been in accordance with the objectives or the criteria that are already set or not. Penilaian adalah suatu proses untuk mengetahui (menguji) apakah suatu kegiatan, proses kegiatan, keluaran suatu program telah sesuai dengan tujuan atau kriteria yang telah ditentukan (Nurgiyantoro, 2010). Departing from the two definitions, it can be concluded that assessment is a systematic process for defining the score of an object (objective, activity, decision, performance, process, people, objects, and alike).

The assessment of the learning results of a study includes the assessment of the cognitive domain, the affective domain, and the psychomotor domain. The assessment of the cognitive domain is related to intellectual skills and thinking skills. Then, the assessment on the affective domain is related to the attitude, the interest, the appreciation, and the self-adjustment manner. Next, the assessment of the psychomotor domain is related to performance such as fast writing, typing, swimming, using instruments, and alike (E. Setiawan, 2013).

The affective assessment has different characteristics than the knowledge assessment and the skills assessment; consequently, the assessment that should be used is also different. The assessment for the affective competencies in the learning process refers to a set of activities that have been designed for measuring the attitude of the students as the result of a learning program. In the reality, the affective model and assessment have been rarely implemented by all subject teachers. In line with Fathurrohmah et al. (2017) subject teachers tend to focus more on cognitive assessment and psychomotor assessment. This situation has occurred due to the lack of the teacher's understanding of the behaviors of the students. On another occasion, the situation has occurred due to the absence of a standardized assessment instrument.

In the context of the study, research instrument refers to the aid that has been used by a researcher for collecting the research data by means of assessment (Widoyoko, 2012). Returning to the case of affective assessment, the affective domain is related to emotions such as feelings, values, appreciations, motivations, and attitudes. Specifically, according to (Anderson et al., 2001; Anderson & Krathwohl, 2010), the affective domain refers to the affective objectives which emphasize a feeling tone, an emotion, or degrees of acceptance or rejection. In other words, the term affective is the behaviors that put emphasis on the feelings, the emotions, or the degrees of objection or acceptance toward an object. In relation to the statement, according to Popham the affective domain may define the success of an individual (Popham, 2012; Sukanti, 2011). Individuals who do not have good affection will have difficulties in achieving optimum success in their studies. The success in the cognitive domain and the psychomotor domain thus will be highly determined by the affective domain of the students.

According to Sudijono, the evaluation for affective domain can be conducted by using the attitude test, which is popularly known as attitude scale. The attitude scale or, the Likert scale, is used for identifying the individual tendency/attitude. The form of the likert scale contains the opinions that reflect the attitude of highly agree, uncertain, disagree, and highly disagree. The score for the Likert scale ranges from 1 to 4 or 5, depending on the needs of the score in reflecting the attitude under assessment (Fajaruddin et al., 2021; Sudijono, 2015).

Responsibility in the context of character development in schools becomes highly important for shaping the characters of the students in recent times as their provisions to deal with the future. These characteristics can be witnessed directly in classroom life such as in the time when the students undergo the learning process and the examination administration.

Responsibility is one of the attitudes that have been measured in the 2023 Curriculum-based affective assessment. Lickona (2012) states that a moral education program that has been based on moral education can be conducted in terms of two main moral values namely respect and responsibility. In line with the statement, Zubaedi (2011) argues that responsibility means being capable of accounting for and fulfilling the given duties with integrity, independence, and commitment. As an alternative, responsibility can be defined as an act of performing a job or an obligation in the family, the school, and the working place with the whole heart and the best performance possible (Lickona, 2012). Similarly, Majid (2008); and Prasetyono et al. (2018) states that responsibility refers to the attitude and the behaviors of an individual in fulfilling his or her duties and obligations for himself or herself, the society, the environment (nature, social, and culture), the country, and Lord the Almighty. As an alternative, responsibility is also known as accountability or the act of not letting other people suffer from disappointment and fulfilling the given duties in the best way possible with own capacity (Atmaja, 2012).

Based on the observation conducted by the researchers in Negeri 8 State Vocational High School Purworejo and the opinion from Nuroniyah (2018), it is found that the teachers have paid less attention to the core competencies of the social attitude. In fact, the social attitude assessment has been far below the assessment criteria since the social attitude assessment has been insufficiently designed without using a standardized assessment instrument. The assessment of the core competencies of social attitude thus becomes difficult to conduct because the instrument provided by the government is in the form of an affective assessment (Nuroniyah, 2018; A. Setiawan et al., 2019). Looking at the situation, the

researchers deem it necessary for designing and developing a specific assessment instrument for the assessment of the core competencies within the social attitude. The assessment of the core competencies within the social attitude consists of the spiritual attitude and the social attitude (religious, honest, disciplined, confident, courteous, tolerant, hardworking, independent, responsible, environment-caring, curious, nationalist, democratic, and patriotic). The teachers are indeed aware that attitude assessment has been important but in the practice, they do not perform affective assessments by using any valid and reliable instrument. Hence, the present study aims at identifying the teacher assessment toward the attitude of being responsible among the students in order to design a standardized instrument for measuring the students' attitude toward being responsible. At the same time, the present study also aims at identifying the tendency of responsibility among the students of Negeri 8 State Vocational High School Purworejo.

METHOD

The study is a Research and Development or also known as R&D. then, the objective of the study is to develop an appropriate assessment instrument for the attitude of being responsible among the students in Negeri 8 State Vocational High School Purworejo by following the steps proposed by (Gall et al., 2003) with several modifications. The steps in conducting the R&D can be explained as follows: Preliminary Model (which includes: the concept of responsibility, indicators of responsibility, guidelines, and items of valency and factual statements) → Expert Validation → First Revision → Limited-Scale (Readability) Test → Second Revision → Validity and Reliability Test → Third Revision → Large-Scale Test (Construct Validity Test with Factor Analysis) → Final Instrument → Final Instrument Implementation. The study itself was conducted in Negeri 8 State Vocational High School Purworejo, the District of Banuurip, the Regency of Purworejo in the Odd Semester of the 2018/2019 Academic Year.

Preliminary Model

After the researchers gathered the preliminary data, the researcher proceeded to the preliminary model design by conducting the following activities: (a) listing the indicators for the assessment instrument of the attitude of being responsible; and (b) setting the guidelines and the assessment instrument of the attitude of being responsible.

Expert/Practitioner Validation

The Expert Validation or also known as the Expert Judgment was conducted by consulting the instrument that had already been designed to the experts. The expert validation was conducted by the evaluation experts and the language experts, in this regard the academic supervisor for the content validity. The expert in the domain of measurement and instrument development scrutinized the instrument and provided feedback on the instrument design pertaining to the number of items and the effectiveness of sentence and language in use. The results of expert validation would then serve as the reference in revising the instrument.

First Revision

After the expert validation had been completed, the researcher proceeded to the First Revision or the revision of the instrument design in terms of the number of items and the effectiveness of sentence and language in use. The revisions were based on the feedback from the experts so that the instrument would improve.

Limited-Scale/Readability Test

The limited-scale or readability test was conducted to 20 students from Grade X and Grade XI as the samples. These samples were selected from the caretakers of the Intra-School Students Organization Negeri 8 State Vocational High School through a random manner. Within the readability test, all of the students were asked to read the overall assessment model instrument of the attitude of being responsible. The test itself aimed at identifying whether the instrument model for the assessment of the attitude of being responsible contained unclear or difficult-to-understand statements or not.

Second Revision

After the empiric test or the readability test had been conducted, departing from the test results the researcher proceeded to the second revision in order to revise the instrument model for the assessment of the attitude of being responsible. Afterward, the researcher proceeded to the instrument model improvement prior to the administration of the large-scale test.

Moderate-Scale

The moderate-scale test was conducted to 214 Grade XII students with the following details: (1) 30 students from Grade XII Light Vehicle Engineering A; (2) 30 students from Grade XII Light Vehicle Engineering C; (3) 32 students from Grade XII Motorcycle Engineering A; (4) 32 students from Grade XII Motorcycle Engineering B; (5) 27 students from XII Language and Culture A; and (6) 29 students from XII Language and Culture B.

Final Instrument

The final step that had been conducted was rearranging the instrument into the final assessment model and implementing the final assessment model for measuring the responsibility of the students of Negeri 8 State Vocational High School Purworejo 2018/2019 Academic Year.

Final Instrument Implementation

The implementation of the final instrument in the study involved 72 students from Negeri 8 Vocational High School Purworejo in the 2018/2019 Academic Year.

The Students' Score of Competence Responsibility

In order to define the category for the responsibility competence score of the students in Low, Moderate, High, or Very High, the researchers view the mean score in general.

RESULTS AND DISCUSSIONS

Results

The Internalization and the Assessment of Attitude Competence by the Teachers

The data were collected by means of interview and written opinion from 10 teachers who had been appointed as the 2013 Curriculum Instructors. These teachers were selected as the representative samples in the study and, therefore, their responses represented the overall opinions of the teachers in Negeri 8 State Vocational High School Purworejo with regards to the assessment toward the students' attitude of responsibility.

The teachers internalize the attitudes/characters to all subjects in Negeri 8 State Vocational High School Purworejo by: (1) collaborating the attitude/character values into the local cultures and the literacy activities in the morning in relation to the internalization of the targeted characters; (2) inserting the elements of attitude in every face-to-face meeting at the beginning and at the end of each subject; (3) singing the national anthems before and after each subject; (4) committing positive habituation by using handshakes and smile-greet-welcome; (5) internalizing discipline, honesty, and responsibility; and (6) establishing communication with good and appropriate Bahasa Indonesia. .

Then, the teachers of Negeri 8 State Vocational High School Purworejo assess the attitudes/characters of their students by observing the students during the teaching-learning process, the way the students sit and answer the questions, the daily activities of the students both inside and outside the classroom, and the process that the students have undergone. If the teachers find a standing out (poor) attitudes, then these teachers make coordination with the Guidance and Counseling/Civic Education/Religion Education by giving independent assignment, both the structured one and the unstructured one, and entrusting the students to undergo their own self-assessment as they check the results of their own work.

The Process of Developing Assessment Instrument for the Attitude of Responsibility Competence

Preliminary Model

In developing the assessment instrument for the attitude of responsibility, there are five indicators of the attitude of responsibility that the students should have namely: (1) carrying out the individual tasks

well; (2) taking the risks from the actions that they do; (3) carrying out the duties in accordance with the procedures; (4) returning the items that have been borrowed; and (5) completing the group assignments in cooperative manner. The five indicators are later developed into the guidelines of the competence assessment instrument for the attitude of responsibility. The instrument consists of 30 valency items and 30 factual items.

After the guidelines and the items of the assessment instrument have been completely designed, the researchers consult the instrument through a mechanism known as expert judgment. In the expert judgment, both the experts and the practitioners scrutinize and deliver their feedback pertaining to the model improvement. At the same time, in the expert judgment the validators theoretically deliver their validation. Hence, it can be concluded that the definition of the concept of responsibility has been in accordance with the theory. Despite that, there are several phrases that do not match the standardized orthography and, therefore, these phrases should be improved. Then, the valency items and the factual items, both the positive (+) ones and the negative (-) ones have been in accordance with the indicators. Last but not the least, each statement should make use of simple and understandable language on the party of the students. Last but not the least, there are several words that should be improved or be replaced so that the statement can be much easier to be understood by the students.

Limited-Scale Experiment

After the competence assessment instrument for the attitude of responsibility has been revised, the researchers conduct the limiter-scale test or the readability test in order to test the readability level of the instrument. The conduct of the limited-scale experiment has involved 20 students from Grade X and XI who occupy the positions in the Student Council and the 20 students have been randomly selected.

Large-Scale Test

The conduct of the large-scale test involved 214 Grade XII students with the following composition: (1) 30 students from Grade XII Light Vehicle Engineering A; (2) 30 students from Grade XII Light Vehicle Engineering B; (3) 31 students from Grade XII Light Vehicle Engineering C; (4) 32 students from Grade XII Motorcycle Engineering A; (5) 32 students from Grade XII Motorcycle Engineering; (6) 30 students from Grade XII Culinary A; and (7) 29 students from Grade XII Culinary B. The results of the large-scale test are displayed in Table 1, Table 2, and Table 3.

Table 1. List of Item Validity for the Assessment Instrument of the Attitude of Responsibility

No.	Valency Item		Factual Item				
	Number of Valid Item	No	Number of Valid Item	No	Number of Valid Item	No	Number of Valid Item
1.	1	15	16	1	31	15	46
2.	3	16	17	2	32	16	47
3.	4	17	18	3	33	17	48
4.	5	18	19	4	35	18	49
5.	6	19	20	5	36	19	50
6.	7	20	21	6	37	20	51
7.	8	21	22	7	38	21	52
8.	9	22	23	8	39	22	53
9.	10	23	25	9	40	23	54
10.	11	24	26	10	41	24	55
11.	12	25	27	11	42	25	56
12.	13	26	28	12	43	26	57
13.	14	27	30	13	44	27	58
14.	15			14	45	28	60

Construct Validity

In the study, the construct validity test is conducted with total number of respondents 214 people (N = 214) against 55 valid variable and reliable items and includes 27 items of valency variable and 28 items of factual variable.

Table 2. Results of the Valency Item's Content Validity Test Results

No.	Expert Validation for the Indicators (Factors)	Number of Item	Number of Valid Item	Total Item	Total Valid Item
1.	Carrying out the individual tasks well	1, 10, 11, 20, 21, 30	1, 10, 11, 20, 21, 30	6	6
2.	Taking the risks from the actions that they do	3, 8, 13, 18, 23, 28	3, 8, 13, 18, 23, 28	6	6
3.	Carrying out the duties in accordance with the procedures	5, 6, 15, 16, 25, 26	5, 6, 15, 16, 25, 26	6	6
4.	Returning the items that have been borrowed	4, 7, 14, 17, 24, 27	4, 7, 14, 17, 27	6	5
5.	Completing the group assignments in cooperative manner	2, 9, 12, 19, 22, 29	9, 12, 19, 22	6	4
Total				30	27

Table 3. Results of Factual Item's Content Validity Test Results

No.	Indicators (Factors)	Number of Item	Number of Valid Item	Total Item	Total Valid Item
1.	Carrying out the individual tasks well	31, 40, 41, 51, 50, 60	31, 40, 41, 50, 51, 60	6	6
2.	Taking the risks from the actions that they do	33, 38, 43, 48, 53, 58	33, 38, 43, 48, 53, 58	6	6
3.	Carrying out the duties in accordance with the procedures	35, 36, 45, 46, 55, 56	35, 36, 45, 46, 55, 56	6	6
4.	Returning the items that have been borrowed	34, 37, 44, 47, 54, 57	37, 44, 47, 54, 57	6	5
5.	Completing the group assignments in cooperative manner	32, 39, 42, 49, 52, 59	32, 39, 42, 49, 52,	6	5
Total				30	28

Correlation Matrix

The development of the instrument is based on the Correlation Matrix calculation. From the calculation, the output that has been yielded is KMO and Bartlett's Test value for 55 valid and reliable items. The results are displayed in Table 4.

Table 4. KMO and Bartlett's Test Value

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.701
Bartlett's Test of Sphericity	Approx. Chi-Square	4729.812
	Df.	1540
	Sig.	.000

The KMO and Bartlett's Test for the inter-variable correlation is > 0.50 with the significance value < 0.05 . From the results of the above analysis, the KMO value 0.701 implies > 0.50 while the significance value of Bartlett's Test of Sphericity 0.000 implies < 0.05 . Therefore, the value has met the criteria proposed by Santoso (2017). Departing from the results of the analysis, it can be concluded that the variables and the samples may be used in the subsequent analysis.

Communalities

Based on the calculation results in the Communalities output, the size of the factor percentage (%) that has been formed will be able to explain the item variants. An item is considered having a strong relation with the factors that have been developed if the value is > 0.50 .

Eigenvalues

The eigenvalues can be defined by viewing the Total Variance Explained section on the table. With regards to the statement, there are two kinds of variance explanation namely the Initial Eigenvalues and

the Extraction Sums of Squared Loadings. The Initial Eigenvalues show the factors that have been developed, while the Extraction Sums of Squared Loading shows the number of variances that has been attained. Within the development, 14 factors and 14 variances have been earned. The Initial Eigenvalues itself has been set at ≥ 1 . The size of the variance can be explained by the factors number 1 – 14 in the Table 5.

Tabel 5. *Initial Eigenvalues*

No.	Factors	Total Extraction	N	% Varian
1.	9.643	50	18.908	9.643
2.	3.019	50	5.919	3.019
3.	2.761	50	5.414	2.761
4.	2.153	50	4.221	2.153
5.	1.933	50	3.791	1.933
6.	1.854	50	3.636	1.854
7.	1.620	50	3.177	1.620
8.	1.535	50	3.009	1.535
9.	1.389	50	2.724	1.389
10.	1.322	50	2.592	1.322
11.	1.272	50	2.494	1.272
12.	1.146	50	2.247	1.146
13.	1.109	50	2.174	1.109
14.	1.045	50	2.049	1.045
		Total		62.355

These factors can explain 62.355% variables. Since the cumulative number $> 60.000\%$, then the factor formation within the development has been sufficient. Within the development as well, the construct validity has empirically used the Confirmatory Factor Analysis (CFA).

Scree Plot

Scree Plot is one of the alternatives that can assist the researchers in defining the number of factors that have been formed for representing the diversity of the origin variables. If the curve is still steep, then there will be a direction for adding the components. On the contrary, if the curve has been slope then there will be a direction to stop the addition of the components despite that the steep/slope curve assessment is subjective on the part of the researchers.

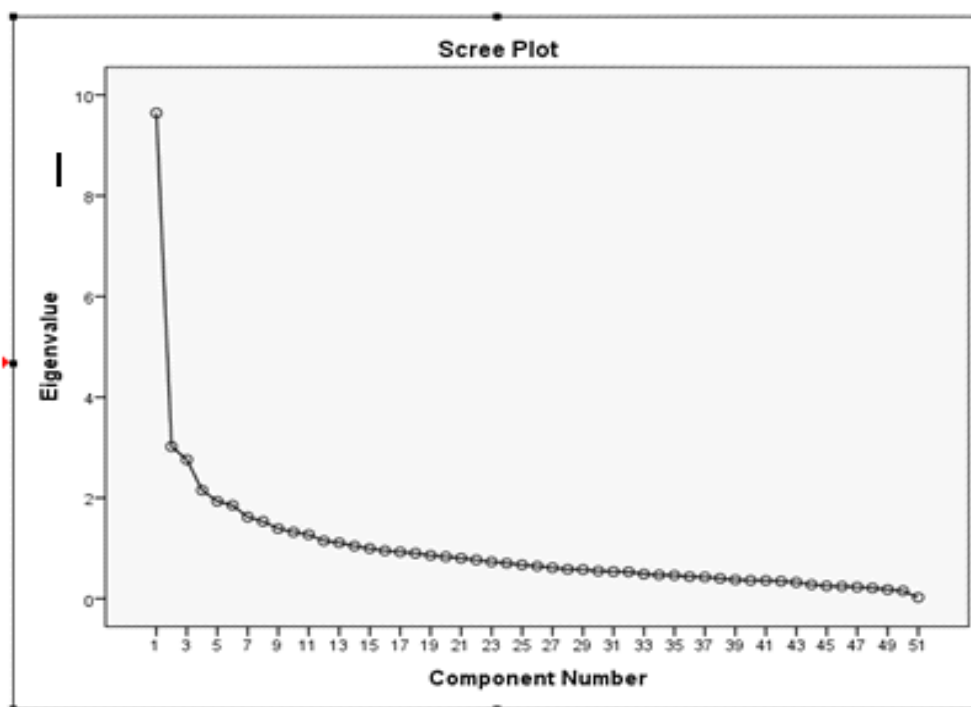


Figure 1. Scree Plot

From Figure 1, it is apparent that one of the components has been formed by the curve is still steep. Similar result is also found in the second dot since the curve line is still steep. Then, in the third dot the curve line is quite steep but the dot has different pattern compared to the first and the second dot. After passing through the fourth dot, the curve starts to slope away as it moves further to the right. From this explanation, it can be inferred that there are four components or factors that have been formed.

Loading Factors

In order to identify each independent variable and to assign the independent variable into a factor, the researchers view the biggest correlation value in the Rotated Component Matrix. The biggest correlation value shows that the variable is fitter into the given Component Matrix. Then, the correlation value sufficient for use is $\geq 0,5$. After the rotation has been completed, the results of the analysis show that all items have already had loading factors.

Factor Naming

Based on the data from the Component Transformation Matrix, the Factor number 3, 5, 6 dan 14 hold the correlation value $\geq 0,5$. The statement implies that in terms of essence the 5 (five) indicators for the attitude of responsibility measure the factors of returning the items that have been borrowed and taking the risk for the action that has been committed; consequently, both factors that have been formed are fit for us.

Final Assessment Instrument

Table 6. Indicators of Final Assessment Instrument

Indicators (Factors)	Valency Data		Factual Data		Total
	Positive (+)	Negative (-)	Positive (+)	Negative (-)	
Carrying out the individual tasks well	V1.1	V1.2	F1.1	F1.2	4
	V2.1	V2.2	F2.1	-	3
	V3.1	V3.2	F3.1	F3.2	4
Taking the risks from the actions that they do	V4.1	V4.2	-	F4.2	3
	V5.1	V5.2	F5.1	F5.2	4
	V6.1	V6.2	F6.1	F6.2	4
Carrying out the duties in accordance with the procedures	V7.1	V7.2	F7.1	F7.2	4
	V8.1	-	F8.1	F8.2	3
	V9.1	V9.2	F9.1	F9.2	4
Returning the items that have been borrowed	V10.1	-	F10.1	F10.2	4
	V11.1	V11.2	F11.1	-	3
	V12.1	-	F12.1	F12.2	4
Completing the group assignments in cooperative manner	V13.1	V13.2	F13.1	F13.2	4
	V14.1	V14.2	F14.1	F14.2	4
	-	-	-	-	0
Total		25		25	50

The Implementation of the Attitude of Responsibility Among the Students in Negeri 8 Purworejo State Vocational High School

The final instrument assessment for the attitude of responsibility that has been designed based on the factor analysis in the previous step is put together again and is tested in order to attain the measurement of the attitude of responsibility among the students of Negeri 8 State Vocational high School.

Based on the results of the study, in general the mean score for the attitude of responsibility within the Negeri 8 State Vocational High School represented by 72 students from Grade X Automotive Light Vehicle Engineering A and Grade X Motorcycle Engineering and Business A is 164.86. The mean score that ranges between 162.50 – above implies that the value of the attitude of responsibility displayed by the students of Negeri 8 State Vocational High School Purworejo Academic Year 2018-2019 belongs to the “Very High” Category.

Discussions

The assessment instrument for the attitude of responsibility defines 5 (five) indicators for the attitude and these indicators are outlined into the guidelines. Based on the guidelines, the researchers develop the assessment instrument in the form of questionnaire with 60 items that consist of 30 valency items

(attitudes) and 30 factual items (behaviors) and each group of items consists of 15 positive items and 15 negative items. The instrument scale that has been used is the Likert scale with 4 alternatives of options ranging from 1 to 4. In order to measure the attitude of responsibility, the attitude scale has been used because the attitude scale holds expressive function in which the valency items display the correlation with the factual items, which express the attitude, and the behaviors, which express the values of responsibility.

Tabel 7. Implementation Test Results

Statistics		
Responsibility Value		
N	Valid	72
	Missing	0
Mean		164.86
Std Error of Mean		1.470
Median		165.50 ^a
Mode		170
Std. Deviation		12.473
Variance		155.586
Skewness		-.409
Std. Error of Skewness		.283
Kurtosis		-.220
Std. Error of Kurtosis		.559
Range		55
Minimum		132
Maximum		187
Sum		11870
	25	155.75 ^b
Percentiles	50	165.50
	75	173.90

a. Calculated from grouped data
 b. Percentiles are calculated from grouped data

The instrument that has been designed is later validated through the expert judgment mechanism by Mrs. Abtik Sutantriati, S.Psi from Psychology as the teacher of Guidance and Counseling and Mrs. Dwi Yanti Ningsih, S.Pd. as the teacher of Bahasa Indonesia in the Negeri 8 State Vocational High School Purworejo. The instrument that has been validated through the expert judgment should be revised and improved.

After the revision has been complete, the researchers proceed to the limited (readability) test with 20 Grade X and XI members of Student Council from the Negeri 8 State Vocational High School. The feedback from the limited scale will be turned into the basis for improving the assessment instrument of the attitude of responsibility. Later, after the revision has been complete, the researchers proceed to the large-scale test with 214 Grade XII students from the Negeri 8 State Vocational High School Purworejo, followed by the validity test and the reliability test. In order to attain the valid items, the Pearson Correlation should be $r \geq 0.300$ or with single asterisk (*) or double asterisks (**). From 30 valency items, 27 items have been valid; on the contrary, from 30 factual items, 28 items have been valid. Furthermore, the researchers will conduct the reliability test against the 55 valid items under the requirement Cronbach's Alpha ≥ 0.500 . The results of the reliability test show that *Cronbach's Alpha* $0.733 \geq 0.500$. This means that the 55 items have been reliable.

Based on the results of the content validity test, it is found that the items have represented all indicators under measurement. The indicators of carrying out the individual tasks well are in accordance with valency item number 1, 10, 11, 20, 21, 30 and the factual item number 31, 40, 41, 50, 51, 60. Then, the indicators of taking the risks from the actions that they do are represented by the valency item number 3, 8, 13, 18, 23, 28 and the factual item number 33, 38, 43, 48, 53, 58. Next, the indicators of carrying out the duties in accordance with the procedures are represented by the valency item number 5, 6, 15, 16, 25, 26 and the factual item number 35, 36, 45, 46, 55, 56. Afterward, the indicators of returning the items that have been borrowed are represented by the valency items number 4, 7, 14, 17, 27 and the factual items number 37, 44, 47, 54, 57. Eventually, the indicators of completing the group assignments

in cooperative manner altogether are represented by the valency item number 9, 12, 19, 22 and the factual item 32, 39, 42, 49, 52. Thereby, the content validity test has met the requirement, namely that all items have covered the overall indicators of the attitude of responsibility that have been developed based on the given guidelines.

The concurrent validity test is conducted in order to identify the presence of consistency between the behaviors and the attitude. In developing the assessment instrument of the attitude of responsibility, it is found that there is a consistency between the attitudes and the behaviors. Afterward, the large-scale test with the construct validity test is conducted by using the factor analysis and involving 214 students ($N = 214$) against the valid and reliable 55 items, consisting of 27 valency items and 28 factual items. The required value of KMO and Bartlett's Test for the inter-variable correlation is > 0.5 with the significance value < 0.05 .

From the results of the analysis, the KMO value is 0.636 or > 0.500 while the significance value resulted from the Bartlett's Test of Sphericity is 0.000 or < 0.005 . From the first testing, the researchers find 5 items with MSA value $MSA < 0.500$ namely the item number 4 and the item number 16 for the valency items and the item number 32, the item number 33, and the item number 50 for the factual items. Consequently, these items should be dropped from the analysis and the analysis should be repeated against the 50 items with $MSA > 0.500$. The re-analysis results in KMO 0.765 > 0.500 and the Bartlett's Test of Sphericity is 0.000 or < 0.05 . All MSA values are marked with ^a > 0.500 by paying attention to the diagonal line of Anti-image Correlation.

The communalities data show the percentage (%) of the factors that have been formed in being able to explain the item variance. An item is said to have strong relation with the factors that have been formed if the value of the item is > 0.500 . The total number of the items for the assessment instrument of the attitude of responsibility is 50 items and the value for all these items is > 0.5000 . The Eigenvalues can be viewed from the table of Total Variance Explained. Then, the Initial Eigenvalues show the factors that have been formed whereas the Extraction Sums of Squared Loading show the number of variants that has been attained. Within the development of the assessment instrument, 14 factors and 14 variants have been formed. In total, the 14 factors can explain 62.355% variables. Since the Communalities $> 60.00\%$, the factor formation can be considered sufficient. The form of the scree plot that has been used for determining the number of factors that have been formed is 4 factors.

The loading factors in the table Rotated Component Matrix show that all items have already had the loading factors. The biggest correlation shows that the variables are fitter into the given Component Matrix. Then, the value sufficient for use is $\geq 0,5$. The factor number 1, the factor number 2, and the factor number 3 have 4 instrument items. Then, the factor number 4, the factor number 5, the factor number 7, the factor number 9, the factor number 10, the factor number 11, the factor number 12, the factor number 13, and the factor number 14 each has 2 instrument items. Eventually, the factor number 12 and the factor number 13 have 1 instrument item. The results of the analysis show that after the rotation has been performed all items have already had the loading factors in which 50 items of assessment instrument have been spread to 14 factors each is given the factor naming.

Departing from the Component Transformation Matrix, the factor number 3, the factor number 5, the correlation value of the factor number 6, and the factor number 14 each is > 0.500 . This means that in terms of the essence the 5 (five) indicators of the attitude of responsibility altogether measure the factors of returning the items that have been borrowed and the factors of taking the risks from the actions that they do. In other words, the four factors that have been formed are sufficient for use namely the factors of: (1) returning the items that have been borrowed; and (2) taking the risks from the actions that they do.

After the analysis has been completed, the researchers proceed with the revision against the items that have not met the technical requirements. As part of the final step, the researchers put together again the instrument into the final assessment instrument that will be implemented in the measurement toward the attitude of responsibility within the students of the Negeri 8 State Vocational High School Purworejo.

CONCLUSIONS

The assessment of the attitude of responsibility by the teachers in Negeri 8 State Vocational High School Purworejo has been limited to the observation by paying attention to the teaching-learning process inside and outside the classroom, the way the students sit and answer the questions raised by the

teachers, giving both the structured and the unstructured independent assignment to the students, and entrusting the students with the correction of their own self-assessment. In addition, through the study the researchers have also found the standardized assessment for measuring the competence score for the attitude of responsibility among the students of Negeri 8 State Vocational High School. based on the development of the assessment instrument for the attitude of responsibility, it can be inferred that: (1) 50 valid and reliable items for the assessment instrument of the attitude of responsibility have been formed, and 2) the 50 valid and reliable items have resulted in the KMO value $0.765 > 0,500$ with sig $0.000 < 0.050$ and the Initial Eigenvalues Cumulative $62.355 \% > 60.00 \%$ through the construct validity test and the factors analysis; at the same time, 2 essential factors, namely the factors of returning the items that have been borrowed and the factors of taking the risks from the actions that they do, have been formed. Based on the implementation of the assessment instrument of the attitude of responsibility for the students in the Negeri 8 State Vocational High School Purworejo, the researchers find that the attitude of responsibility value for the students belong to the “Very High” category.

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