

## Evaluation model of career counseling program in vocational high school

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### ABSTRACT

Vocational high school graduates are expected to readily enter the work field, nevertheless, the number of unemployment from vocational high school graduates is still big. Optimizing a career guidance service requires complete evaluation feedback. In detail, this research aims to: identifying a construct instrument applicable to evaluate a career guidance program at vocational high school; Developing an evaluation model; and Examining the measurement, structure and the effectivity of the model. The research's approach and development employ Borg & Gall's Model. The test toward the product is addressed to nine vocational high schools in Yogyakarta. The validity and reliability instruments are verified through expert judgment, alpha Cronbach analysis, Exploratory Factor Analysis (EFA), testing the measurement model, and for the structural model, it is verified by means of partial least square (PLS) SmartPLS 3.0. The product constitutes a career guidance evaluation model at vocational high school, complete with its application, manipulation, and analysis up to recommendation construction. The result of the EFA test shows six measurement factors of counseling service: assertiveness, career readiness, self-awareness, career awareness, work characteristics, and positive attitude towards guidance and counseling service. The quality instrument product of TADIPHE consists of the target component (3 items), assessment (13 items), design (13 items), installation (22 items) process (44 items), the result (70 items), and effectiveness of the program (7 items). The result of the partial least square shows that all predictors contribute ( $Q^2$ ) as much as 88.91%, and 11.09 % and the rest may be determined by other variables.

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## 1. INTRODUCTION

Indonesia will benefit from the demographic bonus within 2025-2035, with the number of the population, more or less 250 millions of which 125.4 million of them fresh workforce. Among the 125.4 workforces, 118.4 million are active workers but 74.098.485 people (59.07%) are elementary school graduates [1]. Low educated workforce dominates the condition. Vocational high school (VHS) are expected to produce ready skilled workers to fulfill the need. But in reality, the number of unemployment in 2016 reached 7 million people, and 1.520.459 (21.62%) of them are vocational school graduates [1]. There are some problems in the educational and training systems at the vocational schools [2]. Furthermore, it is discovered that 51.5% of vocational school graduates are underqualified, 40% well qualified and 8.5%

overqualified. Besides the problems of link and match, the curriculum and its academic implementation, soft skill competence is a serious problem. Developing students' soft skill is the task of career guidance section. This is integrated with other programs (personality, social, and learning programs).

A career guidance program is a policy implementation carried out continuously and done by an organization involving many persons. Optimizing the career guidance in supporting the success of educational achievement at VHS depends on many factors among others the people's perception, the students' attitudes, the organization, and managerial supports, etc. In addition, administrative and non-substantial activities often dominate the practice. The counseling is done as usual routines and far from targeting goals. Persistent improvement of career guidance at VHS needs constructive feedback and a constructive, practical, objective, and comprehensive evaluation system developed by different experts. This research tries to develop an evaluation model of career guidance program for VHS students with the evaluation components of goals, assessment, design, installation, process, outcome, and effectiveness of the program. The quality and effectiveness of the evaluation model are expected to be able to evaluate career guidance at VHS by means of relevant analysis.

This research is restricted to the study of career guidance evaluation model development at VHS. The problem formulation includes: How is the construct of career guidance program applied at VHS; How is the form of instrumental tool needed to evaluate the career guidance at VHS; How is the quality of measurement model for each component of the evaluation model is developed; How is the quality of TADIPHE career-counseling evaluation structure model at VHS; and How is the level of effectiveness of the evaluation model to evaluate the career guidance program at VHS.

The product of the research will be in the form of a career-counseling program evaluation model for VHS students. The model to develop is called TADIPHE evaluation model. TADIPHE is short of target, assessment, design, installation, process, result, and effectiveness. The instruments are verified their quality, validity, and reliability by means of relevant analysis. The try out of the evaluation model is done at VHS in Yogyakarta municipality. The evaluation instrument is provided with a guide for procedures of use, data manipulation, data analysis, data presentation, and recommendation for related subjects. The ease, feasibility, usefulness principles for the schools and stakeholder are under consideration in developing the product, which is an excerpt in the effectiveness of the evaluation model. The effectiveness of the evaluation model will be verified through assessment from different users.

The development of career guidance evaluation model is expected to widen perspectives on career guidance program evaluation at VHS, to be a guideline for evaluation process starting from planning, analysis, and interpretation of evaluation up to composing a recommendation in relation with the program. The implementation of the research is expected to be able to describe the process of developing a quality instrument of the evaluation program. The result of evaluation operational test shows the quality of career guidance at VHS. Furthermore, the manipulation and the analysis of the evaluation can be beneficial to produce feedback for the improved and sustainable program.

The result of the research can help the school, especially the counselor to evaluate, and understand the implementation of career guidance program at VHS, problems related to it, and to give a suggestion for the betterment of the program. The developed evaluation model can be a standardized reference to evaluate career guidance programs at VHS. Guidance and counseling teachers can make use of TADIPHE evaluation program to assess the career guidance at school and at the same time give feedback and recommendation to related parties for the betterment of the program. The product of a career guidance evaluation model for VHS students is an effort to motivate the counseling program better. The detail ideal implementation activity is maximized through evaluation instrument so that the schools can use it as the reference to guarantee the accountability of implementation of career guidance program at VHS.

## 2. RESEARCH METHOD

The research on career guidance program at VHS belongs to development research, making use of Borg and Gall research model, which covers 10 steps as the followings: *Research and information collecting; Planning; Develop preliminary form of product; Preliminary field testing; Main product revision; Main field testing; Operational product revision; Operational field testing; Final product revision; Dissemination and implementation* [3]. The developing procedures can be classified into some steps. Table 1 shows detailed activities with their products.

Table 1. The procedures of developing a career guidance evaluation model at VHS

Research Phase	Activity	Product
Preliminary Research	Theoretical Analysis, the study of policies related to need analysis, determining a model	Theoretical framework
		Description of needs in the field Determining a theoretical model
Development	Developing instruments Validating and revising instruments Data collection and data analysis	The instrument of evaluation model "tadiphe"
		Expert judgment and instrument validation, Draft of the validated instrument.
Try out	Limited try out, validation of evaluation model instrument, empirical try out with extended subjects	The result of limited try out;
		Revision of instrument
		The result of trying out with extended subjects Revision of the trying out with extended subjects
Dissemination	Seminar of research result National/International Seminar Verification of effectiveness of the model	Final prototype
		Field verification
		Socialization of evaluation model Verification of Effectiveness of the model

The tryout design includes three phases. At the first phase of trying out the initial instrument developed by the researcher is discussed with experts from different expertise to get input in relation to the format, form, language, and editing of the instrument. The quantitative data from the experts are analyzed by means of Aiken's Index as face validity of the instrument. The second phase of try out is the limited try out addressed to the guidance and counseling practitioner and to the students. The second phase of try out constitutes a guidance and counseling expert and practitioner process verification related to the appropriateness, readability, the quality of instrument items. The third phase of try out is the field try out involving wider scope such as headmaster, deputy headmasters, coordinators, guidance and counseling teachers, and the VHS students. The result of the try out is directly used to analyze the quality of the career guidance program at the school. The number of subjects for developing evaluation model is 968 persons consisting of 6 experts in evaluation, guidance and counseling, educational management, language, 9 headmasters, 8 deputy headmasters, 33 coordinators and guidance and counseling teachers, and 918 VHS students. The technique and the instrument for data collection use focus group discussion, interview, and questionnaire; especially in determining the quality of instrument model being developed.

The analysis of instrument quality verification is done by means of validity expert judgment, whose suggestion is used as the reason for instrument revision; experts' quantitative data are used to calculate Aiken's index as the indicator of the content validity; instrument's reliability is analyzed by means of reliability analysis technique from Alpha Cronbach dan through the assistance of SPSS. The instrument reliability criterion is the coefficient alpha index of  $\geq 0.70$  [4]; the exploratory factor analysis is done by means of SPSS. The validity test employs the exploratory factor analysis (EFA) with the help of SPSS computer program, and the Partial Least Square (PLS) technique of analysis is done to verify the instrument model (outer model) and to verify the structural model (inner model).

The four indicators to consider in using the Exploratory Factor Analysis (EFA) technique are *Kaiser-Meyer-Olkin measure of sampling adequacy* (KMO), *Bartlett's test of sphericity*, *anti-image correlation*, and factor loading. As a general criterion, if the level of meaning of Barlett's test of sphericity is  $P > 0.05$  and the anti-image correlation  $> 0.05$ , it indicates that sample data are liable for further analysis [5]. In order to see the items, which constitute the construct the result of factor loading is considered. If the factor loading from each item  $\geq 0.5$  it means that the item is well validated [6]. From the highest factor loading of each construct, it can be determined the factors, which are relevant for the construct and are determined as factors suitable to factor construct item characteristics. After Eigen factor value is obtained, the name of factors is determined by seeing the supporting instrument items.

The Partial Least Squares Analysis (PLS Analysis) is used to see the meaningfulness and the feasibility of model (fit model) by means of Confirmatory Factor Analysis (CFA) technique, which becomes a predictive model [7]. PLS analysis is used due to the limited subjects of the tryout, especially headmasters, deputy headmasters, coordinators, and guidance and counseling teachers. The use of PLS analysis is done to predict the relationship between constructs. PLS analysis does not require big samples not a normal distribution of data [6]. PLS analysis belongs to non-parametric statistics. It can accommodate a limited number of sample. To analyze the data this research uses Smart PLS 3.0 Professional [8]. The modeling for predictive purposes consequence has the consequence that the test can be done without strong theoretical bases and disregard some assumptions and predictive model accuracy parameters seen from determinant coefficient value [9].

Partial LeastSquare analysis is a structural equivalent (SEM) based on variants, which simultaneously measures the measurement model and at the same time structural model. The measurement model is used to measure the validity and reliability of the items or the latent variable indicators while the

structural model is used to test the causality (Hypothesis test with prediction model). The evaluation criteria in using PLS analysis which covers instrument model evaluation (outer model) and structural model evaluation (inner model) and also the model quality test [10]. Measurement model evaluation (outer model) and measurement model evaluation use Smart PLS 3.0 by means of outer model analysis i.e. by seeing construct measurement indicator quality. The assumption used in the research is that the measurement indicator should be highly correlated with the construct. In the correlation analysis, the loading factor can be seen from each indicator. The structural model evaluation (inner model). In testing the structural model by means of PLS analysis R-squares of each endogen latent variable as the predictive strength of the structural model. VIF index shows whether or not multicollinearity,  $f^2$  shows the influence of exogenous variable (predictor) to the endogenous variable (latent variable).  $Q^2$  is the coefficient determinant of all predictors to the latent variable, which shows the contribution of all predictors toward latent variable. Formula Q-square ( $Q^2$ ) is:  $Q^2 = 1 - (1 - R_1^2)(1 - R_2^2) \dots (1 - R_p^2)$ , where  $R_1^2, R_2^2 \dots R_p^2$  is R-square endogen variable in the model [11].

The effectiveness verification of evaluation model is done by means of a questionnaire addressed to evaluation users. The process of verification of the evaluation model is done after the evaluation instrument is verified its quality i.e. its measurement and structural models are verified. Furthermore, the instrumental product being developed is completed and used for operational product verification. Then its effectiveness is analyzed by the users.

### 3. RESULTS AND DISCUSSION

Before developing the instrument of evaluation model, some preliminary studies are done such as literature, field, and limited scale research studies. The studies are about the implementation of the career guidance program at VHS. Education is a strategic effort to prepare young individuals to develop themselves in order to be successful in their lives, including their success in their careers. Guidance and counseling at school with a wide scope of authority and various work field in developing the students' potentials, open wider opportunities to improve their role and usefulness in helping the students develop themselves and facilitate them to be ready for their careers [12, 13]. Guidance and counseling at school together with other related parties either inside or outside the school try to optimize the service in helping the students prepare themselves to achieve success in career.

A vocational school as an institution, which is expected to be able to provide young ready workers, who are ready to work, creative, and able to open work opportunities. VHS with its multi-facet educational objectives provide students with academic and non-academic competencies including how to understand career opportunities, self-potential, and limitations, the discrepancy between their career ideas and limitations. These things should motivate them to make their great effort to develop their potentials to meet the need. The role of comprehensive career guidance is very important and should be carried out optimally and continuously.

The guidance and counseling service as stipulated in the regulation of The Ministry Of National Education number 27 the year 2008 [14] about counselor and the regulation of The Ministry Of Education and Culture Number 111 the year 2013 [15] about guidance and counseling at elementary and middle schools is comprehensive guidance and counseling. The demands, duty, and the challenge of career guidance grow and require strategic effort such as developing counseling with a clear goal, and based on assessment so that it meets the demand. Designing the program and the installation support from the institution should be well prepared. The betterment of the process should be done continually to achieve the maximum level of success and the program is really effective. Accurate feedback is necessary to guarantee the effectiveness of the program. Effective feedback can only be achieved through a comprehensive evaluation of the program. The evaluation of the counseling service is expected to result in a recommendation, which is important for the betterment of guidance and counseling services at VHS with different specific characteristics.

VHS students are at adolescent age between 16 – 18 years old. Their development to achieve: maturity in religious matters (religious belief and practice); social maturity among classmates across genders; maturity in healthy physical condition; maturity in science, technology and arts matters in accordance with the curriculum, career, and further study and also maturity in general social life; maturity in career choice; maturity in emotional, social, intellectual, and economic independence; maturity in attitudes in their lives in family, community and national citizenship; maturity in social and intellectual communication as well as in arts appreciation; in ethic and value system [16–18]

Various aspects of development as the individual's targets of development should be prepared to enter the work field as well as a social community. As VHS is a vocational school, the career guidance and counseling program gets first priority compared with other programs. At their career development, the students are in their realistic period with certain phases in it such as exploration, crystallization, and

specification phases[19]. At this period they need direction for their consolidation of interest orientation, capacity, and values towards the career, which is reflected and integrated systematically at the vocational frame to choose and enter the relevant work field. The career guidance at VHS can help the students, who decide to enter the work field, prepare themselves to work as they wish and be independent [20–22].

Some preliminary studies show that guidance and counseling service at school has not been effective. It needs a good willingness to constantly improve and develop some necessary things for more effective service. Due to this fact evaluation of the program is necessary to get feedback related to the weaknesses of the guidance and counseling program. In spite of that to carry out a comprehensive evaluation program, guidance and counseling teachers are still lack of capacity in designing and carrying out an evaluation program. Therefore an evaluation model is necessary for practical guidance and counseling program evaluation. This research focuses on developing a career guidance evaluation model at VHS.

The development of evaluation model begins with a preliminary study, instrument crafting, try out to see the quality of the instrument, limited tryout, and wider field try out to see the feasibility of the implementation of TADIPHE evaluation model to evaluate career guidance programs at VHS. The evaluation model being developed is expected to be effective and practical for the description of the quality of career guidance service at school comprehensively, objectively, completely, practically, relevantly, constructively, and effectively. The well-defined description of career guidance service and the recommendation from it is expected to make it easy for its improvement if necessary. In order that the evaluation model meets the requirements, a preliminary FGD is done in the implementation of instrument devilmnt including the evaluation components being developed for TADIPHE evaluation model.

The general purposes of career guidance at school include the followings: the students can master the knowledge self-awareness (ability, interest, personality, life needs, and values) [23]; the knowledge of work field, career information, and career identification [24, 25]; developing positive attitudes towards work field, its values and the readiness in entering the work field (career maturity) [26]; developing academic competence, thinking capacity to be able to choose the desired relevant career; gaining career predisposition, planning for future career, and gaining maturity in choosing a career.

Developing an evaluation model should consider the characteristics of career guidance implementation at schools in Yogyakarta, whose guidance and counseling has been comprehensive and is based on the following principles: students' optimum development oriented i.e. completing career development tasks; helping individuals in choosing and entering work field suitable for their potentials so that they become productive workers and proud of their work; helping individuals in facing complex work field with different characteristics requiring certain standards i.e. vocational schools with their different departments are expected to fulfill the needs for intermediate level workers; helping individuals in considering personality and human values for their work, in obtaining their rights and fulfilling their obligation and respecting others' rights and obligation. In developing the evaluation model some necessary values for different professions are considered as parts of the career guidance evaluation model.

Formally, the objectives of the career guidance program at vocational schools are manifested in the Competency Standards for Students' Self-determination decreed by Indonesian Guidance and Counseling Association. As a program for VHS students with different departments, interest, potentials, it needs adjustment relevant to their needs. In developing the evaluation programme it needs a preliminary assessment as usually done at VHS such as making a problem checklist, ATP, and sociometry. In TADIPHE evaluation model the use of the instrument, as well as the assessment data analysis in career guidance program development, are considered. The design of planning the program determines the quality of the program implemented in the career guidance implementation. The results of career guidance service are studied from the aspects of students' potentials in relation to the achievement of the objectives of career guidance for them. In order that the career guidance program is meaningful and relevant to the students' needs, it is necessary to assess it before designing it. The result of the assessment is used to consider the possible design of the program. The implementation of program design can be service units or planned program service. The planned program becomes the guideline for the implementation of the career guidance program.

The process of career guidance as the implementation of comprehensive guidance and counseling includes the activities of basic services, individual work planning, responsive service, and system support. The various career guidance service can include classical, individual, and group service either in or outside the school activities. Ideally, a career guidance program should not only focus on academic matters for further study but also include an introduction to the process and procedure of getting certain jobs. In VHS there is a career development center (CDC), the role is to communicate vs graduates with manpower companies so that the graduates have access to get a job. But the CDC is not included in the career guidance program evaluation in the research due to organizationally CDC is not part of career guidance service. The process of career guidance program is expected to help the students get their success in their self-

awareness, being familiar with work field, being ready for their careers, and in obtaining needed characters for work field.

The analysis of program evaluation model shows different specification and components of evaluation focus. The evaluation model depends on the focus of the model. The formative summative evaluation model focusses on the phases during or at the end of the program. The Natural Inquiry model focusses on the implementation of the situation of the natural process. CIPP model, Measure, CIPPO model and the like focus more on the components of evaluation implementation. The evaluation model in the research focusses on the completeness of components and the appropriateness of the characteristics of the program being evaluated i.e. career guidance program at VHS. The characteristics of VHS with its different departments are considered in determining the number of samples but not yet considered for the analysis. The career guidance program focusses more on developing students' soft skills in general for all students from different departments. Their specific competence is developed through learning-teaching activities and through cooperative practice in company and industry world.

The preliminary construction of the instrument in the research covers four stages. Firstly, the researcher constructs a research instrument. The instrument is developed from determining the components, indicators and main points to be developed into instrument items. Then the items are developed in terms of language, answer options relevant to the respondents. The result of this phase is the initial instrument, which in the next phase, is discussed in Focus Group Discussion. Secondly, the researcher holds a Focus Group Discussion together with lecturers, teachers, practitioners, and evaluation and guidance and counseling experts. This is done in order to get a suggestion for the improvement of the instrument items. The suggestions are considered for the improvement of the initial instrument. Then the instrument is presented at a seminar for instrument development. Thirdly, the seminar is held attended by postgraduate students of Yogyakarta State University (YSU). The result of the seminar is considered to edit the instrument. Then it is validated by experts in evaluation system and in guidance and counseling. The validation concerns with the edition and with quantitative data. The data is analyzed to determine the valid items for further test.

Some suggestions from FGD, which concerns with initial instrument covers the structure of statements and the layout of instrument need simplification and interesting appearance; equivalence of statements with their answer options. It needs more attention; the wide extent of the answer scale. This is in accordance with the experts' suggestion, which emphasizes more revision; choice of words or diction (Some inconsistent terminologies need improvement); effectiveness of sentence (The effectiveness of sentence should be the priority not the number of questions or whether there is something to ask); items of too general interpretation. They need to be specific and operation; a too big number of items (Some similar items need be eliminated); and consistency of question and statement.

Based on the FGD suggestions, the researcher revises the instrument items. The revision covers the change of scale from seven to five and then to four scales. The seven scales are considered too wide while for the five scales there is a tendency for the respondents to choose the middle option. So the four scales are considered good for the respondents should think first before deciding their choice. The revision also includes the appropriateness of questions and optional answers. The big number of items is reduced and the addressees of respondents of headmasters, deputy headmasters, coordinator, guidance and counseling teachers, and students are included.

The evaluation towards the questionnaire done by quantitative experts is then analyzed by means of Aiken Index calculation and it results in the selected items shown in the table below. The Aiken index criterion to select the valid items is  $\geq 0.8$  but 0.7 is said to be valid under certain consideration. Some sources set the good content validity criterion as having the validity value of  $> 0.5$  [27–29].

### **3.1. The result of try out product**

#### **3.1.1. The result of content validity test**

The result of content validity test can be checked at the Aiken index summary with the following description: Instrument I, the instrument which at the beginning consists of 60 items is reduced to 40 items because most of them fulfill the criterion of  $\geq 0.8$  and some items are dropped due to the criterion; Instrument II, instrument IIA which formerly consists of 85 items is reduced to 45 items due to the criterion of  $\geq 0.8$ . From 75 items of instrument IIB, there are 50 valid items based on the criterion; Instrument III, from the 90 items of instrument III, 82 of them are substantially valid and 80 items of them are verified in further steps.

#### **3.1.2. The result of reliability test**

The result of reliability analysis by means of SPSS can be summarized in Table 2.

Table 2. The summary of reliability test index of TADIPHE evaluation instrument model

No	Instrument / Component Suggestion for Measurement	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Number of Items	ItemwithCorrelationIndex> 0,3	Number of Items after Revision
1	Instrument I	0.855	0.850	40		26
	a. Target	0.454	0.480	10	3	
	b. Installation	0.892	0.893	30	23	
2	Instrument II A	0.944	0.943	45		44
	a. Assessment	0.935	0.935	13	13	
	b. design	0.919	0.925	21	21	
	c. the effectiveness of the program	0.919	0.925	11	10	
3	Instrument II B	0.963	0.966	50		45
	Process	0.963	0.966	50	45	
4	Instrument III (result)	0.945	0.947	80	73	73

### 3.2. The result of *exploratory factor analysis* test (EFA)

The result of Kaiser Meyer Olkin dan Bartlett test for measurement instrument component towards TADIPHE evaluation model is showed ini Table 3.

Table 3. KMO and Bartlett's test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.923
Bartlett's Test of Sphericity	Approx. Chi-Square
	df
	Sig.
	22584.293
	3160
	.000

The above-mentioned result of KMO shows the appropriateness of the sample for further analysis. The factor analysis result shows that there are 6 factors as a result of career guidance for the students. After a certain consideration on items of supporting factors the naming of factors includes: self awareness (11 items of indicator), career readiness (21 items of indicator), career awareness (16 items of indicator), awareness of work characteristics (14 items of indicator), and assertiveness (12 items of indicator), and positive attitude toward guidance and counseling (6 items of indicator)

### 3.3. The result of analysis of *partial least square* (PLS)

#### 3.3.1. The Result of Model Measurement (*Outer Model*)

The Result of Model Measurement (*Outer Model*) is showed in Table 4.

Table 4. Significance and Multicollinearity of Measurement model

Component Variable	Number of Initial Items	p. Values	Not Sign t<1.96	Number of Significant items t>1.96	VIF Outer >5	Percentage of Multicollinearity
Target	11	0.05	8	3	0	0
Assessment	15	0.05	0	15	8	53.3 *)
Design	24	0.05	2	22	6	25 *)
Installation	23	0.05	6	17	7	30.43 *)
Process	43	0.05	3	40	27	62.8 *)
Result	80	0.05	0	80	0	0
The effectiveness of the program	13	0.05	3	10	0	0

Remark \*) It is necessary to reconsider the items to be more significant

A measurement model is an outer model, which connects all manifest variables or indicator with the latent variable. The quality of measurement model can be verified from composite reliability *Average Variance Extracted* (AVE), and *Cronbach alpha* index. From the result of measurement model goodness test on each TADIPHE components viewed from reliability composite value, AVE, and Cronbach Alpha for all measurement fitness criteria as shown in Table 5.

Table 5. The result of TADIPHE Measurement model quality test

Component	Construct	Composite Reliability	AVE	Cronbach Alpha
	Criteria is good if →	> 0,7	> 0,5	> 0,7
Target	Structure	0.106	0.221	0.465
	Achievement Strategy	0.722	0.379	0.537
Assessment	Instrument	0.921	0.598	0.920
	Making use of data	0.901	0.646	0.902
Design	Planning	0.912	0.557	0.918
	Material and source	0.801	0.449	0.796
	Administration system	0.821	0.404	0.829
Installation	Role of Headmaster	0.859	0.607	0.777
	Role of Deputy Headmaster	0.835	0.432	0.802
	Role of the homeroom teacher	0.865	0.457	0.826
	Management	0.841	0.585	0.730
Process	Role of coordinator & Guidance and counseling Teacher	0.993	0.534	0.786
	The activity of Guidance and Counseling Teacher	0.939	0.612	0.939
	System support	0.935	0.447	0.934
Result	Implementation	0.898	0.458	0.893
	assertiveness	0.805	0.259	0.805
	Career Readiness	0.838	0.249	0.837
	Self Awareness	0.758	0.234	0.770
	Career Awareness	0.870	0.245	0.871
	Work Criteria	0.900	0.409	0.900
	Positive Attitude towards Program	0.796	0.373	0.796
The effectiveness of the program	Result Reflection	0.801	0.450	0.694
	Educational Impact	0.670	0,313	0.497

The criteria of model quality used in table 5 above are: AVE value of construct >0.50, composite reliability >0.70, and Cronbach Alpha >0.70

The following is an example of an analysis result of the assessment component measurement model. Figure 1 shows the result of outer loading analysis by means of partial least square, which indicates the outer part of the model connects all indicators (yellow rectangle) with the latent variable (blue circle). All assessment measurement construct indicators result in loading factor 0.70 with p<0.05, which means all indicators are significant. The correlation among blue circles shows the result of the inner model of component assessment, which is also significant (p<0.05). Figure 1 reveals the result of assessment component measurement model.

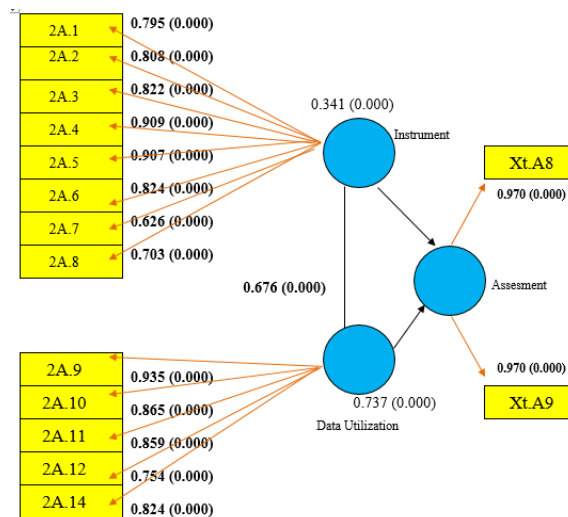


Figure 1. Assessment component measurement model

The assessment component measurement model consists of two predictors i.e. a) the instrument used during the assessment, and b) taking advantage of data obtained from data filling inactivity. Each predictor (latent variable) as shown in the yellow rectangles. There are 8 indicators, which are significant for



measuring instrument ( $p > 0.05$ ). The data taking advantage is measured by means of 5 indicators, which all of them are significant ( $p > 0.05$ ).

The two predictors (in the blue circle) can be used to measure assessment components due to the result of the analysis result of the structural model (inner model) ( $p > 0.05$ ). Thus, the model can be used to evaluate a career component assessment as shown in Figure 2.

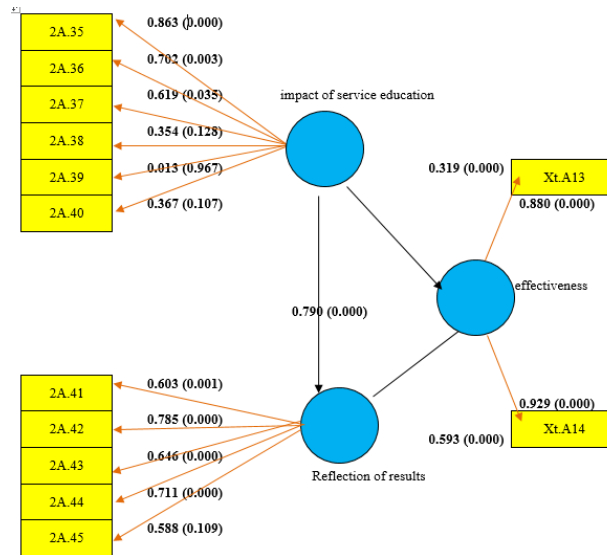


Figure 2. Model of Program Effectiveness Component Measurement

At the design component measurement model, there are some indicators, which are not significant i.e. indicators 2A, 38, 2A 39, 2A 40, 2A 45. They show  $p > 0.05$ . The correlation among blue circles show the result of the design component inner model, which is also significant ( $p < 0.05$ )

**3.3.2. Result of structural model quality**

The test of structural model quality also named as Inner Model verifies the relationship among latent variables in the model being developed. The relationship between latent variables or exogenous variables (variable of cause) and endogenous variables can be seen. The criterion of structural model quality is verified from multicollinearity (VIF),  $R^2$  value, coefficient estimation (inner loading), influence standard ( $f^2$ ), and  $Q^2$  of the entire model. Table 6 describes the result of Structural Model Quality Test on Each Component.

Table 6. Result of structural model quality test on each component

Structural Equivalence	Latent Variable endogen	Latent Variable eksogen	Inner Values	VIF	f2 (Effect size)	Influence of predictor on latent variable	R <sup>2</sup> Strength of Predictive Latent Variable	Model Quality
Target	A1		< 5		0.184	weak	0.155	weak
	A2		< 5		0.072	weak	0.665	good
Assessment	A8		< 5		0.231	moderate	0.543	moderate
	A9		< 5		0.190	weak	0.140	weak
Design	A10		< 5		0.773	big	0.278	weak
	A11		> 5 **)		0.804	big	0.868	good
	A12		< 5		0.939	big	0.882	good
Installaion	A3		> 5 **)		0.779	big	0.837	good
	A4		> 5 **)		0.785	big	0.492	moderate
	A5		< 5		0.657	big	0.798	good
	A6		< 5		0.676	big	0.499	moderate
	A7		< 5		0.605	big	0.292	weak
Process	A15		> 5 **)		0.783	big	0.768	good
	A16		< 5		0.669	big	0.540	moderate
	A17		< 5		0.667	big	0.132	weak

Structural Equivalence Latent Variable endogen	Latent Variable eksogen	Inner Values	VIF	f2 (Effect size) Influence of predictor on latent variable	R <sup>2</sup> Strength of Predictive Latent Variable	Model Quality
Result	A18	< 5	0.509	big	0.542	moderate
	A19	< 5	0.687	big	0.271	weak
	A20	< 5	0.499	big	0.768	good
	A21	< 5	0.463	big	0.422	moderate
	A22	< 5	0.495	big	0.453	moderate
	A23	< 5	0.640	big	0.325	moderate
Ef pro	A13	< 5	0.671	big	0.623	moderat
	A14	< 5	0.560	big	0.752	good

Remark: \*\*) there is multicollinearity so that review of each specification is necessary to be meaningful

The predictive strength of each evaluation component in TADIPHE model is shown in R<sup>2</sup> followed by the calculation of Q<sup>2</sup> with the formula  $A = \sqrt{AVE \times R^2}$ , which shows the contribution of all predictors toward latent variables as shown in Table 7. The goodness of Fit (GoF) on PLS-SEM is calculated manually by means of  $GoF = \sqrt{communality \times R^2}$  [30]. A global criterion of goodness-of-fit (GoF) can be proposed as the geometric mean of the average communality and average the R<sup>2</sup> [10], [30], [31] result in GoF=0,4752; Value GoF small=0,1; GoF medium=0,25; and GoF big = 0,38. Thus, the model can be said to fit the criterion. The result of TADIPHE Evaluation Model is showed in Table 7.

Table 7. Calculation Result of R<sup>2</sup> and Q<sup>2</sup> TADIPHE Evaluation Model

No	Konstruk	r	R <sup>2</sup> Value	1-R <sup>2</sup>	Q <sup>2</sup>
1	Target	0.425	0.1806	0.8194	0.8891
2	Assessment	0.312	0.0973	0.9027	
3	Design	0.414	0.1714	0.8286	
4	Installation	0.777	0.6037	0.3963	
5	Process	0.301	0.0906	0.9094	
6	Result	0.048	0.0023	0.9977	
7	Effectiveness	0.705	0.4970	0.5030	

If each component is considered, some components are classified as low but significant. The calculation Q<sup>2</sup> = 0.8891 (the position of all components are very strong 88.91%) so that it said that TADIPHE model is feasible for career guidance at VHS. The rest or 11.09% may be determined by other predictors used in this research. The Figure 4 is showed the Analysis result of all TADIPHE evaluation model.

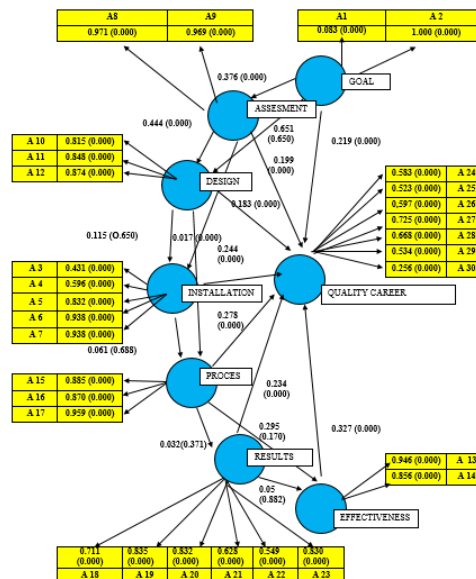


Figure 4. TADIPHE evaluation model

The yellow rectangles show indicators of each component with their outer loading. Blue circles show the result of the structural model test (inner loading), which explains the role of predictors toward latent variables. The figure between brackets shows the significance of the analysis results.

#### 4. CONCLUSION

Instrument constructs used to evaluate career guidance at VHS include target; assessment, design, installation, process, result, the effectiveness of the program. The form of instrument tools necessary to evaluate a career guidance program at VHS covers four groups. The instrument I (25 items) measuring target components i.e. about formulating target and strategies to achieve it and installation component of roles addressed to headmasters, deputy headmasters, and guidance and counseling coordinators at school. Instrument IIA (30 items) measuring assessment components and career guidance program design addressed to guidance and counseling teachers. Instrument IIB (45 items) measuring components of result and effectiveness of program addressed to guidance and counseling teachers. Instrument III (77 items) measuring result and effectiveness of program addressed to VHS students. The accuracy of the model is verified by analysis of the inner model with the indicators of the determinant coefficient ( $R^2$ ), predictive relevance ( $Q^2$ ), dan *goodness of Fit Index* (GoF). The figure of the complete model shows all predictors are significant with  $p=0.05$ ; all contribute ( $Q^2$ ) towards latent variables reaching 88.91% so that TADIPHE model is applicable. From the calculation of QoF, there is  $GoF=0.4752$ . Thus, the model is said to be fit.

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