

# The Development of Assessment Instrument for the Character Education at the State University of Medan

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**Submission date:** 26-Jun-2019 01:17AM (UTC-0700)

**Submission ID:** 1147177144

**File name:** 195.pdf (161.63K)

**Word count:** 3705

**Character count:** 20411

# The Development of Assessment Instrument for the Character Education at the State University of Medan

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**Abstract.** The aim of this study was to develop a set of instruments to assess the character education in the learning process at the State University of Medan. The study adopted the research and development method by following the principles of instrument development synthesized from instrument development experts. The developed instruments include assessment of the six pillars of character, namely trustworthiness, fairness, caring, respect, citizenship, and responsibility. To assess the instruments developed, qualitative and quantitative analysis was carried out. Qualitative analysis is carried out with the assessment of experts and practitioners which shows that the instruments developed have good content validity in the range of 0.67 to 0.97. Factor analysis was used to test construct validity with results in the range of values 0.528-0.918 which were categorized as good. While the reliability test results show a value of 0.699-0.910 which is categorized as good. Thus it can be concluded based on the results of small-scale trials, that the character education assessment instrument developed in this study has good validity and reliability and can be used in the broader context of learning process at the State University of Medan.

**Keywords:** *Assessment Instrument, Character Education*

## I. INTRODUCTION

State University of Medan as a higher education institution that has the motto "character building university" plays an active role in the implementation of character education in academic life in universities. For this reason, all related elements in the university jointly encourage the creation of a conducive academic atmosphere. The achievement of this goal is certainly through the plan to develop an activity program

whose application aims to improve the existence and image of the university.

One of the development efforts was carried out by changing the learning paradigm at the State University of Medan from Teacher-Centered (TCL) to Student-Centered Learning (SCL) which had implications for determining what content students should learn. In addition to hard skills, soft skills components (character building elements) become very urgent. Soft skills are as important as hard skills. Thus, within the scope of formal education, there must be models of good attitude shown by all State University of Medan academics. The habit of good character culture in the university academic community is expected to create a conducive academic environment to facilitate the achievement of character education goals.

The implementation of character learning in the State University of Medan is done through integration into the curriculum, namely through the learning process or lectures. Thus character education has been integrated in the learning process in this university. Yet, until now there is still no valid and reliable assessment instrument to assess the implementation and implementation of character education in the State University of Medan. Therefore, it is deemed necessary to develop a set of instruments to evaluate the implementation of character education in the State University of Medan.

### Focus of the Study

The focus of this study was an instrument for the assessment of the implementation of the 6 character pillars launched by lecturers of the State University of Medan. The six pillars of character include (1) Honesty (Trustworthiness), a form of

character that makes a person have a personality that has integrity, honesty and loyalty. (2) Justice (Fairness), a form of character that makes a person open, does not like to use others, does not cheat. (3) Caring, a form of character that makes a person have a caring attitude, attention to the surrounding environment. (4) Respect, a form of character that enables a person to be able to respect others. (5) Citizenship, a form of character that makes a person aware of the laws and regulations as well as attention to the natural environment and (6) Responsibility, a form of character that enables a person to be responsible, disciplined, and do their best. Learning in this case includes planning learning, learning implementation, and student assessment process.

#### Research Question

The instrument standardization process must go through several processes and tests in order to obtain standard instruments that are valid, reliable, objective, practical and economical. Based on this, the formulation of the problem in this study is:

What is a valid and reliable character assessment instrument to assess the implementation of the 6 pillars of character education in the State University of Medan?

#### Significance of the Study

Obtaining valid and reliable assessment instruments to assess the implementation of the 6 pillars of character education by the lecturers

An input for policy makers to determine the level of achievement of the implementation of the 6 pillars of character education by the lecturers

Developing knowledge, especially with regard to the development of an authentic attitude assessment instrument in learning.

A practical and applicable reference for lecturers at the State University of Medan to improve skills in assessing good and true learning outcomes

## II. LITERATURE REVIEW

### Instrument Development

Assessment includes all the methods used to collect data about individuals that focus on individuals, so that their decisions are also on individuals (Mardapi, 2012). Assessing is taking a decision on something with a measure that is qualitative (Arikunto, 2002; Jaali&Muljono, 2004). To obtain a good assessment result, a good instrument is needed. Some measurement errors are random and some are systemic. Systemic errors are caused by the measuring instrument, measured, and measuring (Mardapi, 2012). To reduce errors caused by measuring instruments, a measuring instrument that produces valid and reliable data is needed. For this reason, assessment instruments can be developed so that a valid measuring instrument is obtained from the construct of the measuring instrument and reliably after undergoing predetermined development and testing procedures.

In general, the instrument is a tool used to measure natural phenomena and observed social phenomena. The instrument is a tool for researchers to collect data. To obtain a good assessment instrument it is not easy, systematic steps of research and development are needed to achieve the expected product. Research and development (R&D) is a process that is used to develop and validate products in the education sector. The development research procedure basically consists of two main objectives, namely: (1) developing the product, and (2) testing the effectiveness of the product in achieving its objectives. The first goal is called the development function while the second goal is called validation.

The assessment can be carried out in two approaches (Mardapi, 2012), namely quantitative assessment and qualitative assessment. Quantitative assessment is an assessment in which all expressions of ability and learning progress are expressed in scores. Qualitative assessment is the disclosure of assessment results expressed descriptively, namely the expression of traits and capabilities that exist in children are described qualitatively, for example descriptively expressed in categories such as good, sufficient, and lacking. Character assessment can be done using observation instruments (observation) and student self-assessment (questionnaire) as confirmation for teachers (Ministry of National Education, 2015).

### Assessed Variables

In this section concepts related to the variables of this study will be discussed, including describing concepts relating to the 6 character pillars consisting of honesty, respect, fairness, responsibility, care and citizenship and learning that consists of planning learning, learning process and learning assessment. There are many sources that describe the pillars of character education, but in the State University of Medan environment refers to the 6 pillars mentioned by Major (2008) consisting of: (a) Trustworthiness, (b) Respect, (c) Responsibility, (d) Fairness, (e), Caring and (f) Citizenship

### Relevant Previous Studies

The purpose of this study was to obtain an instrument for evaluating the implementation of character education by lecturers at the State University of Medan. The implementation of character education by lecturers is needed because character education requires exemplary and conducive academic atmosphere for the creation of an environment that can foster the characters of each individual. This is in line with research from Hasanah (2013), BintiMaunah (2015), Pristine A, et.al (2015), and AbdillahDalimunthe& Reza Armin (2015).

The instrument development process in this study follows the steps of the development research proposed by Borg & Gall with the aim of obtaining valid and reliable assessment instruments so that they can be used on a larger scale. The assessment instrument developed in this study is a non-test instrument in the form of an observation sheet that contains indicators of variables contained in the 6 pillars of character education. The development of instruments in this study is in line with research conducted by Safitri (2015), Sutijan, et. al. (2015), Aw.Suranto (2014), Deitje A. Katuuk (2014), and Mutaqin (2014).

### III. RESEARCH METHODS

Basically this research is motivated by the question whether the implementation of character education in learning has been done well by lecturers in the State University of Medan. To answer this question, it is necessary to develop a set of instruments for assessing character education in learning.

#### Instrument Development Stages

The instrument development procedure in this study uses the Borg and Gall development model which contains a systematic guide to the steps taken so that the product designed in a development study has a feasibility standard, namely:

Conducting analysis on product to be developed, through interviews and literature studies to determine the implementation of character education on learning devices in the form of Rencana Pembelajaran Semester (RPS) and Satuan Acara Perkuliahan (SAP) that have been compiled.

Developing initial product, by identifying and formulating definitions of character education, as well as indicators for each character.

Expert Validation and Revision, carried out by providing a questionnaire filled by experts.

Small-scale field trials and product revisions were carried out by conducting small-scale field trials of 10-20 lecturers randomly selected from all with 6-10 expert subjects.

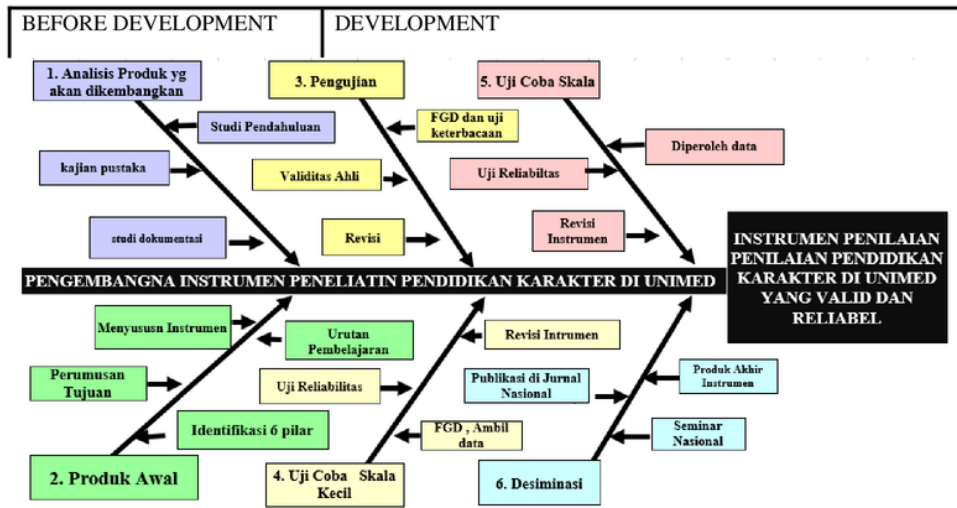
The medium scale trial was conducted on 30-40 lecturers randomly selected from all faculties in the State University of Medan.

Large-scale field trials and final products, carried out by testing the effectiveness of assessment instruments by giving questionnaires to the lecturers.

Socialization and dissemination

#### Research Design

The following is a fishbone diagram of the flow of the research implementation.



#### Technique of Data Collection and Analysis

The instrument testing method used in this development study consisted of testing the validity and reliability of the instrument. Validity testing starts with testing the content validity by experts. Validity testing in this study consisted of face validity and item content validity using a 1-7 Likert scale, calculation of item content validity using Aiken's V statistics formulated as (Azwar, 2012):

$$V = \frac{\sum_i^n s}{n(c - 1)}$$

Note :  $s = r - l_0$

r = assessment value given by experts

$l_0$  = lowest assessment value (in this case = 1)

c = highest assessment value (in this case = 7)

n = number of experts

For the instrument evaluating the implementation of character education in the form of observation sheets, the validity test carried out in this study was to test construct validity using factor analysis. For this small-scale trial, exploratory factor analysis (EFA) was used. Factor analysis used in this study uses the help of SPSS Version 22.0.

**IV. RESULTS**

**Initially Developed Instrument Analysis**

The results of the study presented in this article are the results of the development of instruments that follow the principles of instrument development up to the stage of a small-scale trial involving 14 lecturers (2 per faculty, including lecturers who teach postgraduate studies).

The literature study includes relevant literature studies and documentation studies on the implementation of character education in learning devices in the form of Semester Learning Plans (RPS) and Lecture Program Units (SAP) which have been compiled by lecturers. The results of completeness of RPS and SAP implementation can be seen in table 1.

**TABLE 1. Character Implementation on RPS and SAP**

NO	Faculty	Number of Lecturers	Number of Sample	Character Implementation			
				RPS	%	SAP	%
1	Faculty of Languages and Arts	179	54	50	92,59	51	94,44
2	Economics Faculty	116	35	33	94,29	33	94,29
3	Faculty of Sports Science	82	25	23	92,00	24	96,00
4	Faculty of Education Studies	79	24	23	95,83	23	95,83
5	Faculty of Social Sciences	89	27	25	92,59	25	92,59
6	Faculty of Mathematics and Natural Sciences	221	66	62	93,94	63	95,45
7	Engineering Faculty	146	44	41	93,18	42	95,45
	Average				93,49		94,87

From Table 1.it can be seen that the implementation of the characters has been listed in the RPS and SAP compiled by lecturers reach an average of 93.49% on the RPS while the SAP of 94.87%. This shows that almost all lecturers have included the characters that will be developed in their learning on the RPS and SAP that have been compiled.

The assessment instrument developed is a behavior observation sheet with descriptors that are adjusted to the character indicators developed. The observation sheet contains instructions for use and an assessment sheet with a rating scale of 1-4 i.e. 1 if the descriptor is never visible, 2 = sometimes, 3 = often and 4 if the descriptor is always visible in learning. Indicators for each assessment of the 6 character pillars can be seen in table 2

**Initial Product Development**

**TABLE 2. Indicator of 6 Pillars of Character**

Pillars	Indicators
Trustworthiness	1) honesty, 2) reliability, which includes fulfillment of commitments, compliance with rules and a binding code of ethics; 3) courage to act on the basis of truth; 4) building a good reputation; 5) loyalty, both to family, friends and the country.
Respect	1) respecting and treating others with respect; 2) tolerating and accepting differences; 3) behaving well and avoid harsh words; 4) considering the feelings of others; 5) not threatening, beating or injuring others; 6) holding back anger, not insulting others, and not forcing disapproval on others.
Responsibility	1) carrying out obligations; 2) planning; 3) trying to do the best; 4) self-control; 5) discipline; 6) being responsible for words, actions and attitudes; 7) becoming an example for others.

<b>Fairness</b>	(1) willingness to follow the rules; (2) providing opportunities for yourself and others; (3) open minded (want to hear others); (4) not using others; (5) not blaming others arbitrarily; (6) treating others fairly.
<b>Caring</b>	(1) friendliness / kindness; (2) sympathy and empathy; (3) gratitude; (4) willingness to forgive others; (5) helping people in need.
<b>Citizenship</b>	(1) cooperating with others; (2) engaging in community activities; (3) keeping abreast of information; (4) being a good member of society; (5) complying with laws and regulations; (6) respecting leaders; (7) caring for the environment; (8) volunteering

**Expert Validation and Revision**

After conducting a feasibility test the appearance of the assessment sheet then a more in-depth analysis to assess the

feasibility of the content as a description of the measured treatment indicators was conducted. The results of the item content validity test can be seen in table 4.3.

**TABLE 3. Content Validity Coefficient of Assessment Instrument Items**

No	Assessed Items	Content Validity Coefficient (V)	Criteria
<b>a. Suitability with aspects of character assessment</b>			
1	Trustworthiness	0,90	Good
2	Respect	0,93	Good
3	Responsibility	0,93	Good
4	Fairness	0,93	Good
5	Caring	0,90	Good
6	Citizenship	0,93	Good
<b>b. Indicators suitability with trustworthiness</b>			
	Validity Average	0,93	Good
<b>c. Indicators suitability with Respectfulness</b>			
	Validity Average	0,90	Good
<b>d. Indicators suitability with responsibility</b>			
	Validity Average	0,93	Good
<b>e. Indicators suitability with fairness</b>			
	Validity Average	0,93	Good
<b>f. Indicators suitability with caring</b>			
	Validity Average	0,90	Good
<b>g. Indicators suitability with citizenship</b>			
	Validity Average	0,90	Good

From table 3.it can be seen that the entire item has a content validity coefficient criterion with the lowest number of 0.67 and the highest number of 0.93. Because the range of V numbers that can be obtained between 0 and 1, according to experts this means that each character pillar has a developed assessment instrument that has good content validity and thus supports the overall content validity (Azwar, 2012). Thus it can be concluded that all items in the developed assessment instruments have good content validity.

**Small Scale Trial and Product Revision**

For the purposes of testing the empirical validity and reliability of the first stage, a small scale trial which is intended

to obtain empirical data needed in the next stage of instrument development was carried out. Small-scale trials were carried out on 14 lecturers by involving 3 Rater (observers) for each learning done by the lecturer. The data obtained is used for the purpose of testing the validity and reliability of each assessment instrument.

The approach taken in testing construct validity in this study is a factor analysis approach. Input data used is data from indicator variables. The results of computation carried out with the help of SPSS version 22 can be seen in table .4

**TABLE 4. KMO and Bartlett's Test Assessment Instrument for Small Scale Trials**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,761
Bartlett's Test of Sphericity	Approx. Chi-Square	1361,152
	Df	595
	Sig.	,000

From table 4, the value of KMO is 0.761 > 0.5. Meanwhile the significance of the Bartlett's Test is 0,000 (less than 0.05) so that it can be concluded that the variables and samples used are allowed to be analyzed further (Santoso, 2006). The results of the analysis show that all indicators / items have communalities values > 0.5. It can be said that the whole item is good enough to explain most of the variants in the factors that are formed (Hair, et.al., 2010).

The results of the rotated component matrix analysis show that no item passes the charge factor of the "cut off point" <0.30. The biggest factor load is on the hospitality /

benevolence indicator of 0.812 and the smallest load on the indicator is trying to do the best 0.521. So that based on the results of testing the validity of the factors it can be concluded that all indicators are valid as framer of the character variables (Hair, et.al., 2010).

**Reliability Test**

The data obtained in this small-scale trial are quantitative data whose assessment is carried out by 3 assessors (rater). The results of the calculation of the reliability coefficient average rating of the whole rater on the use of attitude assessment instruments can be seen in table 5.

**TABLE 5. Reliability of Attitude Assessment Instruments on Small Scale Trial**

No.	Assessment Aspects	Variance between subjects	Error Variance	IRR
1	Trustworthiness	0,961	0,210	0,782
2	Respect	1,419	0,260	0,817
3	Responsibility	1,070	0,144	0,865
4	Fairness	1,774	0,198	0,888
5	Caring	0,885	0,163	0,816
6	Citizenship	2,467	0,224	0,909

From the above results it can be seen that the coefficient of inter-rater reality (IRR) of all aspects of the character pillar evaluation has a high reliability, ranging from 0.782 to 0.909. Thus it can be concluded that this assessment instrument has good reliability in measuring aspects of the assessment of character implementation.

## V. CONCLUSION

Some conclusions that can be obtained from this study include:

The characters proclaimed by State University of Medan have been listed on the RPS and SAP compiled by lecturers who achieved a mean of 93.49% in the RPS while the SAP reached 94.87%

The whole item has a content validity coefficient criterion with the lowest number of 0.67 and the highest number of 0.93. this means that each character pillar has a developed assessment instrument that has good content validity and thus supports the overall content validity

The results of a small-scale trial conducted on 14 lecturers involving 3 rater (observers) for each lecture conducted by the lecturer showed the results of testing the validity of the factors that all indicators were valid as forming character variables.

The results of small-scale trials also show that this assessment instrument has reliability in measuring aspects of the assessment of character implementation

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