

Validity and Reliability of the Health Education Assessment Module's Needs Analysis Instrument among Kedah Primary School Teachers

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Abstract

The study was conducted to obtain the validity and reliability of the health education assessment module needs analysis instrument among Kedah primary school teachers. This study aims to determine the need to develop a health education assessment module among primary school teachers who teach Health Education. The study uses design and development methods but has three phases. The technique is said to be multiple methods that can use any suitable form for specific phases. For the needs analysis phase, the researchers have used quantitative methods that have used questionnaires for data collection. The questionnaires were certified by one expert from the Malay Language working in a teacher education institute and three experts in the relevant fields of Health Education. A total of 40 primary school teachers who teach standard one students from Kedah state were selected to test the instrument's reliability before giving the accurate sample of the need analysis phase. Experts who validate the language have given good comments. There were only a few grammatical errors while the experts who validated the questionnaire's content agreed with all the questions contained in the instrument, which is suitable to the needs analysis phase that determines the need to develop a health education assessment module for the implementation of classroom-based Assessment. The instrument obtained language and content validation has been distributed to 40 Health Education teachers who teach lower primary students as a pilot study. The pilot study was analyzed using SPSS version 20. The pilot study findings show that the instrument has a good reliability value which is .849. In conclusion, the researcher hopes that this instrument will help other researchers in their need analysis phase related to the development of any Health Education related module.

Keywords: Validity, Reliability, Assessment Module, Health Education

Introduction

According to the Malaysian Examination Board (2012), School Based Assessment (SBA) retains all school assessment concepts and involves pupils' control level of determination in every subject. The teacher plays a vital role in implementing SBA with learning objectives that aim to increase pupils' learning through formative Assessment, termed Assessment for learning, assessment as learning, and Assessment of learning. Malaysian Examination Board (2014) explained that Assessment for learning is referred to as Formative Assessment. Assessment as learning happens when the pupil makes reflection and evaluates the respective development of learning. This enables those to understand their purpose of learning and realize what they should do to achieve learning objectives. According to the Malaysian Examination Board (2014), the Assessment of learning happens at the end of a stipulated period, subject, or area of education. Usually, Assessment occurs in the summative form of test. Classroom-based Assessment (CBA) is one of the most essential components in the SBA, formerly known as school assessment. Classroom assessment becomes more significant and compulsory to all citizens when the former Minister of Education, Dr. Maszlee Malik, announced an examination revoked for lower primary pupils on 31 October 2018. His statement has been enforced according to the Ministry of Education (2018).

Problem Statement

According to Norazilawati et al (2015) stated that 66.7 percent of teachers did not produce assessment materials due to time constraints and excessive workload to perform Classroom-Based Assessment. There are also statements saying that teachers are not skilled in constructing assessment materials for Health Education and lack understanding about Assessment (Gengatharan & Rahmat, 2019). This statement is further strengthened by Othman et al (2013), who stated that most teachers who teach Health Education subjects are still unskilled in developing assessment items understanding and clarity regarding the purpose of Assessment. Although the method of using the module has been used in various fields and various subjects, less research has been done related to the Health Education assessment module because most studies focus on core subjects only and for secondary schools only. This can be proven by statements from Kumaran et al (2020). Based on the identified problems, the researchers have developed a Health Education assessment module for year one teachers who teach Health Education to perform classroom-based Assessments. For that researcher has developed an instrument in the need analysis phase to know the need for the design and development of the Health Education assessment module.

Methodology**Research Design**

This study is a quantitative approach based. This study is essentially a survey conducted through a deductive descriptive study. A survey is a research method that can gather information about a large group of the population by sampling methods. Using this method, the researcher can generalize the actual study population based only on the sample (Creswell, 2008). Therefore, the main reason for choosing the survey method as the primary method in this study is that the results of this study can be generalized to the actual population, provided that proper sampling techniques are used.

Sample of Pilot Study

To assess the reliability, a pilot study was conducted by the researchers. Sabitha (2005) suggested 30 to 50 people is enough for a pilot study, while Abdul Ghafar (2003) has indicated that 15 to 20 people are enough, and Cresswall (2014), on the other hand, believed that 30 people is enough for a pilot study. All samples were randomly selected. Therefore, according to Sabitha (2005), researchers have conducted a pilot study using 40 teachers who teach Health Education to year one students in primary schools under the district of Kuala Muda Yan, Kedah.

Result

Development of the Instrument

The researcher of this study has constructed a needs analysis phase questionnaire form by adapting some questionnaires that have been built on past studies. Among them are OECD (2014), 'teacher competencies in Health Education' (Moynihan et al., 2015), and 'Teachers Knowledge and Readiness towards Implementation of School-Based Assessment in Secondary Schools' (Veloo et al., 2015). Since the original instrument of this phase is in English, the back-to-back translation method is used where the questionnaire is translated into Malay and translated back into English as suggested by Brislin et al (1973). The process was assisted by three lecturers from the language faculty of the Institute of Teacher Education, Sultan Abdul Halim campus, Sungai Petani, Kedah. One of them is a lecturer of English language, and another one is a Malay lecturer. This process is done so that the original meaning of the instrument is not affected after translation. However, researchers are still making modifications to the questionnaire according to the needs of this phase.

The needs analysis phase questionnaire has five sections. It is part A, B, C, D, and E. Part A contains the respondents' background, part B includes the knowledge of Health Education in the school. Next, part C consists of the level of skills of teachers in teaching Health Education, and Part D discusses the level of knowledge of teachers regarding the implementation of Classroom-Based Assessment of Health Education subjects. The last part, part E, is a selection of items to be used to construct the Health Education assessment module for first-year teachers in implementing Classroom-Based Assessment.

In the needs analysis phase questionnaire, there are two types of options, namely, rating scale, five answer choices (1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree). Scores for questions are given with the highest score on the "Strongly Agree" option and the lowest on the "Strongly Disagree" option. Determining the meaning of the Likert Scale is made by taking into account the respondents' views and making it easier for them to mark the answer choices correctly without any confusion. In contrast, another type of choice consists of closed-ended questions that are 'yes' or 'no.'

Validation of the Instrument

According to Chua (2006), validity can be categorized into two types namely internal validity and external validity. According to Chua (2006), internal validity will ensure correlation between study variables while external validity is more focused on populations in varying contexts while Hair et al (2006); Howell (1999); Krueger (1994); Wiersma (2000), meanwhile, say that the validity of the instrument is done to ensure that the study instrument measures the constructs studied correctly and accurately. Miles and Shevlin (2001), meanwhile, argue that a measuring tool that can measure variables accurately is valid as a measuring tool.

Measurement tools have validity when the measurement tool can be used with concepts related to the aspects studied (Noraini, 2013).

The number of expert panels for study validity depends on the level of expertise required and the diversity of the knowledge itself (Grant & Davis, 1997). Several past researchers have determined the number of experts, i.e., two experts deemed sufficient (Nunnally, 1978). According to Lynn (1986), experts for validity can be taken from 1 to 5 people. Wilson (1989), meanwhile, suggested between three to seven experts to evaluate domain content scales using rating scales.

Lynn (1986) revealed that researchers had obtained language validity from a language expert who is a lecturer at the Sultan Abdul Halim Campus Teacher Education Institute. To verify the instrument's content, researchers have used the expertise of three experts. Two experts from the Faculty of Sports Science and Coaching, Sultan Idris Education University, namely a senior lecturer with the title of Associate Professor while another senior lecturer grade DG54 while the third expert who confirmed the contents of the questionnaire instrument is a lecturer at the Institute of Teacher Education Sultan Abdul Halim campus, Sungai Petani, Kedah. He works in the faculty of Physical Education, Health, and Sports Science of the institute. The questionnaire was drafted and corrected after being consulted, evaluated, and commented on by experts in educational research and the field of Health Education.

Reliability of the Instrument

When looking at reliability, there are two types of reliability, namely internal reliability and external reliability. Internal reliability refers to Alpha Cronbach's values. In contrast, external reliability can be obtained through test and retest procedures in which pilot studies are conducted in different time intervals to the same respondent (Chua 2006). According to Othman (2000), reliability is often focused on inventories that consistently measure against fundamental factors. Clear statements and items can increase the reliability of a measuring instrument (Konting, 2005).

As suggested by (Chua 2006; Fraenkel & Wallen, 2003), the Alpha Cronbach's value should be 0.7 and above where the value indicates the study instrument has a high and stable reliability value meanwhile Nunnally (1978) stated that the accepted value for Alpha Cronbach's is 0.7 or more. Overall, based on a pilot study conducted using a total of 40 respondents, the instrument of this study has an Alpha Cronbach's value of .849. According to table 1. An alpha coefficient value scale shows that this study's needs analysis phase questionnaire was accepted with an excellent coefficient strength and high-reliability value.

Table 1:

Alpha coefficient value scale

Alpha Value	Coefficient Strength
0.6 - < 0.7	Medium
0.7 - < 0.8	Good
0.8 - < 0.9	Very Good
0.9	Excellent

Source Hair, Hult, Ringle and Sarstedt (2014)

Conclusion

To analyze the pilot study data, the researcher used SPSS version 22 software to determine the Alpha Cronbach's value. For the needs analysis phase data using the actual sample, the researcher used descriptive statistical analysis.

Thanavanh, Harun-Or-Rashid, Kasuya, and Sakamoto (2013) have used descriptive statistics such as frequency, mean, and percentage to determine the respondents' level of knowledge and skills in their study. Researchers also used frequency, mean, and percentage calculations in this phase. To clarify part A of the questionnaire, which contains the respondents' background, and part B, which includes the background of Health Education in schools, the researchers used frequency and percentage.

Part C, which discusses the level of skills of teachers in teaching Health Education, and part D, which explains the level of teachers' knowledge regarding the implementation of Classroom Assessment of Health Education subjects, are analyzed with standard deviation, mean, and percentage. Part E, which explains the Health Education assessment module's construct options for first-year teachers to implement Classroom Assessment, is also analyzed with standard deviation, mean, and percentage. Researchers have converted the rating scale into mean and percentage for the findings of sections C, D, and E.

Overall, the development of this instrument has succeeded in producing an instrument that can measure teachers' need to produce a Health Education Assessment Module for implementation of Classroom-based Assessment. The findings of this instrument are expected to add more knowledge in the Health Education field and teacher instructional preparedness, especially in the Malaysian context.

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