

Validity and Reliability of a Questionnaire Instrument for the Development of a Humanistic Teaching Competency Model among School Teachers

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Abstract— This study focuses on examining the validity and reliability of instruments to evaluate the questionnaire used in the study. The questionnaire instrument developed was adapted from a study by Sukor Beram (2022). Each item was modified to suit the needs of the study, which aims to assess the development of a Competency Model Based on Humanistic Teaching Among School Teachers. Face and content validity were determined through expert reviews, with five experts providing feedback on aspects such as language, sentence structure, and confirming the domains of the developed content. The research instrument was assessed by these experts, and a pilot study was conducted involving 20 teachers across Penang. The software Statistical Package for Social Science (SPSS) version 26.0 was employed to calculate the Cronbach's alpha reliability coefficient for each item. The results indicated that the alpha coefficient reached $\alpha=0.976$, suggesting that all items built demonstrated high reliability, making the instrument suitable for assessing the development needs of the intended application.

Index Terms- validity, reliability, instrument, humanistic competence

I. INTRODUCTION

The concept of a humanistic approach in education, based on values such as love, joy, and mutual respect, has been made a foundational aspect of the Ministry of Education's administration for cultivating a teaching and learning environment in classrooms (Malik, 2021). To meet these intended goals, researchers believe that teachers' teaching and learning practices should emphasize attitudes, knowledge, technical skills, and soft skills to strengthen the holistic development of students.

In the 21st century, the educational trend in Malaysia reflects the country's efforts to nurture a prosperous society through education. Various initiatives have been undertaken by the Malaysian government to create an inclusive society, aiming toward the formation of a Malaysian nation-state, one of which includes providing equitable access to quality education at an international standard (Abdullah, 2020). However, education that is overly focused on academic

achievement has been criticized for paying insufficient attention to the development of local culture and societal environments (Mat Daud et al., 2020; Alifiyah, 2023).

The key to the success of the education system largely depends on the extent to which teachers' classroom practices utilize a teaching approach grounded in theoretical guidance (Mohd Salleh, 2011; Zainuddin & Mat Saad, 2020). This approach aims to develop high-level intellectual skills through discussions of concepts, models, and related theories before introducing practical applications. Theoretically, educational psychology scholars recognize that the Humanistic teaching approach offers various advantages. These include preparing students to develop a balanced human potential in terms of emotional, spiritual, moral, intellectual, and physical dimensions through student-centered learning activities, with the teacher acting as a facilitator (Yanasari, 2016; Suprihatin, 2017; Akmal et al., 2018; Huang, 2019).

To that end, Jaes et al. (2020) suggest that contemporary education should prioritize humanistic education based on ten essential elements: humanity, personal character, freedom, responsibility, awareness, spirituality, support, independence, integrity, and empathy. Therefore, it can be concluded that appreciating humanistic values through a humanistic teaching approach is crucial for developing a society that is balanced in terms of moral, spiritual, physical, and personal character.

II. RESEARCH OBJECTIVES

The objective of this study is to determine the validity and reliability of the developed instrument in analyzing the needs for the development of a competency model based on humanistic teaching among school teachers. This research instrument was adapted from Sukor Beram (2022) and modified to meet the needs of this study. Specifically, the objectives of this research are as follows:

- a. To determine the suitability of the constructs and items for needs analysis through expert validation.
- b. To determine the reliability of the instrument through Cronbach's alpha coefficient analysis.

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III. RESEARCH METHODOLOGY

Research Design

This study employs a quantitative research method using a descriptive survey focusing solely on face and content validity, as well as the reliability of the questionnaire instrument for analyzing the needs for the development of a humanistic teaching competency model among school teachers. The descriptive study is conducted to provide a systematic explanation of the facts and characteristics of a population and the studied area. The developed instrument underwent validation and reliability testing by five (5) expert panels. According to Lynn (1986), the number of experts needed ranges from 5 to 10. These experts include specialists in psychology, counseling, instrument design, competency, and linguistics. The expert panels were tasked with validating the content of the items developed to represent the study's constructs, including accuracy in word choice, language, spelling, and phrasing. Appropriate language register was also considered in the content validity process of the questionnaire instrument.

Population and Sample of the Study

The population of this study consists of secondary school teachers in Penang, with more than 10 years of teaching experience. The study sample was selected using purposive sampling. According to Chua (2016), the sample size for a pilot study should not exceed 100 respondents, typically ranging from 10 to 30. Treece & Treece (1982) recommend that the sample size for a pilot study should be 10% of the total actual sample. Thus, the researcher selected 20 samples for this pilot study, in line with prior research recommendations.

Research Instrument

The research instrument was adapted based on the needs and objectives of the study. The questionnaire consists of four sections. Initially, the researcher developed 36 items based on the literature review. However, after the face and content validity process with experts, changes were made to the items and their number. The researcher revised the items according to the experts' suggestions. A Likert scale ranging from 1 to 5 was used as needed. Sections A, B, C, and D employed a Likert scale based on: 1) Strongly disagree, 2) Disagree, 3) Moderately agree, 4) Agree, 5) Strongly agree; as a measure of the respondents' agreement level with the developed items.

IV. RESEARCH FINDINGS

Instrument Validity

To ensure that the developed instrument meets the intended measurement standards, the researcher utilized expert services for validation, as done in the study by Lily Hanefarezan et al. (2018). The researcher adapted the questionnaire from previous studies. Therefore, content validity criteria were considered (Sanchez-Franco & Roldan, 2010). Five experts were involved in determining face and content validity. Each expert was provided with the developed questionnaire and was asked to provide comments on word choice, sentence structure, language, and content verification for each construct. Face validity refers to the

extent to which the instrument contains information relevant to the study area (John W. Cresswell, 2008). Two psychology experts, a counseling expert, a teaching expert, and a language expert assessed the content validity of the instrument. Based on the experts' comments and suggestions, 36 items were refined in terms of word choice, phrasing, sentence structure, and the alignment of items with the constructed framework. Additionally, four more items were added, bringing the total to 40 items. Table 1 shows the distribution of the 40 items across the sections of the questionnaire.

Table 1: Distribution of items across sections of the questionnaire

Section	Item Numbers	Number of Items
Section A: Respondent Demographics	1, 2, 3, 4, 5	5 items
Section B: Knowledge of Humanistic Elements	1, 2, 3, 4, 5a-d, 6, 7	10 items
Section C: Use of Humanistic Elements in Teaching and Learning	1, 2a-c, 3, 4, 5a-c, 6, 7	11 items
Section D: Development of Humanistic Competency Model	1, 2a-e, 3, 4, 5, 6, 7a-c, 8	14 items

Based on Table 1, the four main sections include respondent demographics, knowledge of humanistic elements, the use of humanistic elements in teaching and learning, and the development of the humanistic competency model. The researcher included five items for the demographic section, 10 items for knowledge of humanistic elements, 11 items for the use of humanistic elements in teaching and learning, and 14 items for the development of the humanistic competency model.

Instrument Reliability

Cronbach's Alpha internal consistency method was used to measure the reliability of all items in the questionnaire instrument that would be used in the actual study. To assess the reliability of the item construction, a pilot study was conducted with 20 secondary school teachers, using an online survey via Google Forms. The researcher utilized the Statistical Package for Social Science (SPSS) version 26.0 to analyze each item in the questionnaire and compute Cronbach's alpha coefficient. According to Muhammad Nizam (2016), a Cronbach's alpha coefficient value exceeding 0.6 is considered acceptable. Table 2 shows the range of Cronbach's alpha coefficients.

Table 2: Cronbach's Alpha Coefficient Range

Coefficient Range	Description
0.9	Excellent
0.8 - < 0.9	Very Good
0.7 - < 0.8	Good
0.6 - < 0.7	Average
< 0.6	Weak

The reliability test analysis from the pilot study is shown in Table 3 below.

Table 3: Reliability Analysis Findings (Item Statistics)

Cronbach’s Alpha Number of Items

0.976 40

No.	Construct	No. of Items	Reliability Coefficient
1	Section A	5	0.976
2	Section B	10	0.951
3	Section C	11	0.943
4	Section D	14	0.981

Based on Table 3, the pilot study data show that all constructs have excellent reliability. This indicates that all items can be used in the actual needs analysis study.

V. CONCLUSION

This study aims to measure the validity and reliability of the items developed in the questionnaire instrument to conduct a needs analysis for the development of a competency model based on the humanistic approach in teaching among school teachers. The researcher's understanding of instrument validity is crucial to ensure the suitability of a measurement tool for obtaining accurate data (Chua, 2016). The face and content validation process involved experts in related fields, who provided recommendations and feedback on the questionnaire instrument, which had been modified from previous studies. The researcher made adjustments to sentence structure, appropriate phrasing, and item additions based on the expert panels' feedback. This process ensures that the developed instrument maintains its defensibility, accuracy, relevance, and usability (Franekel, Wallen, & Helen, 2012). The reliability test analysis from the pilot study resulted in a Cronbach’s alpha coefficient of 0.976, indicating an excellent level of reliability. This demonstrates that the designed instrument is capable of measuring and can be used in the needs analysis for the development of a humanistic teaching competency model for secondary school teachers.

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