

FACE VALIDITY OF IKBAR USING CVR METHOD

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Abstract- This study aims to examine the face validity of Adversity Quotient instrument or IKBAR for polytechnic students using the Content Validity Ratio (CVR). The assessment was conducted through the evaluation by 10 test takers among polytechnic students selected via purposive sampling. The instrument involved 220 items with four main AQ constructs such as Control, Ownership, Reach and Endurance. A total of 187 items reach more than 0.62 of CVR critical value, while 33 items required refinement thus showing that the items were built with a good conceptualization. The results of the study prove that the instrument has good face validity. IKBAR has a great potential to be promoted as a good measurement instrument of adversity quotient for polytechnic students. It is recommended to be evaluating by professional and field experts in strengthening the content validity of IKBAR.

Keywords- Adversity Quotient, Face Validity, Content Validity Ratio, Polytechnics, Test Taker

I. INTRODUCTION

One of the main education agendas in Malaysia is Polytechnic Transformation Agenda that is designed for the implementation throughout 2009 until 2020, which is intended to contribute to increasing the number of highly skilled manpower. Polytechnic students need to be prepared to face the challenges rather than just empowering work skills. Hence, students' misery on these challenges should be addressed by understanding Adversity Quotient or AQ. IKBAR or Adversity Quotient Instrument was developed to measure AQ among polytechnic students in Malaysia.

II. FACE VALIDITY

According to the construction instrument model, the expert review covers two aspects, namely the test taker review and the expert review. Then, the test taker review among polytechnic students will first take place before a panel of professional and field experts' review is carried out. In the context of this study, test takers are not included in the panel of experts because their considerations are towards fulfilling the face validity only. Face validity means prima facie assessment whether the items show a representative on the construct and whether the instrument appears valid. This validity has something in common with the legal term that is prima facie, from a Latin word meaning first sight. This validity is also called pre-test of a trial conducted among a group of respondents to identify problems that exist in a certain design questionnaire. Although face validity is not considered as a form of validity and some psychometric experts do not believe it, this validity is still required in most fields in order for a test to appear valid. Face validity usually involves evaluation among those whom are not experts and involves a group of individuals whom are the test takers that can provide useful input about the item being tested and that is very important. Face validity

must be reviewed by one or more individuals from the same population within the real samples.

III. ADVERSITY QUOTIENT

AQ means the ability or capability of an individual to put up a struggle in facing and overcoming adversities, problems or difficulties and also changed them into an opportunity for greater achievement. AQ is a new paradigm that is very useful when there is adversity that appears in all walks of life. AQ variable is also relatively new among the majority of individuals. One's ability to face adversities in their life and change the adversities into an opportunity to create success is known as adversity quotient (AQ). The idea of AQ is produced as there exists a question on why two individuals with similar IQ and EQ, but handle life's adversities differently. Operationally, AQ is measured using four dimensions, which are Control, Ownership, Reach and Endurance. AQ is also able to predict success. The definition of AQ can be categorized into three, which are: (i) the conceptual framework to increase all facets of success; (ii) the measure of how one responds to adversity; and (iii) a network of scientific tools based on knowledge to improve one's response towards adversity. In the educational perspective, AQ is the ability that is needed to keep fighting when students face difficulty in achieving their performance. AQ can predict resilience of a person and can be used to enhance the effectiveness of teams, relationships, families, communities, cultures, societies and organizations.

IV. CONTENT VALIDITY RATIO

The content validity of IKBAR for polytechnic students is measured by quantitative measurement procedures, which is the Content Validity Ratio or CVR. CVR used for measuring the content validity items through empirical measurements. CVR is a method from the classical measurement literatures,

which is more practical from the aspect of time and costs, besides being easy to administer and fast in implementing. These advantages have made CVR a choice among past researchers abroad and research in Malaysia. The procedure begins with the review of the test takers, then the repaired instruments are given to the panel of experts for evaluation [21]. For this research context, researcher been applied CVR among test taker reviews.

The applicability of CVR was clear because face validity is a part of content validity. The three point scale was used for each item, which is (1) essential, (2) useful but not essential and (3) not necessary. Face validity was determined using the following formula, where CVR_i is the value of the item in the built-up test; n_e is the number of test takers that evaluate the item as essential and N is the total number of test taker involved ($N = 10$). The formula is $CVR_i = [n_e - (N/2)] / (N/2)$. CVR values were in the range -1 to +1, where a value close to +1 indicates that the test takers agree that the item is very important in the content validity. Lawshe suggested that if more of the test takers involved in the study evaluate the item as very important, then the item is considered to have satisfied the face validity.

The original table of CVR had been revised. When the total number of test takers was 10, hence the minimum value that must be adhered to for each item is 0.62 evaluated at $\alpha = .05$. This means that if there are items that fail to meet the minimum requirements value below than 0.62 or are statistically insignificant, the items will automatically be retained, refined or dropped. The statement was in line with the statement that mentioned items that do not achieve minimum agreement by the expert panel must be either eliminated from the instrument or revised. In this research context, the items ok IKBAR will only be refined and revised. The objective of this research is to full fill the requirements of face validity on Adversity Quotient Instrument (IKBAR) among test takers using Content Validity Ratio (CVR) in the context of polytechnic.

V. RESEARCH METHOD

The method used in this study is a quantitative approach through CVR using a strategy called Think Aloud technique where participants presented their views verbally during instrument filling up activities alongside the researcher. In the context of this study, the researcher also recorded the time taken by the researcher for record purposes and recorded the views of students should there be any spelling mistake, grammatical error, and other problems. Test takers would first complete the test instrument and give criticism with regard to the format, content, understanding, terminology, easiness, and response time. Respondents were also asked to identify items

that should be added or dropped besides recommending any improvement. Test takers' response must be reviewed and refining must be done based on the respondents' feedback. This discussion covers issues that might exist regarding the test, be it in terms of the question statement, language, administrative method, and the time duration of the test. Their comments might not be in scientific format but it would give effect to the test.

VI. SAMPLING

The sampling technique used was a purposive sampling technique. This technique was consistent because the researcher believed that the sample fulfilled the needs of the study. The sample taken was also voluntary, ready, and free to participate in this study. It is an important feature in obtaining information from focus groups believed to be capable of evaluating an item. In the context of this study, respondents whom are polytechnic students were very consistent with the characteristics of respondents in the validation studies later. Test takers consisted of ten students comprising five female students and five male students within the age range of 18 to 20 years. Five students were ethnic Malays and the rest were non-Malays. A total of eight students were in the second semester and the rest were in the fifth semester. All of which consist of various departments, including the Department of Mechanical Engineering, Department of Commerce, and Department of Agro technology and Bio-industry. The items would then go through refining process based on the comments from the test takers. The number of test takers proposed as a sample size for this pilot study is between six to nine persons. A pilot sample size need not be large but should be adequate to effectively fulfill the initial preliminary discussions about the test. Self-developed instruments are considered impractical and ineffective if it was not first put on trial on a group of individuals with the same characteristics as the actual sample. This group usually comprised of five to ten persons. Thus, a total of ten students were selected from Polytechnic Nilai, Negeri Sembilan.

They were randomly selected in order to obtain feedback on the test takers' difficulty and misunderstanding whether from the aspects of clarity of purpose, language, and the duration of the test. The assessment of the test takers in this context was to test the students' understanding of the items from the aspects of suitability and level of language to meeting the content validity. The test takers were explained that they were not required to answer the items, but just to check on the language (whether there were words that they could not understand), understanding (whether there were different meanings for the same sentence), and use of words only (whether there was a word of a higher level).

VII. FINDINGS

The demographic profile of the test takers (N = 10) shows female students (5, 50%) are equal with male students (5, 50%). Based on races, Malay (5, 50%) and non-Malay (5, 50%) are also equally the same. Respondent dominated by first year students (8, 80%) compared to last year students (2, 20%). On type of programmes, Department of Commerce dominated (6, 60%) compared to Department of Agriculture and Biotech (3, 30%) and Mechanical Engineering Department (1, 10%). All of them are from PoliteknikNilai, Negeri Sembilan. The findings showed that there were 33 items out of 220 items that were below the set critical CVR value of 0.62. Therefore, the item is worth noting by the researcher for improvement purposes before being assessed by a panel of experts.

The items were numbered 33, 72, 126, 200 (CVR = .200); items numbered 14, 26, 42, 73, 79, 168, 169, 172, 176, 183, 210 (CVR = .400), and items numbered 13, 23, 25, 32, 60, 91, 99, 124, 129, 136, 138, 144, 145, 164, 167, 171, 173, and 188 (CVR = .600). Figure 1, 2, 3 and 4 shows some examples of IKBAR items under the CVR_{critical} value for face validity according to the constructs.

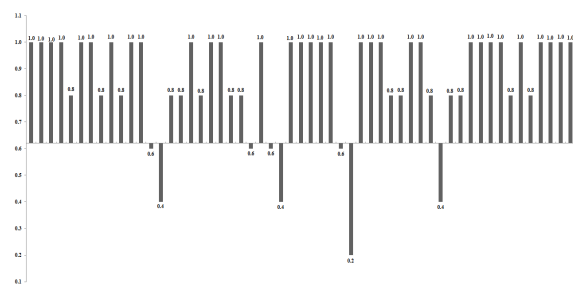


Figure 1: CVR value for each item in Control construct

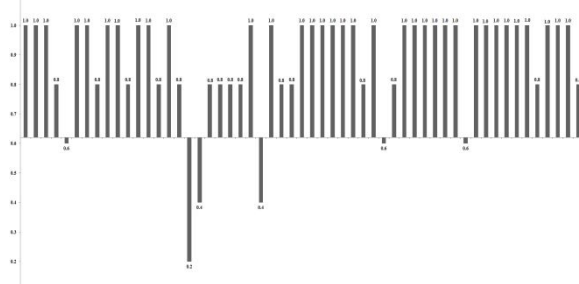


Figure 2: CVR value for each item in Ownership construct

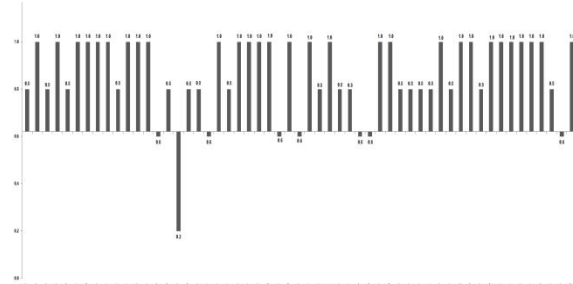


Figure 3: CVR value for each item in Reach construct

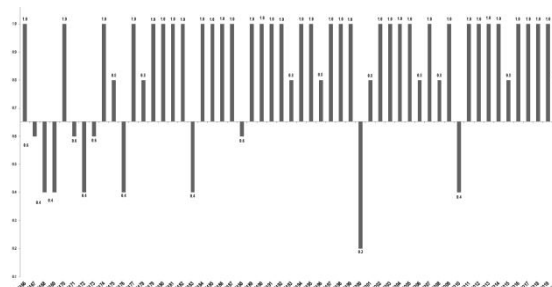


Figure 4: CVR value for each item in Endurance construct

VIII. DISCUSSIONS

For control constructs such as Table 1, items 33 and 42 were not well understood by the test takers from the aspect of word usage such as item 33 of the words resigned or willing (redha) and item 42 of determined (nekad) and careless or oblivious (lalai). More so, the researcher’s informal interviews with the test takers found that the words redha, nekad, and lalai on item 33 were poorly understood by most non-Malay test takers. For ownership construct, item 60 was deemed difficult through the word bothers (merunsingkan). Item 72 also brought confusion in which the students’ lack of understanding of the meaning of strive hard (berusahakeras) in the context of the sentence. Examples of items in the reach construct was item 136 that is the word natural (lumrah) and item 138 which is the word mix (mencampuraduk) that was poorly understood by non-Malay test takers. Two examples of items under the endurance construct were quite difficult to understand such as item 168 of the word worried (rusing) and item 172 of the word moody which have already been considered to be changed. Test takers have provided some major comments related to the misunderstanding and mismatch of words used in IKBAR instrument such as dishonesty (item 145), group (item 148), suffice (item 149), the absence of (183), elicited (item 18), remorse (item 71), and not the cause (item 79). Generally, they did not presume that the IKBAR instrument was difficult to understand. Most test takers understood the sentence structure of instruments in the Think Aloud sessions that were conducted. Then, the researcher did some reconstruction on the item especially the arrangement and choice of appropriate words according to the test takers’ point of view. No items were dropped during this phase. These items would be streamlined to be evaluated by a panel of professional and field experts. Basically, this phase was to fulfill the face validity of this study. Through the testing of face validity, the researcher would be able to get a rough idea on the items that could be improved in order to get the best measurement results.

CONCLUSION

In conclusion, a total of only 33 items from 220 item required refinement thus showing that the items were

built with a good operationalization and conceptualization.

The strength of CVR was prominent in this study when the differences in test takers could be seen clearly and easily. The researcher suggested that all 33 items that were refined would undergo with experts evaluation for strengthening content validity.

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