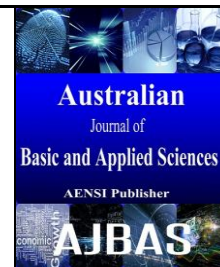




ISSN:1991-8178

Australian Journal of Basic and Applied Sciences

Journal home page: www.ajbasweb.com



Assessing the Content Validity of IKBAR using Content Validity Ratio

Mohd Effendi Ewan Mohd Matore and Ahmad Zamri Khairani

School of Educational Studies, University Sains Malaysia, 11800 Penang, Malaysia

ARTICLE INFO

Article history:

Received 12 October 2014

Received in revised form 26 December 2014

Accepted 17 January 2015

Available online 28 February 2015

Keywords:

content validity, adversity quotient, content validity ratio, expert panels, polytechnics

ABSTRACT

This study aims to examine the content validity of Adversity Quotient's instrument or IKBAR for polytechnic students using Content Validity Ratio (CVR). The assessment was conducted through the evaluation among 37 experts selected via judgement sampling. Nine professional university experts involved with the expertise in psychology, measurement and linguistics. The field experts specializing in particular fields of study consisted of 28 practitioners who worked in the polytechnics field. The instrument involved 220 items with four main constructs. The results of the study show that the instrument has a good content validity and proved that IKBAR has great potential to be promoted as a good measurement instrument of adversity quotient for polytechnic students. It is recommended to apply more sophisticated statistical analysis, such as the Rasch model for elaborating on quality items.

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To Cite This Article: Mohd Effendi Ewan Mohd Matore and Ahmad Zamri Khairani, Assessing the Content Validity of IKBAR using Content Validity Ratio. *Aust. J. Basic & Appl. Sci.*, 9(7): 255-257, 2015

INTRODUCTION

Measuring and reporting on the content validity of an instrument is the essence of a study. Content validity functions by determining how well the dimensions and elements of a concept can be successfully defined (Sekaran, 2011). The function is to validate the items in the test representing each measured construct (Miller, 2013). The validity of an instrument determines the extent to which it actually reflects or is able to measure the construct being examined (Grove, 2013). The more evidence of content validity such as the expert evaluation is obtained, the higher the confidence of the researcher in the validity of the instruments being constructed (Johnson, 2012). For this research context, expert's evaluation is very important to be part of this research flow.

Literature Review:

The content validity of IKBAR for polytechnic students is measured by quantitative measurement procedures by Lawshe (1975), 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 (Dewi Rooslani Tojib 2006). These advantages have made CVR a

choice among past researchers abroad (Allahyari, 2011; Baheiraei, 2013; Van Rensburg, 2011) and research in Malaysia (Mohd Arif Shuib, 2013). The procedure begins with the review of the test candidates, then the repaired instruments are given to the panel of experts for evaluation (Lewis, 2005). The three point scale was used for each item, which is (1) essential, (2) useful but not essential and (3) not necessary. Content 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 expert panels that evaluate the item as essential and N is the total number of expert panels involved ($N = 37$). The formula is $CVR_i = [n_e - (N/2)] / (N/2)$. After CVR for each item is obtained, the value of the Content Validity Index (CVI) is obtained from the whole instrument (Lawshe, 1975). In this research context, our focus is for CVR value compared to CVI. CVR values were in the range -1 to +1, where a value close to +1 indicates that the experts agree that the item is very important in the content validity. Lawshe suggested that if more of the experts involved in the study evaluate the item as very important, then the item is considered to have satisfied the content validity (Lawshe, 1975). The original table of CVR had been revised (Wilson, 2012). When the total number of experts was 37, hence the minimum value that must be adhered to for each item is 0.322 evaluated at $\alpha = .05$. This means that if there are items that fail to meet the minimum requirements

Corresponding Author: Mohd Effendi Ewan Mohd Matore, School of Educational Studies, University Sains Malaysia, 11800 Penang, Malaysia
E-mail: effendi_ewan@yahoo.com

value below than 0.322 or are statistically insignificant, the items will automatically be retained, refined or dropped (Wilson,2012). Comparatively, the critical value increased from 0.31 to 0.322 and raised the standard for selection.

Methodology:

This research has referred to the definition of the word 'expert' as a panel of experts being made up of two categories: professional experts and field experts (Rubio, 2003). Professional experts helps determine whether the measurements are well constructed for the psychometric testing (Davis, 1992). The second type is the field experts. The total number of experts comprising in this research is 37 including nine professional experts and 28 of field experts covered ten polytechnics and some of expert lecturers were selected from various departments. The sampling technique used was one form purposive sampling, which is judgment sampling. The criteria for selecting the panel of professional experts and field experts are based on academic qualification and experiences. The researcher also contacts the experts via telephone, letter and emails to explain the purpose of the study, the procedures and seek their approval to participate. Although Lawshe's method only requires at least four members for the panel, the researcher has decided to involve as many experts as possible to increase the value of the model (Lawshe, 1975). The total of 37 experts in this research is exceeding the recommendations from past researchers (Baheiraei, 2013; Delgado-Rico, 2012).

RESULTS AND DISCUSSIONS

The demographic profile of the professional experts (N = 9) shows female (5, 55.5%) dominated male experts (4, 44.4%). The area of expertise covers psychology (5, 55.5%), psychometric (3, 33.3%) and linguistic (1, 11.1%). All of them are from various universities such as University Kebangsaan Malaysia (1, 11.1%), University Sains Malaysia (4, 44.4%),

Universiti Sains Islam Malaysia (2, 22.2%), University Pendidikan Sultan Idris (1, 11.1%) and University Infrastruktur Kuala Lumpur (1, 11.1%). For field experts (N=28) distribution shows female (18, 61.5%) dominated male experts (10, 38.5%). It has four area of field expertise such as student welfare (1, 3.8%), student affairs (2, 7.7%), psychology (12, 38.5%) and teaching – learning (13, 50%). The experts including the Director of Student Welfare in the Polytechnic Department in Putrajaya and psychology officers from ten polytechnics (PIS, PPD, PKK, PMM, PSP, PNS, PTSB, PKB, PTSS, PSMZA, PKS and PMS). Two student welfare officers also involved from PSS representing the Borneo zone and PBP representing the peninsular zone. For the polytechnic lecturer's panel, it involved ten polytechnics (PSAS, PKK, PSP, PKB, PPD, PSIS, PMM, PNS and PTSB). Respondent of lecturers were selected from various departments, such as the Department of Civil Engineering (JKA), Department of Mechanical Engineering (JKM), Department of Electrical Engineering (JKE), General Studies Department (JPA), Department of Mathematics and Computer Science (JMSK), Department of Commerce (JP) and the Department of Hospitality (JH).

The overall findings showed that only eight items that are just below the critical value of 0.332, which were item numbers 10, 22, 29, 33, 35, 69, 91 and 166. Further analysis should be carried out to test the content validity via statistical methods such as Rasch model. Table 1 shows the examples of three items from eight items that needs purification based on comparison among experts. Based on Table 1, examples of three items had purified started with item (Q29 'I will still continue with my life despite the loss of a loved one'), (Q35 'I believe that the Lord's blessings will remain, despite the lack of pocket money') and (Q166 'I believe my lazy nature will not last long').

Table 1: Examples of items needs purification based on type of experts (N = 37).

Item Number	Items	The CVR Category Expert Panel			Item status
		Professional (N=9)	Field (N=28)	Total (N=37)	
		CVR _{crit} = .653	CVR _{crit} = .370	CVR _{crit} = .332	
29	I bravely accept the loss a loved one	-0.333	0.286	0.135	Purification
35	I am able to earn extra income	0.333	0.214	0.243	Purification
166	I rarely feel lazy	0.333	0.214	0.243	Purification

Q29 and Q35 were under Control construct which shows clearly that students still can move on and believe of blessings. They should not being give up easily in facing adversities in life. Q166 was under Endurance construct which changed to items that explained the students believe that adversities will not last longer in their life. So, they should take action to overcome the problems. The changes to

items were not limited to only these eight items, but also other items deemed inappropriate by matching indicator. Thus, after this, these items will go through the pilot study process among the polytechnic students. Items that do not achieve minimum agreement by the expert panel must be either eliminated from the instrumen or revised (DeVon, 2007). In this context, items will be revised by the

research as preparation for pilot testing.

Summary:

In conclusion, a total of only eight items 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 expert opinions could be seen clearly and easily. The researcher suggested that all 220 items that were refined would undergo a pilot study by polytechnic students using the Rasch model. Through the Rasch model, the items can be selected after some due consideration such as the appropriateness statistics such as unidimensionality, local independence, item fit, item polarity and differential item functioning in order to fulfil Rasch Model assumptions.

REFERENCES

- Sekaran, U. and R. Bougie, 2011. *Research methods for business: a skill building approach*, 5th ed. New Delhi: John Wiley & Sons.
- Miller, L.A., R.L. Lovler and S.A. McIntire, 2013. *Foundations of psychological testing: a practical approach*, 4th ed. California: SAGE Publications Inc.
- Grove, S.K., N. Burns and J.R. Gray, 2013. *The Practice of Nursing Research: Appraisal, Synthesis, and Generation of Evidence*, 7th ed. St Louis: Elsevier Health Sciences.
- Johnson, B. and L. Christensen, 2012. *Educational research quantitative, qualitative, and mixed approaches*, 4th ed. Alabama: SAGE Publications Inc.
- Dewi Rooslan Tojib and Ly-Fie Sugianto, 2006. "Content validity of instruments in IS research," *J. Inf. Technol. Theory Appl.*, 8(3): 31–56.
- Allahyari, T., N.H. Rangi, Y. Khosravi and F. Zayeri, 2011. "Development and Evaluation of a New Questionnaire for Rating of Cognitive Failures at Work," *Int. J. Occup. Hyg.*, 3(1): 6–11.
- Baheiraei, A., E. Khoori, F. Ahmadi, A.R. Foroushani, F. Ghofranipour and R.M. Weiler, 2013. "Psychometric properties of the adolescent health concern inventory: the Persian version," *Iran. J. Psychiatry*, 8(1): 28–36.
- Van Rensburg, H., J.S. Basson and N.M.H. Carrim, 2011. "Human resource management as a profession in South Africa," *SA J. Hum. Resour. Manag.*, 9(1): 1–16.
- Mohd Arif Shuib, Shukran Abdul Rahman and Nor Diana Mohd, Mahudin, 2013. "Assessing psychosocial elements of crowds during Hajj: Scale construction and content validation," *5th Natl. Semin. Hajj Best Pract. Crowd Heal. Dur. Hajj*.
- Lewis, B.R., G.F. Templeton and T.A. Byrd, 2005. "A methodology for construct development in MIS research," *Eur. J. Inf. Syst.*, 14(4): 388–400.
- Lawshe, C.H., 1975. "A quantitative approach to content validity," *Pers. Psychol.*, 28(4): 563–575.
- Wilson, F.R., W. Pan and D.A. Schumsky, 2012. "Recalculation of the Critical Values for Lawshe's Content Validity Ratio," *Meas. Eval. Couns. Dev.*, 45(3): 197–210.
- Rubio, D.M., M. Berg-Weger, S.S. Tebb, E.S. Lee and S. Rauch, 2003. "Objectifying content validity: conducting a content validity study in social work research," *Soc. Work Res.*, 27(2): 94–105.
- Davis, L.L., 1992. "Instrument review: Getting the most from a panel of experts," *Appl. Nurs. Res.*, pp: 194–197.
- Delgado-Rico, E., H. Carretero-Dios and W. Ruch, 2012. "Content-related validity evidence in test development," *Int. J. Clin. Heal. Psychol.*, 12(3): 449–460.
- DeVon, H.A., M.E. Block, P. Moyle-Wright, D.M. Ernst, S.J. Hayden, D.J. Lazzara, S.M. Savoy and E. Kostas-Polston, 2007. "A psychometric toolbox for testing validity and reliability," *J. Nurs. Scholarsh.*, 39(2): 155–64.