VALIDITY AND RELIABILITY THE INSTRUMENT OF *MODEL KEUSAHAWANAN PELAJAR UNIKL* (KPU) USING THE RASCH MEASUREMENT MODEL

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ABSTRACT

The University of Kuala Lumpur (UniKL) has developed the Entrepreneurship Syllabus as a compulsory course along with the Teknoputra[TM] Development Program (TDP) to foster entrepreneurial tendencies among students, in line with its mission to globally produce technical entrepreneurs. A research was conducted to identify factors that could affect student entrepreneurial tendencies through the Entrepreneurship Development Program. The purpose of this study is to evaluate the validity and reliability of the newly developed instrument, namely the model *Kecenderungan Pelajar UniKL* (KPU). This quantitative analysis was carried out at the UniKL Malaysian Institute of Marine Engineering Technology (MIMET). Data analysis using Winsteps showed that the person fit value was 0.95 and the item reliability was 0.70. The Cronbach Alpha value is 0.99. The separation value of the person was 4.36 and the separation value of the item was 1.52. Over 12 items have been dropped, the item reliability seen increasing from 0.70 to 0.73. Meanwhile, the Cronbach Alpha (KR-20) remained at 0.99. While there is a slight decrease in variance explain by measure, the variance value is still within the range of 40%. Therefore the study of the item validity and reliability of Model KPU complied with the standards referred to the experts and the Rasch Measurement Model.

Keywords: validity, reliability, entrepreneurs, entrepreneurship education

INTRODUCTION

The Department of Statistics Malaysia announced that the unemployment rate in the first quarter of 2019 had a total of 516,600 unemployed (Berita Harian Online, Sunday, 7 July 2019). Meanwhile, unemployment figures among new graduates of the Higher Education Institutions (HEI) reported about 19.8%, which is 57,411 graduates in 2018 (Ministry of Entrepreneur Development, 2019). HEIs must therefore play a role in transforming graduates as job creators, as outlined in the National Entrepreneurship Policy (NEP) 2030 via the Malaysia Education Blueprint 2015-2025 (Higher Education) by the Ministry of Higher Education, Malaysia. This strategy focuses on the application and exposure of entrepreneurial culture to the national higher education system, and further changes the minds of HEI graduates from job seekers to job creators (NEP 2030, 2019).

In line with the mission of Universiti Kuala Lumpur (UniKL) to produce technical entrepreneurs globally, the university has made entrepreneurship as compulsory courses in order to foster the inclination of students to venture into entrepreneurship during their studies, as well as the strategic business development framework known as the Teknoputra Development Program (TDP[TM]). The target of producing entrepreneurs among UniKL students is clearly set out in the 2015-2020 UniKL Entrepreneurship Blueprint, where UniKL aims to produce 700 entrepreneurs and 300 technopreneurs through the Genesis[TM] Program, while 1,000 entrepreneurs through the UniKL Alumni E-Scholar Program by 2019. Via this TDP[TM], the exposure to entrepreneurship was detailed based on the student year of study at UniKL. Various types of exposure and preparation of entrepreneurship have been given to promote the inclination of students to move into the field of entrepreneurship. Four (4) key modules that concentrate on students, namely Business Practice, Business Training, Business Discourse and Business Challenge.

UniKL Entrepreneurship Education is conducted through the offering of three (3) courses, namely Introduction to Entrepreneurship, diploma level as well as Technopreneurship and Innovation Management at Degree level. The syllabus of all these courses is designed and supervised by the Entrepreneurship Central Committee (ECC), UniKL. It is used universally on all campuses. These courses are audited by the Malaysian Qualifications Department (MQA). The content of the UniKL Entrepreneurship Program relates to the introductory elements as well as the skills required to equip students with basic knowledge before joining the business.

While the number of UniKL entrepreneurs is growing, no studies have been performed to determine if their participation in entrepreneurship is attributable to the effectiveness of the entrepreneurship curriculum, effective teaching strategies, or the effectiveness of the UniKL's Teknoputra Development Programs. This research was conducted to study the efficacy of entrepreneurship education in the areas of entrepreneurial syllabus, teaching/pedagogy technique and TDP[TM] Module, which were introduced to UniKL students in an attempt to create more competitive entrepreneurs.

LITERATURE REVIEW

Entrepreneurs are individuals willing to take risks (Zhang & Chun, 2018; Fazira Binti Shamsudin et al., 2016; Nagarathanam & Buang, 2016; Larso et al., 2012) by providing creative and innovative goods and services to the market with the aim of achieving customer satisfaction and benefit (Manaf et al., 2015; Narea, 2016; Pirnar, 2015). Entrepreneurship will help raise the country's economic activities and increase the unemployment rate as it effectively creates job opportunities for the community (Roji et al., 2018; Suffian et al., 2016; Ravi Nagarathanam, 2015).

Entrepreneurship education capable of creating entrepreneurs with global competitiveness, entrepreneurial skills and expertise. Efficient education would have an effect on students tending to pursue entrepreneurship as a profession of choice. Byun et al., 2018 argue that universities play a role in stressing the need for comprehensive and professional entrepreneurship education.

Well-designed curricula and programs that take into account students' motivation and objectives can increase the effectiveness of entrepreneurship education (Surjanti et al., 2018; Manaf et al., 2015). Entrepreneurship education should be made up of innovative content and represent something that can boost the success of new business ventures. The efficacy of the curriculum and entrepreneurship program will be measured through awareness-raising and enhancement of students' intentions to start a company (Zhang & Chun, 2018). In several research on entrepreneurship education (Cho & Lee, 2018; M et al., 2012; Rengiah, 2016), the efficacy of entrepreneurship education is also assessed by students' willingness to participate in entrepreneurship.

The study by Suffian, Rosman, Norlalila, Norizan and Hasnan (2018) shows that the roles of parents, immediate family, friends and lecturers are also significantly related to the entrepreneurial intentions of students. The motivational orientation of students towards entrepreneurship can differ depending on the teaching strategies applied to them (Uzunoz et al., 2018). Successful delivery in the teaching and learning phase can occur when the lecturer understands and supports students' cognitive learning styles. Lecturers have to contend with a range of student personalities.

The consistency of the measurement procedure used for data collection is measured by validity and reliability index of measurement. This measurement indicates that the questionnaire is non-biased in addition to maintaining the accuracy of measurement over time of different items. The reliability of the instrument would specify that the instrument used to measure the variables produces the same result at all times, indicating internal stability and accuracy as well as consistency (Creswell 2014). Psychologists identify three forms of consistency over time (testing reliability), cross-item (internal consistency) and among various researchers (inter-reliability). The reliability and validity review of the research tools was carried out using the Rasch Measurement Model. Rasch's unidimensional model assumes that the likelihood of all objects being able to react correctly is dependent on the individual's abilities (Havnes et al., 2012). According to Azrilah, Mohd Saidfudin and Azami (2017), the Rasch Measurement Model is able to provide researchers with an opportunity to demonstrate the validity of the instrument used not only through the Cronbach Alpha value, but also through the consistency of the item being tested. The level of reliability of the study instrument can be calculated by interpreting the alpha values of Cronbach, which range from 0.00 to 1.00. The range value approaching 1.00 indicates that the degree of reliability of the construction is good and reliable, while the range approaching 0.00 indicates a low reliability of the construction.

The validity of the instrument refers to the accuracy of the measuring instrument in deciding which measurements should be taken. Validity can be defined by a variety of methods, such as content validity, predictive validity, and construct validity (Chua, 2011). For the purposes of this analysis, researchers used content validity, face validity and construct validity methods. Face validity is a decision where the questionnaire is considered to be simple, orderly and easily understood by the study respondents as well as by those who have no disclosure of the measurement. This validity is intended to ensure that the researcher tests the item to be measured, the item to be measured is transparent and the time taken to answer the questions raised is sufficient. The study was performed by choosing a

group of students with the same characteristics as the study sample. The level of readability and interpretation of the questions in the research instrument was assessed by the students. However the studies conducted do not guarantee that face validity reliably measures phenomena in the field (Dan et al., 2016; Othman & Misman, 2010). Content validity is further introduced in order to further improve the instrument. Content validity is an evaluation of the content of the questionnaire in order to ensure that the measurement domain rendered reflects the overall content of the variable (Chua, 2011). An overall analysis of the domain needs to be carried out to ensure that it is relevant, good and correct. In order to ensure that the content of the item tested is of high content validity, the content validity procedure must be followed (Creswell, 2014).

Expert reference should be made to ensure that the content of the item or question in the research instrument is valid (Creswell, 2014). In addition, it will also assess that the constructs are correct and that the content of the questionnaire is clear. As a result, the designed instrument was sent to field experts to be checked to ensure that the material was acceptable and that the objectives of the study were met.

PROBLEM SATEMENT

In order to ensure that the instrument used is valid where it measures what needs to be measured, it is important to ensure that the construct is valid. It is one of the most complex validities to be applied since it includes all approaches, including statistics and practical procedures (Creswell, 2014). The reliability analysis of the data collected was analyzed using the Winsteps Version 3.72.3 software. In addition to being able to state the importance of Cronbach alpha (α) reliability, this software can also verify the reliability of items and respondents. It is also capable of evaluating the validity of the instruments and the respondents. The value of the separation can also be seen which is capable of calculating a map of variables representing the value of the separation of respondents and the items studied. The quality of good validity can be defined by means of a high separator value (Khoiry et al., 2018). The objectives of this study are the analysis of the reliability index, the separation of items person, the misfit person and item, the item polarity, the dimensionality as well as the retained and dropped items.

RESEARCH METHODOLOGY

The study has applied quantitative method using questionnaire as a method of data collection. The purposive sampling technique will be used as the sampling technique for this research. A set of criteria has been set in choosing the respondents. A total of 51 students who were taking Innovation Management subjects at UniKL Malaysian Institute of Marine Engineering Technology (MIMET) were involved as respondent to the survey. Two expert panels have been involved in validating instrument questionnaire. The Winsteps Version 3.72.3 software was used to test the reliability index, item polarity, measuring dimensionality, item misfit and items to be retained and discarded.

RESULTS AND DISCUSSION

Findings of 51 students showed that the value of the person fit is 0.95 and that the item fit is 0.70 with the value of Cronbach Alpha (α) = 0.99. A decent degree of individual reliability would be between 0.95 and 1.0. The reliability value of the study 0.95 demonstrates the clear input obtained from students in addition to the ability of the items to distinguish between individuals for each variable measured. Although the value of the item reliability of this study is in sufficient condition. There are 3 respondents answered with an extreme Scale 6 score that was considered to be a problematic respondent. Meanwhile the analysis of the misfit person output showed that 22 respondents did not fit statistically because all three correlation values were outside the allowable range. This could be due to incompetence in responding to the questionnaire or the different effect of the Entrepreneurship Development Programs among all respondents. Thus, for the same reason, the researcher retained all the respondents. The analysis of misfit item indicates that 12 objects in the MNSQ infit range are not suitable. This means that it has to be refined or dropped. In this report, researchers took steps to eliminate these items after consulting with experts and supervisors. Thus, only 48 items were approved for data collection of the questionnaire items. Finding of item polarity showed the there are no negative value items. The value of the unexplained variance in the first contrast, does not surpass the control limit of 15%. Despite the unexplained variance in 1st comparison is 7.0 per cent, which is well controlled and far from the overall control value of 15 per cent.

CONCLUSION AND RECOMMENDATION

Regarding an expert reference and measurement study of the Rasch model, the validity of the item and the reliability of the test instrument items have met the requirements. Rasch analysis also reveals that both the person and the item reliability index are in the high range and appropriate, i.e. The person reliability, value is 0.95 while the item reliability is 0.70. The results of the fit item identification of 60 study items indicate the dropped of 12 items when these items are within an inappropriate MNSQ infit range. As a result, only 48 items were accepted for the collection of actual study data involving four constructs, namely entrepreneurship syllabus, teaching techniques, business development modules and student entrepreneurial tendencies. The results of the item polarity test are satisfactory where all the items of the questionnaire are in positive value. The results of the polarity test on the item are sufficient when all the items in the questionnaire are of positive value. The dimensionality value shows that the instrument is at a good level with a minimum level of 56.4 per cent and that the item is in a controlled range with an unexplained variance value of 7.0 per cent in the first contrast. The Model *Kecenderungan Pelajar UniKL* (KPU) instrument is relevant for the study of the effectiveness of entrepreneurship development programs in UniKL student tendencies.

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