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Attribute Assessment Instrument on Communication Skills, Leadership and Teamwork among students in Faculty of Sports Science and Coaching, UPSI

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Abstract

The purpose of this study is to design a questionnaire instrument for an attribute assessment on communication skills, leadership and teamwork for the students in Faculty of Sports Science and Coaching, Sultan Idris Education University (UPSI), Malaysia. Four variables are used to measure the attributes of communication skills, leadership and teamwork, including oral communication, written communication, leadership and teamwork. A number of 212 Sports Science students have been selected as the study sample. The study analysis uses Cronbach's alpha test to obtain reliability of the instrument. Factor analysis is also used to obtain validity on social skill and responsibility instruments. Finding from the factor analysis shows that only 59 questionnaires items from the overall 65 items are valid for the assessment. All of the assessment items on communication skills, leadership and teamwork questionnaires obtained high reliability value which is r = .93.

Keywords: Communication Skills, Leadership Skills and Teamwork Skills

Introduction

Higher education system as outlined by the Ministry of Higher Education has its own vision and mission on successful outcome and good interest of every students. The Ministry of Higher Education has also emphasized on the importance of giving equal priority on both knowledge and morality. The Malaysia Education Blueprint 2015-2025 (Ministry of Higher Education, 2015) is intended to meet student aspirations that include ethics and spirituality, leadership skills, national identity, language skills, thinking skills and knowledge. We are now in the era of facing the 4.0 education revolution which is increasingly challenging to all parties. The latest development in industrial technology such as artificial intelligence, intelligence machines, cloud technology and robotics will certainly give a big challenge to all graduates. In this regard, UPSI students at the Faculty of Sports Science and Coaching (FSSK) need to be

educated and guided in preparation for a challenging future. They should be well-equipped with solid knowledge and empowered with balanced ethical and spiritual values.

The Ministry of Higher Education (2016) has pointed out that each graduate must master and possess the features outlined in the Learning Outreach Domain (DHP) from the Malaysian Qualifications Framework, among which are mastery of knowledge, competency in practical or physical skills as well as capability in social skills and responsibilities. The Malaysia Education Blueprint 2015-2025 (MHE 2015) is designed based on the vision and aspirations in educating talented, skilled and knowledgeable students who are fully prepared to face the challenges in the 21st century. The Development Plan aims to develop a holistic, balanced and entrepreneurial graduates in line with the National Education Philosophy. One of the MHE initiatives is the implementation of an integrated assessment system that reveals holistic achievement of students as a result of learning experience. Integrated Cumulative Grade Value Assessment (Integrated CGPA) aims to drive constructive alignment practices to ensure the curriculum design, curriculum implementation and assessment process at the course and program level are of high quality. Integrated CGPA is a system or mechanism for evaluating and reporting on integrated student enhancement and development in the aspect of manners (ethics and noble values), declarative and functional knowledge and their technical skills in discipline. This mechanism aims to help stakeholders plan and determine the most aligned steps of improvement. Integrated CGPA Reporting also demonstrate a holistic achievement of students as well as their achievements for each program's learning outcomes throughout the course of study.

To ensure the success of Integrated CGPA reporting, an instrument for attribute assessment on Learning Outcome Domain (LOD) from the Malaysian Qualification Framework (MQF) should be developed and validated so that it can be utilized to assess performance that are holistic, entrepreneurial and balanced. This study aims at developing and determining the attribute assessment instrument validity for LOD of MQF targeted at UPSI students from the Faculty of Sports Science and Coaching. The construct of this assessment instrument is based on Social Skill and Responsibility attributes. There are three important goals in Malaysian Higher Education, which is first to give priority to human capital development in providing skilled manpower and capable of facing future challenges. Secondly, to fulfill the aspirations of students in ethical and spiritual aspects, leadership skills, national identity, language skills, thinking skills and knowledge. Hamat and Nordin (2012) have emphasized that human capital development is an effort towards creating knowledgeable, skilled, innovative, self-employed, ethical, educated, well-trained and employed, possessed high moral values, well-mannered, courteous, disciplined, dynamic, innovative, creative, patriotic, fair, progressive, determined and competitive.

The human capital development has its own educational goals to enhance personality and holistically develop students' ability through the learning of specialized skills, realizing their intellectual, physical and spiritual capabilities and generating excellent human capital. To achieve remarkable quality of human capital development, therefore this endeavour requires a holistic approach and emphasizes on the development of knowledge, thinking skills, leadership skills, bilingual skills, spiritual ethics and national identity. The UPSI Sports Science Curriculum, as offered at the Faculty of Sports Science and Coaching namely Physical Education, Coaching Science, Rehabilitation Science and Sports Psychology will generate

students with excellent human capital characteristics. The curriculum and co-curricular activities designed will also create a more cheerful and enjoyable learning climate and culture thus bringing positive impact to the students (Nurul Haerani Mohamad & Ahmad Esa, 2013). Active student participation in curriculum and co-curricular activities such as uniformed bodies, associations, clubs and sports are important for them to build their personality and leadership qualities. The holistic student development requires involvement in both academic and co-curricular areas. Students will learn and embrace leadership qualities, ethics and spirituality, leading skills, national identity, language skills, thinking skills and knowledge.

Good education will ensure that graduates continue to be relevant to the current market requirements. Moreover, graduates will be more prepared to gear themselves up for a more challenging and competitive environment realizing that present global economic climate is now in the era of knowledge-based economy which mostly focus on science and technology. Considering impression by future employers and increasing job demands, graduates need to possess not only academic qualifications but also capabilities and skills as an added value to engage employers' attention (Rinaldi, Hamzah & Nordin, 2015). Mohamad and Esa (2013) in their study argued that human capital development is not limited only to academic discipline and skill enhancement alone, but also includes development of mind, spiritual, personality and ethics. Human capital with these features ensure that transformation and development of individuals, families, communities, nations and the world would take place in a more structured manner. According to Jalil (2014), well-organized human capital development will create a knowledgeable and highly skilled workforce. The development of human capital however is not limited to the discipline and skills enhancement alone. It also includes growth of mind, spiritual, personality and ethics.

The development of human capital in education will focus on personality enhancement of graduates to produce a balanced human capital in terms of skills, patriotism, discipline and pure value towards the creation of a human capital of a nation with towering personality. Human capital assessment carried out in the faculty curriculum will further boost the national education system. Ahmad (2015) in his research stated that testing, measurement and evaluation are important components in the learning and teaching process. Results from study measurements and assessments can provide educators with information on the effectiveness of the approach, strategy or technique used. As for the graduates, it is an indicator of what they have learned, what to learn and how best to learn something from the curriculum activity.

The construct of this questionnaire measurement instrument is based on self-assessment method. It can be defined as graduates evaluating their own work based on the criteria outlined (Prihamdani, 2016). Maskan (2013) in his work addressed that self-assessment in curriculum activities is an important tool to improve academic performance and ability. Learning will improve with self-assessment because it meets the learning objectives to be measured (Daniel, 2010, Ghani & Crow, 2017). The importance of self-assessment allows students to understand their learning goals and find out what they need to achieve (Mohd Faizal Nizam Lee Abdullah & Leow Tze Wei, 2017).

Objective

The purpose of this study is to develop instrument questionnaire items and to determine the reliability and validity of attribute assessment instrument on communication skills, leadership skills and teamwork skills among UPSI students of Science Sports Program, Faculty of Sports Science and Coaching.

Methodology

Methodology of this study focuses on the study design, study population and sample, conceptual framework, research instrumentation, pilot study, data collection procedures, and data analysis procedures.

Research Design

This study is a quasi-experimental design using one group post-test only method (Ary, Jacobs & Razavieh, 2002). The study is divided into three stages. The first stage aims to create an assessment instrument questionnaire and to obtain validity of content experts as well as field experts. The second stage seeks to obtain reliability of the attribute assessment instrument on communication skills, leadership skills and teamwork skills. While the third stage attempts to obtain validity of the items to ensure that each item represents the component of communication skills, leadership skills and teamwork skills.

Sample

All male and female students from first semester to eighth semester in Semester 1, Session 2018-2019 who are currently attending all courses offered at the Faculty of Sports Science and Coaching in UPSI are considered population of this study. Sample size selection for this study is based on Power Tables for Effect Size from Cohen (1992), with the sampling power value of .80, the effect of size (d) .30, the power of .80 and the significant level at $\alpha = .05$. Based on the formula, the sample size should be 175 people. However, the researchers used a sample size of 212 (125 = men, 75 = female) after considering the absence or mortality factor (Tuckman & Waheed, 1981) that could possibly happen. All study samples were randomly selected.

Variables

In this study, dependent variables are scores on communication skills, leadership skills and teamwork skills. While independent variables are gender and type of programs followed by students at the Faculty of Sports Science and Coaching, UPSI. Figure 3.1 below shows the study variables.

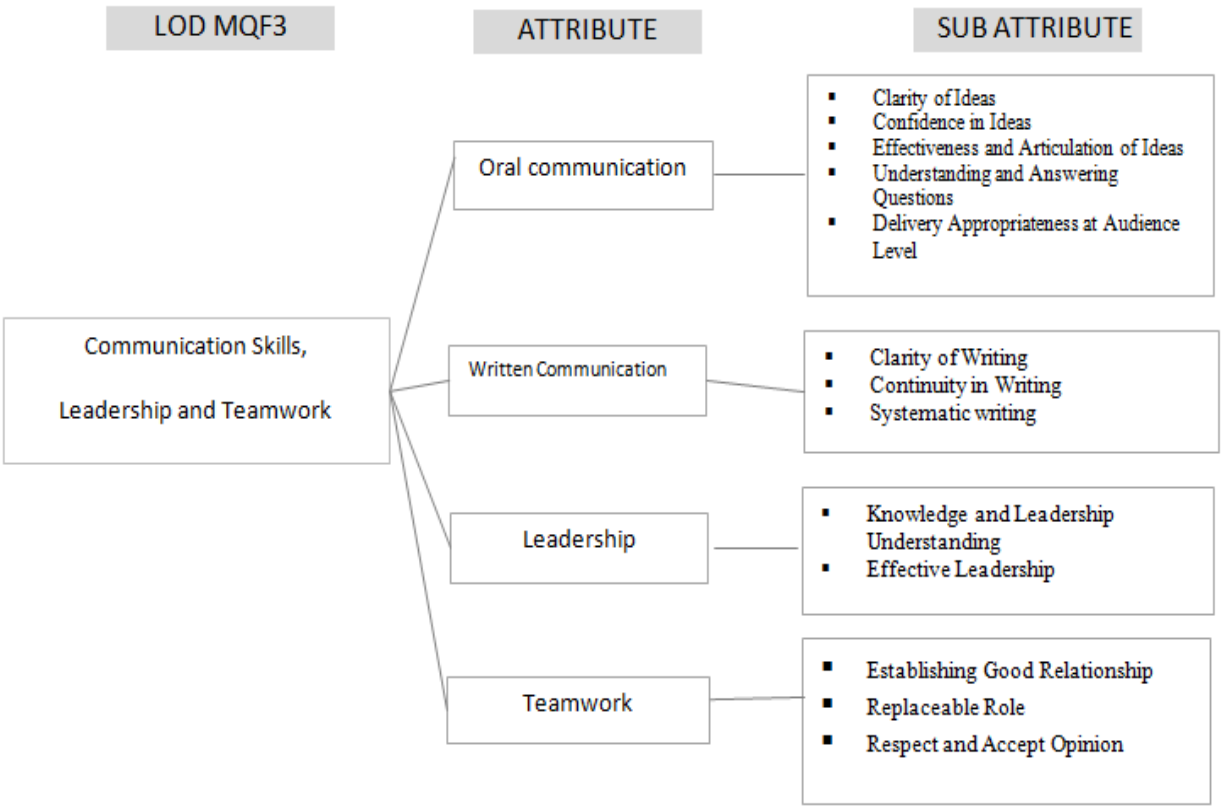

Figure 3.1: Study Variables

Instrument

The researchers have adapted and modified the assessment instrument in the form of scale review (ICGPA, MHE 2015) to five scaled questionnaires (1 = very weak, 2 = weak, 3 = satisfactory, 4 = good and 5 = very good) for each constructed items on communication skills, leadership skills and teamwork skills. A total of 65 questionnaire items were created at the early stage of this study assessment and tested in actual studies A number of 212 subjects were used in the actual study to test the validity and reliability of the instrument items.

Data Analysis Procedures

Data obtained from the questionnaires will be analyzed using the SPSS 20.0 (Statistical Package for Social Science 20.0) software. Data analysis from the first part of this study was conducted using the Pearson Product Moment correlation statistic method to obtain validity of field experts based on agreement of two expert panels. The researchers used the Cronbach's alpha analysis to obtain reliability and consistency of the questionnaire instrument items. The factor analysis method is used to obtain validity of isolated construct, and to ensure that each item is placed in the proper component (Ahmad, 2014).

Results

With reference to a study by Sidek Mohd Noah & Jamaludin Ahmad (2005), for expert panel evaluation on 10 questionnaires being valued at scale 1 to 5 to verify the instrument of questionnaire, the value of validity obtained will be r =, 93. A total of 65 questionnaires have been developed to assess the performance of attributes namely communication skills, leadership skills and teamwork skills with four sub components. They are oral communication, written communication, leadership and teamwork. Following the analysis, only 59 items are valid. Cronbach's alpha analysis shows that the reliability value of communication skills

questionnaire, leadership skills and teamwork skills in this study is r = .87. Table 1, 2 and 3 show the results of factor analysis.

Table 1
Barlett's and Kaiser-Meyer-Olkin test results

Kaiser-Meyer-Olkin Measure of Sampling Adequency		.887
Barlett's Test of Sphericity	Approx. Chi Square	11232.868
	Df	2080
	Sig.	.000

Kaiser's criterion technique was used to determine the number of components. Components with only one or more *eigenvalue* were selected in this analysis. There were four analysis components with more than one *eigenvalue*. Finding in Table 1 shows the results of all the 65 components analysed with 89.00 per cent variance. The matrix component shows loading in each line expressed each survey item's correlation with sub attribute comprising oral communication, written communication, leadership and teamwork.

Table 2
Total Variance Explained

Component	Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	11.135	17.130	17.130
2	11.087	17.056	34.187
3	8.559	13.168	47.354
4	4.100	6.308	53.662

Extraction Method: Principal Component Analysis

To maintain all the four components for next analysis, the researchers has used varimax rotation method to minimize number of survey items with high correlation on each factor. According to Tabachnick and Fidell (2007) in their work, results that are based on orthogonal rotation can be easily translated and reported. Table 2 shows the result of four components rotation using the varimax rotation method. The findings show that the first component explained 17.13 per cent of variance, the second component explained 17.06 per cent of variance, third component explained 13.17 per cent variance and fourth component explained 6.31 per cent variance. Total amount of variant available which could be explained by all the five components was 53.66 per cent variance and the figure remained after rotation.

Table 3 shows the loading for each survey item for sub attributes namely verbal communication, written communication, leadership and teamwork. Based on Principal Component Analysis, from the overall 65 survey items only 59 items showed high communality score. Component line one, represented assessment instrument of sub attributes on verbal communication, written communication, leadership and teamwork which measures the first line sub attribute of oral communication skills. The second line represented assessment instrument on written communication skills. The third line represented assessment instrument on leadership skills and finally the fourth line, teamwork

skills. Selection of construct component for all sub attributes in this study was based on high main loading and it exceeds the correlation coefficient value r = 0.50. This is because high correlation value of a test on a measured factor indicated close relation with the factor. According to a study by Pallant (2005), based on this significant finding, 59 items in this analysis are considered valid for the attribute assessment on communication skills, leadership and teamwork in this study.

Table 3
Construct Validity for Rotated Component Matrix Component

	Component			
	1	2	3	4
s32c	.785			
s52c	.772			
s12c	.764			
s42c	.756			
s37c	.735			
s47c	.730			
s7c	.719			
s22c	.717			
s27c	.704			
s38c	.673			
s53c	.642			
s23c	.623			
s57c	.616			
s63c	.609			
s17c	.593			
s18c	.581			
s28c	.580			
s2c	.574			
s33c	.569			
s13c	.540			
s58c	.528			
s8c	.509			
s43c	.500			
s10c		.795		
s20c		.779		
s15c		.771		
s14c		.761		
s35c		.748		
s25c		.747		
s5c		.721		
s24c		.716		
s9c		.705		
s50c		.652		
s29c		.647		
s19c		.633		
s4c		.612		

s45c	.603		
s40c	.598		
s44c	.582		
s34c	.576		
s3c	.567		
s49c	.564		
s11c		.858	
s16c		.847	
s56c		.817	
s26c		.811	
s21c		.793	
s46c		.778	
s31c		.771	
s51c		.771	
s61c		.759	
s41c		.758	
s6c		.748	
s1c		.741	
s62c		.669	
s65c			.695
s55c			.598
s64c			.593
s60c			.552

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 6 iterations.

Discussion

Certain test instruments must be measured using several statistical methods to ensure a consistent and reliable test instrument. As supported by Baumgartner and Chung (2001), they stated that an instrument with construct validity is a valid and reliable instrument and could be used on any population that is being tested. Having formed 59 out of 65 instrument assessment items on communication skills, leadership skills, and teamwork that are valid and reliable, hence this study will be able to provide accurate information and feedback to the Faculty of Sports Science and Coaching to improve any shortcomings for better outcome in the future.

Conclusion

The findings show that all the outlined features on attributes of communication skills, leadership skills and teamwork skills can be evaluated based on the instrument of this research questionnaire. All of the instrument items obtained high reliability value which is r = .93 were validated using factor analysis statistics. A total of validated 59 questionnaire items were obtained for attribute assessment on communication skills, leadership skills and teamwork skills. Instruments of this research questionnaire can be used by all UPSI lecturers at the Faculty of Sports Science and Coaching to assess performance of learning outcome domain on communication attributes, leadership skills and teamwork skills of students throughout the study semester.

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