International Journal of Physiology, Sports and Physical Education
www.physicaleducationjournal.net
Online ISSN: 2664-7729, Print ISSN: 2664-7710
Received: 25-06-2021, Accepted: 10-07-2021, Published: 27-07-2021
Volume 3, Issue 1, 2021, Page No. 05-08

Validity and reliability of the form six sports science practical module (MASS)

Abdul Hadi Salleh[1*], Mohd Izwan Shahril[2], Gunathevan Elumalai[2], Saidil Mazlan Abdul Razak[3]
[1] Universiti Pendidikan Sultan Idris, Tanjong Malim, Perak, Malaysia
[2] PhD, Universiti Pendidikan Sultan Idris, Tanjong Malim, Perak, Malaysia
[3] PhD, Jemaah Nazir Kedah, Malaysia

DOI: https://doi.org/10.33545/26647710.2021.v3.i1a.19

Abstract
This study aims to identify the validity and reliability of the Form Six Sports Science Practical Module (MASS). According to Norlena Salamuddin & Mohd Taib Harun (2003), students who want to continue their studies in the field of Sports Science need to master the content knowledge of sports science subjects first. Subject content knowledge refers to the mastery of disciplines covering sports science subjects such as physical fitness, anatomy and physiology, sports psychology, sports coaching, motor behavior and sports injuries. Therefore, this study would like to identify the validity and reliability of the MASS. Researchers used pre-experimental *(one shot case study)* design method- one short case study and a sample is 196 Form Six students consisting 100 male 96 famale. Researchers use the MASS. This module involves practicals that must be implemented by Sports Science students as a condition to the marks for paper 4 The value of content validity by experts in the field of MASS Sports Science Practical Module is r = .94. The reliability value of this module uses Cronbach's Alpha which is r = .92. This indicates that r> .70 which describes the MASS has a high reliability value and can be applied to Form Six Sports Science students. The findings of this study need to be given more serious attention by the Malaysian Examinations Council (MPM) in order to improve the existing modules to make it easier for teachers in various aspects.

Keywords: sports science practical module (mass), sports science students, form six, assessment

Introduction
Previously, the form six system used was a terminal system, which was to implement the examination system at the end of the Upper Form Six after the students went through the learning process for a year and a half. The modular system involves examinations at the end of each term, which involves examinations every six months. Semester one starts in May to November, semester two starts in January to May and semester three starts in June to November (Malaysian Examinations Council, 2012) According to an annual report released by the Ministry of Education Malaysia (2015), the rebranding was done to change the general perception that Form Six is a less attractive option for continuing studies prior to first degree programs at Institutions of Higher Learning (IPT). The Ministry is implementing the transformation of Form Six by focusing on several areas such as image, infrastructure, management and administration, mode of study and learning as well as curriculum. The changes made are to produce more quality and competitive human capital. During the period of study in form six, Sports Science is one of the subjects that requires students to carry out Sports Science coursework. A total of 13 compulsory internships are implemented over a period of 3 semesters covering several topics. This coursework gives a mark of 25 percent of the total examination marks (Malaysian Examinations Council, 2016). A total of 75 percent of the total marks are obtained through the final examination marks of each semester, namely in semester one, semester two and semester three, each contributing 25 percent. According to Kamalanathan (2015) [10], who was the Deputy Minister of Education at the time, stressed that the implementation of coursework should be able to help students to improve their marks in the STPM examination.

Background of the Study/ Past Studies
Practical assessment of Sports Science in form six needs to be implemented systematically and realistically covering the entire content of Form Six Sports Science subjects (Abdul Hadi Salleh, Mohd Izwan Shahril, Gunathevan Elumalai and Saidil Mazlan Abdul Razak 2020) [1]. However, there will be problems if teachers lack knowledge and face other problems in giving students practical marks. According to Suah See Ling, Ong Saw Lan and Shuki Osman (2014) [13], the findings of the study show that there are different assessment practices among primary, secondary and pre-university teachers. This means that the assessment training held needs to be more specific for teachers who teach at different school levels. The researchers therefore tried to identify the validity and reliability of the Form Six Sports Science Practical Module. The findings of a study by Saidil Mazlan Abdul Razak, Gunathevan Elumalai, Junaidi Mohamad Hashim and Norliza Abdullah (2018) [11], which showed that 19.25 percent of Sports Science students in Kedah are at a moderate level of achievement. This shows that students lack mastery of the core learning of Sports Science and will affect the achievement in practical course work because a score of 25

percent is taken into account throughout the examination. Therefore, Sports Science students need to make a thorough and adequate preparation to ensure that they obtain the best scores as this assessment is based on assessments from teachers. Based on the report released by MPM (2018), Sports Science students only obtained achievement at the pass below the level of 80 percent only. This report is in line with the findings of a study by Saidil Mazlan Abdul Razak, Gunathevan Elumalai, Junaidi Mohamad Hashim and Norliza Abdullah (2018) [11], which showed that 19.25 percent of Sports Science students in Kedah are at a moderate level of achievement.

This shows that students lack mastery of the core learning of Sports Science and will affect the achievement in practical course work because a score of 25 percent is taken into account throughout the examination.

Table 1: STPM Examination Results from 2014 to 2018

Year	2014		2015		2016		2017		2018	
	Number	%	Number	%	Number	%	Number	%	Number	%
Semester 1	2191	68.09	2120	77.96	2559	74.92	2534	69.65	2851	79.88
Semester 2	2077	48.00	2191	77.54	2426	67.06	2228	70.67	2816	67.15
Semester 3	2024	77.27	1977	75.23	2372	78.60	2141	74.82	2783	74.27

Source: Malaysian Examinations Council (2018)

According to Abdullah Norhairi, Siti Nor Azura Arshad and Mohamad Yusof, (2007) [2], the main factor influencing the selection of students to the Institute of Higher Learning (IPT) is good academic qualifications because admission to university is the goal and direction of students who can complete their studies. in form six successfully. Therefore, students must have a high grade score to avoid dropping out of IPT. This statement is in line with the goal of Sports Science itself which is to provide candidates with the knowledge and skills of Sports Science to further their studies to a higher level or even be able to venture into related career fields (Malaysian Examinations Council, 2012). In addition the challenge in implementing the work of this course is the teacher's knowledge of the requirements of the instrument itself. Teachers play an important role in ensuring that the practical journey of course work can be completed according to the set plan. However, there will be problems if teachers lack knowledge in giving students practical marks. According to Noorzeliana Idris, Norazilawati Abdullah and Saniah Sembak, (2014) [8] have discussed issues related to teacher insecurity and insecurity in assessing, bureaucratic practices in assessment and some problems of teachers throughout the implementation of School-Based Assessment (SBA). Among the suggestions put forward is to strengthen the implementation of PBS is that teachers should be given knowledge in assessment so that uniformity and accuracy in scoring students. Therefore, based on these factors, researchers try to identify the validity and reliability of the MASS and identify differences in the level of achievement of students in the treatment group and control group based on gender.

Objectives of the Study

1. Identify the validity and reliability of the Form Six Sports Science Practical Module.

Methodology

Study design

Researchers used a pre-experimental study design method-one shot case study in which a group of students consisting of mode 1, mode 2 and mode 3 became the subject of the study by using the Form Six Sports Science Practical Module to assess and evaluate students.

Researchers used a case study once because this study aims to test the effectiveness of the Form Six Sports Science Practical Module can be used for three school modes, namely Mode 1, Mode 2 and Mode 3. This is because the management and administration system for each school mode is different. However, the Sports Science curriculum is still the same based on the syllabus from the Malaysian Examinations Council (MPM). This study was conducted in all Form Six Secondary schools in the state of Kedah which have Sports Science subjects involving 3 modes, namely Mode 1 (Form Six College), Mode 2, and Mode 3.

Population and Sampling

According to Ghazali Darusalam and Sufean Hussin, (2018) [3] population describes the overall position of each individual in a group such as youth in Malaysia. The population taken is all Form Six Sports Science students in the state of Kedah, which is a total of 263 subjects. Based on table 2 below shows the total population taken by the researchers in conducting the study.

Table 2: School name /number

School Name	Boys	%	Girls	%	Σ
SMK Pulau Nyiur	29	22.84	24	17.64	53
SMK Hutan Kampung	33	25.98	40	29.41	73
SMK Syed Ibrahim	26	20.47	15	11.03	41
SMK Tunku Temenggung	17	13.39	20	14.71	37
SMK Kuala Pegang	12	9.45	17	12.50	29
SMK Tunku Anum	10	7.87	20	14.71	30
Total	127	100	136	100	263

Source: Kedah State Education Department (2019)

The researchers took two schools, namely SMK Pulau Nyiur and SMK Syed Ibrahim as the treatment group and two other schools, namely SMK Hutan Kampung and SMK Kuala Pegang as the control group involving a sample of 102 Form Six students.

Table 3: Name of school treatment group

School Name	Boy	Girls	Σ
SIM Pulau Nyiur	29	24	53
SMK Syed Ibrahim	26	15	41
Total	55	39	94

Table 4: Name of control group school

School Name	Boys	Girls	Σ
SMK Hutan Kampung	33	40	73
SMK Kuala Pegang	12	17	29
Total	45	57	102

Source: Kedah State Education Department (2019)

Instruments

This study uses the Form Six Sports Science Practical Module (MASS) developed according to the semester of study, that is, in the first semester focused on the topics of sports sociology, sports management, leisure and recreation as well as sports nutrition. While in semester two is focused on the topic of physical fitness and physiological anatomy. Next in semester three is focused on the topics of sports coaching, motor behavior, sports injuries and sports psychology. This module involves practicals that must be implemented by Sports Science students as a condition to the marks for paper 4. Students will be given a total of 8 practicals that will be implemented throughout the 3 semesters while in Form Six. The total marks for this practical is 184 marks. In addition, the teacher agreement level questionnaire instrument was constructed based on the modification of the questionnaire Mohd Izwan Shahril, (2017) [7], with reference to the book Module Construction by (Sidek Mohd Noah, 2005) [12]. This questionnaire uses 5 levels of scale, namely scale 1 (strongly disagree), scale 2 (disagree), scale 3 (somewhat agree), scale 4 (agree) and scale 5 (strongly agree).

Discussion

The validity value of the content of the Sports Science Practical Module is r = .94 (n = 6). The reliability value for the Sports Science Practical Module r = .92 indicates that the MASS has a high reliability value and can be applied to Form Six Sports Science students. The construction of this MASS can reduce the existing gap and be able to provide added value to the assessment or practical evaluation of Form Six Sports Science students. The content contained in this module covers all the topics that have been studied by Sports Science students and can indirectly measure the overall achievement of students holistically. The production of teacher -friendly rubrics can help and facilitate the task of teachers to set more precise scoring standards for each student. Therefore, the results obtained by students will be fairer and meet each of the criteria evaluated.

Conclusion

The whole study has produced a high value of validity and reliability of the MASS developed by researchers. Based on the findings of this study, researchers can produce important information related to the level of achievement of the Form Six Sports Science Practical Module that has been conducted in several schools in the state of Kedah. MASS is instrument to assess students' knowledge practically covering fitness and cognitive. This is a continuation of what students have gained in class theoretically. Through this module, teachers can implement effective, systematic, dynamic and holistic assessment to all students that coincide with the goals of Sports Science as stated in the Malaysian Education Development Plan 2013-2025. Therefore, the researchers proposed a study that examines the needs of the practical content of Sports Science based on current learning that is in line with development and in line with the needs of the university. Mastery of this knowledge will help students continue their studies in line with Than Yoke Mei and Tang Keong Ngang (2014) [14], stated that through learning in Form Six can produce quality university students, independent, caliber and ready to face obstacles and challenges in Higher Education Institutions.

References

1. Abdul Hadi Salleh, Mohd Izwan Shahril GE, SMAR. Pembinaan Modul Amali Sains Sukan (MASS) Bagi Keperluan Pelajar Sains Sukan Tingkatan Enam. *E-Jurnal Penyelidikan Dan Inovasi*,2020:7:33-46.
2. Abdullah Norhairi, Siti Nor Azura, Arshad, Mohamad Yusof. *Faktor yang mempengaruhi pemilihan pelajar STPM ke institusi pengajian tinggi awam (ipta): Satu kajian di Melaka Tengah, Melaka*. Tesis Sarjana Muda: UTM,2007.
3. Ghazali Darusalam, Sufean Hussin. *Metadologi penyelidikan dalam pendidikan* (2nd ed.). Kuala Lumpur: Universiti Malaya,2018.
4. Kementerian Pendidikan Malaysia. Ringkasan Eksekutif Pelan Pembangunan Pendidikan Malaysia (2015 - 2025),2015.
5. Majlis Peperiksaan Malaysia. Sukatan pelajaran Sains Sukan. *Kementerian Pendidikan Malaysia*. Majlis Peperiksaan Malaysia. Retrieved from, 2012. http://portal.mpm.edu.my/documents/10156/aa6ac2e0-2e45-4255-8d0d-700f3f254804
6. Majlis Peperiksaan Malaysia (MPM). Garis Panduan Umum Pengurusan Dan Pengendalian Kerja Kursus, 2016.
7. Mohd Izwan Shahril. *Keberkesanan Instrumen Pentaksiran Pembelajaran (IPP) berasaskan TGfU bagi permainan badminton.* Tesis Doktor Falsafah: Universiti Pendidikan Sultan Idris,2017.
8. Noorzeliana Idris, Norazilwati Abdullah, & Saniah Sembak. Isu dan cabaran pentaksiran berasaskan sekolah dalam kalangan guru. In *international conference on teachers education (ICOTE)*. Brunei, 2014.
9. Norlena Salamuddin, Mohd Taib Harun. Penguasaan pengetahuan isi kandungan subjek: Implikasi kepada pendidikan pelajar program sukan dan rekreasi UKM. In *Seminar papers IPGBL*,2003.
10. P Kamalanathan. Pusat Tingkatan Enam ubah persepsi pelajar. *Berita Harian*. Retrieved from, 2015. https://www.bharian.com.my/node/66781
11. Saidil Mazlan Abdul Razak, Gunathevan Elumalai, Junaidy Mohamad Hashim, orliza Abdullah. Penguasaan Pengetahuan Konten: Pencapaian Pelajar Sains Sukan Tingkatan Enam Di Negeri Kedah. E-Academia Journal,2018:*7*(1):35-44. Retrieved from http://journale-academiauitmt.uitm.edu.my/v2/index.php/home.html
12. Sidek Mohd Noah. *Pembinaan modul. Bagaimana modul latihan dan modul akademik*. Selangor: Universiti Putra Malaysia,2005.
13. Suah See Ling, OS dan SO. Pentaksiran Pembelajaran

Pelajar: Amalan Guru-guru di Malaysia. Jurnal Pendidikan Sains Dan Matematik, 2014, 4.
14. Tang Keong Ngang, Tham Yoke Mei. Penjenamaan semula sistem pentadbiran Tingkatan Enam: Satu kajian kes. Jurnal Kepimpinan Pendidikan,2014:1(2):52-60.