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IMPLICATIONS OF THE IMPLEMENTATION OF THE SEGAK TEST IN MALAYSIAN SECONDARY SCHOOLS

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Abstract

The implementation of an effective, comprehensive standardized assessment for Physical Education has seen several challenges that need to be investigated. This study investigated qualitatively the implications of the implementation of the SEGAK test. The major focus of the study was to explore teachers' and students' perspectives about the SEGAK test. Based on stratified random sampling in five schools, 10 Physical Education teachers and 20 students in a selected district in Malaysia participated in the study. Interview sessions were conducted in the schools and the information they gave was analysed thematically. The findings showed that teachers generally agreed that the SEGAK test will be more effective if it can be conducted by

teachers who were specifically trained in the discipline. Many teachers were non-optionists and had to familiarize themselves with the SEGAK test and acquire skills regarding the field. Most of the teachers believed that there was a dire need for more teachers who were optionists as they could better perform the tasks of evaluation under SEGAK. The students mentioned that they were aware of the SEGAK test but did not fully understand its impact on them or the health benefits of taking part in the test. Based on the findings, the study suggests that there is a need for more trained and qualified teachers for Health and Physical Education. Future research could look at schools in other states in Malaysia as such findings would be more representative of the issues related to the implementation of the SEGAK test.

Keywords

National Physical Fitness Standard Test, Health and Physical Education, Malaysian Secondary Schools, Optionists, Non-optionists Teachers

1. Introduction

The National Physical Fitness Standard Test (SEGAK) for Malaysian students had been introduced in 2005 but was implemented fully by the Malaysian Ministry of Education in 2008 for Year 4 pupils until Year 11. SEGAK is a test designed to help students know and evaluate their level of fitness and at the same time monitor their Body Mass Index (BMI) value (Bahagian Pembangunan Kurikulum Kementerian Pendidikan Malaysia, 2016). To start this fitness test, all the students must measure their weight and height. This is because standard procedures had been established to calculate the BMI based on the height and weight of the student. The BMI readings could be compared against a classification table which will show whether a student is under-weight, normal, over-weight or obese. Students can also predict their ideal weight and height based on the BMI table. SEGAK has been aligned to the Physical Education and Health Education syllabus for primary and secondary schools in Malaysia to improve their level of physical fitness.

The lifestyle of Malaysians has become more sedentary (Salamudin & Harun, 2013). A lack of physical activity or exercise could severely affect an individual's health. Generation Z or those born after the year 1995 tend to be immersed in the digital world (Cilliers, 2017) and could be prone to being sedentary as more time is taken up with the internet and cyberspace. An optimum fitness level can help students in performing daily activities without feeling lethargic.

Thus, there was a need for a well-planned fitness activity, which could be implemented in accordance with the procedures that are established for each test item to measure different aspects of physical fitness. Furthermore, the assessment of the items needs to be measured based on standard evaluation procedures, rather than different procedures for different schools. Thus, there is a need for SEGAK to come up with an assessment of physical activity that is more standardized, comprehensive and rigorous. The results of this test will be given in the form of a certificate of recognition based on a centralized examination for Malaysian students. Assessment is an integral part in most students' lives and the outcomes of these assessments have an impact on the students, irrespective of whether these outcomes are favorable or otherwise (Kolackova & Sikolova, 2017).

As childhood obesity has been shown to be a strong predictor of adult obesity against a backdrop in which adulthood obesity in the developed and developing nations is on the increase, childhood obesity is recognized as an important public health issue worldwide (Zalilah, Mirnalini, Khor, Merlin, Bahaman & Norimah, 2006). 'Physical fitness is not only one of the most important keys to a healthy body; it is the basis of dynamic and creative intellectual activity' (Kennedy, 2013). Thus, physical and mental activities are inseparable (Terence, Sallis, Blizzard, Lazarus, & Dean, 2001). One enhances the performance of the other.

2. Literature Review

BMI has been recommended for use in all age groups and is widely used as an indicator of body fatness in adolescence because it is easier to measure, inexpensive and relatively accurate (Zalilah, Mirnalini, Khor, Merlin, Bahaman & Norimah, 2006). Compared to other obesity indices that are commonly utilized in adolescents such as weight-for-age, weight-for-height and weight-height ratios, BMI has been shown to be consistently better as an indicator of adiposity. Being overweight and obese are fast becoming health issues affecting children and adolescents today. The use of BMI cut off points in public health is a necessity to help describe populations by identifying and monitoring those overweight and obese, as well as serve as a guide for further assessments.

Childhood overweight and obesity is due to complex interactions of various factors such as socioeconomic, environment, genetic and policy that influence eating and physical activity

behaviors. As childhood obesity has been shown to be a strong predictor of adult obesity and the prevalence of adulthood obesity is increasing, childhood obesity is now recognized as an important public health issue worldwide (Zalilah, Mirnalini, Khor, Merlin, Bahaman & Norimah, 2006). The problem is further heightened with increasing and consistent evidence that supports the association between childhood obesity and its consequences such as low self-esteem, behavioral problems, clinical conditions, cardiovascular risk factors and adult morbidity and premature mortality. In recent years, Malaysia has experienced rapid industrial development and subsequent economic growth. Consequently, major transitions in the dietary habits and lifestyle of the population which are associated with an increased prevalence of obesity and diet-related chronic diseases have been observed among its population, including children and adolescents. Even so, there continues a need for published information on estimates of body weight and body fat among Malaysian adolescents. General perceptions on weight issues might be of little help as compared to precise measures on body weight and height.

One research that has shed some light on the importance of Physical Education was conducted by Bonn, Sharif, Mohamed and Merican (2011). The results from the research showed that the average BMI score for school children and adolescents in Malaysia ranged from 15 to 20. Generally, males had a higher mean BMI score as compared to females. They were also categorized into *overweight* and *obese* according to the International Obesity Task Force reference. It showed that males had a higher prevalence of obesity in Malaysia than females of all ages except 13 years old. It also showed that the prevalence of childhood and adolescent obesity was 3.73% for males and 4.35% for females. The percentage of obesity among school children has increased significantly as compared to 3.5% of obese students in Kuala Lumpur in 1997. The researchers' projection was that the increase in childhood and adolescent obesity will lead to an increase in the number of obese adults in future. Since the problem relates to the future well-being of our future generation, steps have been proposed and taken in addressing this issue. "Malaysia has also been identified as one of the least physically active countries in the world with over 60% of adults being essentially sedentary" (Lian, Bonn, Han, Choo, & Piau, 2016).

Another study that was closely related to perceptions of teachers on PE was conducted in a more specific location in Malaysia, that is, in Johor Bahru and the nearby town of Skudai which is located in the southern tip of the Malaysian peninsula. (Zainuddin, & Hamid, 2010). 57 teachers participated in the study and responded to a questionnaire on major issues related to the

implementation of SEGAK. Amongst the points highlighted in the study was that teachers' experience was important in supervising the SEGAK tests. The study also showed that most teachers (90%) understood about PE and its role in the school curriculum and its implementation. It cannot be denied that teachers play an important role towards achieving quality education (Mangaleswarasharma, 2017). Before the implementation of SEGAK, preparatory exercises had been conducted on assessments of physical activities. The school conducted a fitness test, known as the Basic Endurance Test and the National Physical Fitness Test. Although teachers were provided with information on objectives and procedures, there could be challenges in the actual implementation of the test. It was noted that procuring the equipment for conducting the tests could pose problems. When time is invested in acquiring the necessary equipment to conduct the test, it would be difficult to conduct the test as originally planned.

In relation to the National Physical Fitness Standard Test, it would be noteworthy to mention that the state of fitness is inclusive of the physiological and psychological aspects. Both these perspectives of fitness have been perceived to protect students from the dangers of hypokinetic illness, or diseases related to a lack of movement or mobility in general. This results in negative effects on health such as cardio vascular problems, obesity and other ailments that involve the muscles and bones. Fitness in terms of performance refers to an individual's ability to compete in sports activities having sufficient energy, endurance, skills and function effectively as a human being. This is important as Malaysia is emphasizing on sports achievement in its progress towards becoming an advanced nation. An optimum fitness level helps students to do their daily activities efficiently and effectively without feeling tired or exhausted. The country needs people who are healthy and active. Therefore students should give serious thought about their level of fitness and agility (Veloo & Ali, 2016).

Finally, it can be said that obesity is a problem that cannot be ignored as more Malaysian students are becoming overweight. This affects their level of fitness as it can affect their physical well-being and their state of health. The introduction of SEGAK in Malaysia is meant to address issues related to the BMI as well as physical fitness. However, it is important to explore the views of teachers and students on the implementation of the SEGAK test to better understand the challenges that they face. A better understanding will help policy-makers and other stakeholders to make more informed decisions on improving the implementation of SEGAK.

3. Methodology

The materials presented in this case study are derived from a number of sources. The major source was the data from *SEGAK Program*. Data was collected from five schools in a selected district in the state of Kedah, Malaysia based on a sample of 10 teachers and 20 students. Since the names of the 10 teachers and the 20 students are confidential, an alphanumeric system was used in place of their actual names. T1 till T10 represents the 10 individual teachers while S1 till S20 represents the 20 individual students. The selection of the teachers and students was based on stratified random sampling (Black, 1999). All of them were chosen from Year 10 of schooling.

The SEGAK test was administered to the students in the school hall. First, the height and weight of the respondents were taken for the purpose of BMI measurement. After that, all of the students were organized in pairs to take this physical fitness test, which are arranged in sequence. The battery of test items includes five major components, which are to be completed within specific time frames. These are measurement of the BMI, step up, push-ups, partial curl-ups and a sit and reach test.

Interview sessions were conducted with 10 PE teachers (5 males and 5 females) and 20 students (10 males and 10 females). The teacher participants who were teaching PE comprised 4 optionists and 6 non-optionists (i. Bachelor of Education in Teaching Malay (1 teacher); ii. Bachelor of Education in Counselling (2 teachers); iii. Bachelor of Education in Physics (2 teachers); and iv. Masters of Education in Chemistry (1 teacher). Interview sessions with teachers were carried out in the staff room using a one-to-one approach. The interview sessions were guided by semi-structured interview questions. All the interviews with teachers lasted for about 30 minutes. Similarly, individual interviews were conducted with each of the 20 students. Students were selected based on stratified random sampling. The interviews were conducted in the staff room and lasted for about 35 minutes. The schedule for the interviews was negotiated with the students.

Data from the interview questions with the PE teachers and the students were analysed after they were interviewed using semi-structured questions. Teachers and students were allowed to answer in Malay, which is the national and official language in Malaysia. Back-to-back translation was used when the response was in the Malay language. The data collected was

transcribed and analysed based on a thematic analysis. Issues related to SEGAK were further refined into broader categories. The data collected would address the issues related to SEGAK, physical activities and physical fitness of students.

4. Findings/Discussion

This section reports on teachers' and students' perspectives on the effectiveness of post activities that can improve students' physical fitness. The themes that emerge relate to optionists and non-optionists teachers for PE (teachers' perspectives), ideas of BMI and SEGAK, purpose of BMI and SEGAK, procedures related to the SEGAK test, demonstration before the SEGAK test and the equipment used for the SEGAK test.

4.1 Optionists and non-optionists teachers for Physical Education

Based on teacher interviews, there were 6 of non-optionist in-service teachers and 4 of optionist in-service teachers. According to the interviews, 60% (6 out of 10 teachers) claimed that there was a demand for non-optionists to teach Physical Education. They believed that this trend would continue at least for some time. The growing demands for the non-optionist teachers were because the schools did not have adequate Physical Educational teachers. Below are excerpts of the interviews:

T1: *My qualification is Bachelor in Education in teaching Bahasa Melayu.*

T2: *My qualification is Ijazah Sarjana Muda Pendidikan (Bimbingan dan Kaunseling).*

T3: *I have a degree in physics education.*

T4: *I have a master in chemical science education.*

T6: *I am a degree holder for Career Guidance and Counseling.*

4.2 Ideas on BMI and SEGAK (Teacher and student responses)

Based on the interview, all the 10 teachers were able to give some account of BMI and SEGAK. Some excerpts of the interviews are given below:

T1: *SEGAK means Standard Kecergasan Fizikal Kebangsaan untuk Murid Sekolah Malaysia. BMI means Body Mass Index.*

T2: *Well, as far as I know SEGAK means Standard Kercergasan Fizikal Kebangsaan untuk murid sekolah Malaysia and BMI means Body Mass Index"*

T3: *SEGAK refers to Standard Kecergasan Fizikal Kebangsaan untuk Murid Sekolah Malaysia. BMI stands for Body Mass Index.*

However, based on the students' responses, only 13 of them were able to state the meaning of BMI and SEGAK correctly. Samples of excerpts from the interviews are given below:

S1: *Yes, SEGAK means Standard Kecergasan Fizikal Kebangsaan untuk Murid Sekolah Malaysia. BMI means Body Mass Index.*

S2: *Yes. BMI means a test to check overweight. SEGAK means a test for knowing someone's flexibility in sports.*

S4: *I'll try...BMI indicates of Body Mass Index and I'm not really sure about SEGAK.*

7 students responded by saying that they did not know.

4.3 Purpose of BMI and SEGAK (teachers and students)

Based on the interview, all the 10 teachers know the purpose of BMI and SEGAK test. The teachers had viewed the purpose of BMI and SEGAK test based on the students' results.

T1: *Well, as far as I know the purpose of the test is to find out if our students are having a suitable ratio of height and weight and in the same time we want to know the level of their fitness.*

T4: *The purpose of the test is to find out students' fitness plus to know their BMI ration.*

T5: *Basically...the main purpose for BMI is to measure weight and height. Then, the weight and height measurement were then calculated into Body Mass Index (BMI) to get the categorization of BMI levels which are the students were identified as normal, overweight or underweight.*

T6: *Well I'll try...the purpose for BMI is to measure weight(kg) and hHeight(m). Then, the weight and height measurement were then calculated into Body Mass Index (BMI) to get the categorization of BMI levels which are the students were identified as normal, overweight or underweight.*

T7: *Yes I do. The BMI test is to identify the ideal weight of a student based on the WHO norm. Whereas SEGAK test is to evaluate the students' physical fitness based on the score recorded by the teacher during the pre and posttest. Both scores recorded are analyzed to obtain the final result.*

T8: *The objective of the test is to find out the level of their fitness through the ratio of height and weight of the students.*

The students' responses show that 13 of them know the purpose of BMI and the SEGAK test that have been conducted in their school. They concurred on the view that the tests were

helpful in the sense that it helped them stay fit and healthy. The views of S5, S8, S11 and S16 are given below.

S5: *Well both test are to measure the students' health.*

S8: *The test helps students to stay fit and healthy, and also helps us to become aware of the level of our fitness.*

S11: *In my opinion both test are to ensure all students know about their health.*

S16: *Yes. It is because the teachers want to know about the students' health.*

4.4 Procedures related to the SEGAK test

Based on the interview, all the teachers took the procedure of doing the SEGAK test seriously. The procedures were given great importance. The teachers mentioned that they know the procedure based on the guideline book that had been given to them by the Ministry of Education. The views of teachers T3 and T8 are representative of the teachers' views.

T3: *Basically, I just follow the guideline from the module provided. The test begins with taking the measurement of students' height and weight for BMI. After that, for SEGAK test, it begins with Step-Ups for three minutes, followed by Push-Ups, Partial Curl-Up, and ends with Jangkauan Melunjur.*

T8: *... the test measures the students' height and weight in the first station. Next is Naik Turun Bangku for 3 minutes by following the metronome beat which is 60 beats per minute. The third is Tekan Tubi for one minute followed by Ringkuk Tubi Separa for one minute. Last is Jangkauan Melunjur"*

Only 75% of the students which is 15 out of 20 students know the procedure of the test. A representative view is given through S1.

S1: *Yes, I know the procedure. This is because the teacher explained to us on how to do the test. We need to measure our height and weight first before we do the four tests that had been assigned to us in SEGAK. It has 'Naik Turun Bangku' for three minutes. After that, we have 'Tekan Tubi', 'Ringkuk Tubi Separa' and end with 'Jangkauan Melunjur'.*

The other five students stated explicitly that they did not know the procedures.

4.5 Demonstration before SEGAK test

Based on the interview, all the teachers did the demonstration to the students before doing the SEGAK test.

T4: I did explain to them the procedure on how to do it. I asked two students, a boy and a girl, to demonstrate it to their classmates. While they demonstrated the procedure, I will ensure that the steps that had been stated in module had been followed.

T7: It is my duty to explain and demonstrate the procedure of the test to the students. For the post test, we do the same thing and we introduce a Procedure Chart to encourage the students to do the test in the correct manner.

In contrast, only 70% of the students (14/20) responded that their teacher demonstrated the procedure of the test before they did the SEGAK test. Based on the students' responses, only 14 of them know the procedure.

S1: He did explain to us the procedure on how to do it. He asked a volunteer to demonstrate in the classroom."

S6: Students claimed that their teacher did not demonstrate the procedure of the SEGAK test.

Generally, students expressed the view that it was important for the demonstration to be conducted so that it was easier to follow.

4.6 Equipment used for SEGAK test

Based on the data that had been received, all the teachers responded that the equipment that had been used for the SEGAK test is suitable and appropriate to be used.

T6: The value that I get based on both test are valid and accurate. That's mean the school had been provided us with suitable equipment and it is friendly user too.

T7: The equipments indeed measure what it is supposed to measure. The level of reliability of the equipments is tested and it is $r=0.93$ according to Johnson & Nieman 1986. However, in my opinion, the validity of the measurement is more consistent if one teacher tests one student at a time."

T7 is a specialist teacher in Health and Physical Education. This could explain why she knew the procedure and the suitable equipment for the test better than others. Nevertheless, the satisfaction with the equipment differs with the findings from an earlier study by (Zainuddin, & Hamid, 2010) in which equipment could potentially be an issue in conducting SEGAK.

Students, on the other hand, did not elaborate much but there was consensus that the equipment used for the SEGAK test was suitable, appropriate, or could be used. Most of the students did not elaborate on this view, although they indicated that they had a positive view of the equipment.

All in all, the SEGAK test is a useful test to monitor students' health and their physical fitness. This gains extra significance when seen in the context of the close relationship between physical fitness and academic achievement (Terence, Sallis, Blizzard, Lazarus, & Dean, 2001; Kennedy, 2013). Considering its importance, the test will be more meaningful if it is conducted by trained teachers in this field. The teachers and students who had been interviewed in this research believed that the SEGAK test will be more effective if it can be conducted by teachers who have the qualification in teaching Health and Physical Education. This is because most of the teachers who had been interviewed in this research are non-optionists. Although they are non-optionist teachers, they had been assigned to teach Health and Physical Education in their school. It means that, they need to know about the SEGAK test and must be familiar with the test. Based on their opinions, they cannot reach the expected level of the tests due to a lack of skills and knowledge of the field. Most of them only use the basic personal knowledge on how to care for health and fitness to teach the students after the result of the tests are gathered. The teachers also point out that the schools need more PJ optioned teachers as an optionist could do so much better compared to the non-optionists who are in the schools right now. This is concerning the reliability and validity of the test. If the tests or the results are not reliable and valid, there is no point in implementing the tests.

Nevertheless, all of the teachers see the importance of the tests and the post-activity of the SEGAK tests. They shared the same opinion that it is crucial for the students to live healthily and have a fit body. As mentioned by Veloo and Ali (2016), it is important to keep fit so that students are able to engage in their daily activities without suffering from fatigue. One of the ways to monitor the students' health and fitness is through the SEGAK test which has the BMI and physical test included in it. By having the post activity after the SEGAK test, it will motivate the students to take care of their health. Students need continuous motivation to keep fit as studies have suggested that health related problems result from being over-weight or obese (Zalilah, Mirnalini, Khor, Merlin, Bahaman & Norimah, 2006). The students also mentioned that they know about SEGAK test but do not really understand the impact of the test towards them. They only did the test because the teacher asked them to do so and they will get score or marks for the test. So, it is important to correct the students' impression about the test so that it will give a meaningful impact towards them. Evidence suggests that teachers play an important role in the success of implementing SEGAK (Zainuddin, & Hamid, 2010). A sense of urgency

will greatly help to improve the implementation of SEGAK for better physical fitness among students. There is a need to move away from a sedentary lifestyle for healthier living (Salamudin & Harun, 2013).

5. Conclusion

It is going to be disadvantageous to the well-being of students' health if the SEGAK test cannot be implemented maximally in the secondary school. Failure in implementation would also mean that it would contradict the original objective of SEGAK to facilitate varied and versatile training to improve physical fitness. So, the Ministry of Education of Malaysia could look into the possibility of having at least one optionist teacher in Physical Education to monitor the SEGAK test in every secondary school as well as to ensure that the subject itself can be taught in a way that adheres to the original objectives.

Although the study gives some pointers on ways of improving the implementation of SEGAK, it has been confined to five schools in a selected district in Malaysia. The sample size was confined to 10 teachers and 20 students. Future studies can look at larger samples of students and teachers or be extended to other parts of the country. Questionnaires can also be used to gather data on SEGAK, its implementation, health and physical fitness issues. Health and physical fitness are important for Malaysia to realize its vision of joining the ranks of countries in the developed world.

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