

Coaching Games for Understanding (CGfU) Module for Invasion Games in Football

Mohammad Zarid Zaini & Norkhalid Salimin

To Link this Article: <http://dx.doi.org/10.6007/IJARBSS/v10-i4/7156>

DOI:10.6007/IJARBSS/v10-i4/7156

Received: 03 March 2020, **Revised:** 29 March 2020, **Accepted:** 10 April 2020

Published Online: 28 April 2020

In-Text Citation: (Zaini & Salimin, 2020)

To Cite this Article: Zaini, M. Z., & Salimin, N. (2020). Coaching Games for Understanding (CGfU) Module for Invasion Games in Football. *International Journal of Academic Research in Business and Social Sciences*, 10(4), 574–585.

Copyright: © 2020 The Author(s)

Published by Human Resource Management Academic Research Society (www.hrmars.com)

This article is published under the Creative Commons Attribution (CC BY 4.0) license. Anyone may reproduce, distribute, translate and create derivative works of this article (for both commercial and non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this license may be seen at: <http://creativecommons.org/licenses/by/4.0/legalcode>

Vol. 10, No. 4, 2020, Pg. 574 - 585

<http://hrmars.com/index.php/pages/detail/IJARBSS>

JOURNAL HOMEPAGE

Full Terms & Conditions of access and use can be found at
<http://hrmars.com/index.php/pages/detail/publication-ethics>

Coaching Games for Understanding (CGfU) Module for Invasion Games in Football

Mohammad Zarid Zaini & Norkhalid Salimin

Faculty of Sports Science and Coaching, Universiti Pendidikan Sultan Idris, Malaysia

Email : mohammad_zarid@yahoo.com.my

Abstract

The aim of this study is to determine the validity and reliability of Coaching Games for Understanding Module (CGfU). The CGfU Module is a football module with four (4) specific principles which are : (i) applying small sided games in training, (ii) focus to strategy and tactical awareness, (iii) decision making awareness, and (iv) invasion games. The process of validity involved five expert panels. While the reliability assessment obtains from the questionnaires with 15 questions based on the activity in CGfU. Thirty football players involved in the pilot study which later will use in assessing the reliability of module. Research finding show that CGfU Module having a high validity. Expert panels analysis show the agreement of 94%. The reliability assessment using Alpha Cronbach for CGfU Module as follow (i) cognitive aspect $r = .689$, psychomotor aspect $r = .769$ and affective aspect $r = .673$ The overall reliability for CGfU Module is $r = .643$. This finding proof that CGfU Module obtained a high reliability. In conclusion, CGfU Module is suitable for football training (invasion games) for under 14 years old. With this module, hopefully it can be a reference point for coaches to train football players.

Keywords: Coaching Games for Understanding, CGfU, Small Sided, Football, Football Module.

Introduction

Football is one of the competition sports (international games) and has been growth more than 20 years ago (Barreira, 2013). In Malaysia it is consider as a top sports in the country (Karim, 2016). Many efforts has been put to make this sports as a potential games in Malaysia for example programme like National Football Development Programme (NFDP) and Football Association of Malaysia (FAM) F :30. The NFDP mission is to develop the Malaysian football comprehensively that involve all aspect like participation, coaching, facility and tournament. The main target is to provide a proper path to develop new talent from the age of seven until 17 years old. Ministry of Youth and Sports, 2013). The FAM on 31 October 2018 launched the F :30 with ambition to be the top five football team in Asia by year 2030 (Malaysia Football Association, 2019). The F :30 is 12 years planning and can be divided into three phase. Phase 1 is from year 2019 until year 2022 for building up the basic management,

tournament and human capital, phase 2 is from year 2023 until year 2026 to achieve Asia level and phase 3 is from year 2027 to year 2030 for preparing a world class football team.

In this study, the main purpose is to obtain the validity and reliability of a football training module that established name Coaching Games for Understanding (CGFU) Module. According to Jamaludin et al. (2008), a module is a package of several concepts that can help people to expert in certain area before they can move to another area or topic. Russel (1974) believe by using a module player performance can be improved and it can be use by non-academician. The module must be clear to suit the purpose. Therefore, to ensure the module is meeting the purpose, validity and reliability must be done.

According to Mueller et al. (2001) the way of determine module reliability is same as for instrument. There are two ways to do the reliability, first is by questionnaires based on the module's objective or questionnaires based on module's activities. According to Sidek & Jamaludin (2005) both ways can provide the reliability to the module indirectly. However, for validity test, expert panels must exist to do the validation. Validity of 70% is good for a module (Abu Bakar, 1995).

Objective

The objectives of this study are:

- (1) Establish a training module for football for player under 14 years old called CGfU Module.
- (2) Determine the validity of CGfU Module.
- (3) Determine the reliability of CGfU Module.

Research Methodology

Research Design

This study applies a combination of quantitative research (descriptive) and correlation. This research design meets the objective of data analysis in assessing the validity and reliability of CGfU Module.

Sample and Population

In order to test the validity of CGfU Module, this study using Russel (1974) and expert panels feedback. There are five (5) expert panels involved in order to assess the module validity. Besides, for reliability assessment this study chooses thirty (30) respondent from the football players that involved in pilot study. The research respondents is under 14 years old football players that already followed the football training using the CGfU Module for 9 weeks.

Research Instrument

Instrument that been used to assess the validity of CGfU Module is a set of questionnaires based on Russel (1974) that had been modified and given to expert panels for assessment. The five-point Likert scale is used for assessment whereby value 1 refer to very not agree, 2 refer to not agree, 3 refer to not sure, 4 refer to agree and 5 refer to very agree. The questionnaire consists of 15 questions. The questions were built according to the training in CGfU Module. There are three parts in the questionnaire which is cognitive, psychomotor and affective.

The Development of Coaching Games for Understanding (CGfU) Module

In this study, previous theories were referred to build a new football module which is CGfU Module. The CGfU Module is a football training module that focus on invasion games.

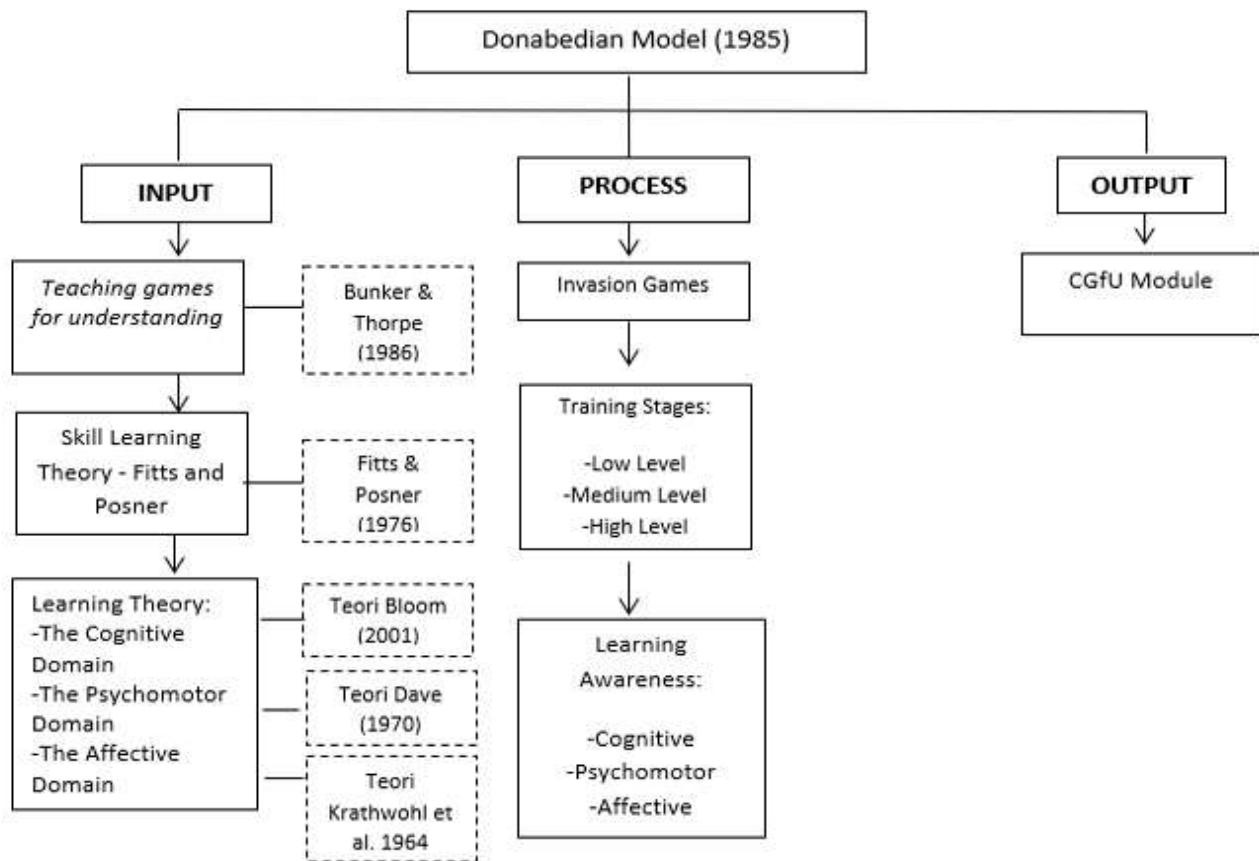


Figure 1. Research Theoretical Framework

Figure 1 is a theoretical framework for this study which show the input, process and output. This theoretical framework was applied according to Donabedian (1985). Botma & Labuschagne (2017) say the Donabedian model can be applied to education research to build a module or programme in a complex situation. Input refer to the theories that being used or referred in this study. Process on the other hand is transformation of input to become an output. According to Donabedian (1988) process is what has been done. While output is the end result from the input transformation.

The first input in this study is a Teaching Games for Understanding (TGfU) model. According to Bunker and Thorpe (1986) there are four categories of sports which is target, net and wall, striking and fielding as well as invasion games. This study takes the invasion games as reference as the module is special refer to football.

The second input is a theory from Fitts dan Posner (1967). Fitts and Posner theory consists of three stages which is first stage (low level) is cognitive, second stage (medium level) is associative and third stage (high level) is autonomous. In CGfU Module, training was divided into three stages

which is low, medium and high level. Low level of training is a simple, beginner or basic small sided games. Medium level of training in CGfU provide medium small sided games training. While high level of training in CGfU refer to a more difficult games and multi-variation of small sided games.

The third input is a learning theory which are cognitive, psychomotor and affective. The cognitive domain is about the knowledge and intellectual ability as well as skills. In this study, the cognitive domain is according to Bloom Taxonomy (Bloom, 1956). While psychomotor domain was used according to Dave (1970). There are five level in psychomotor level which is imitation, manipulation, develop precision, articulation and naturalization. The psychomotor domain is related to human behaviour (Bloom, 1956).

The affective domain focus on the emotional, receiving, interest and value. In CGfU Module, the affective domain is one of the important aspects and this study use Krathwohl et al. (1964). During the training, every player was observed for evaluation.

There are four principles of CGfU Module Modul CGFU which are (i) small sided games 3 vs 3 , (ii) strategy and tactical awareness, (iii) decision making awareness and (iv) invasion games in football. These principles will be exposed in the training module called CGfU Module.

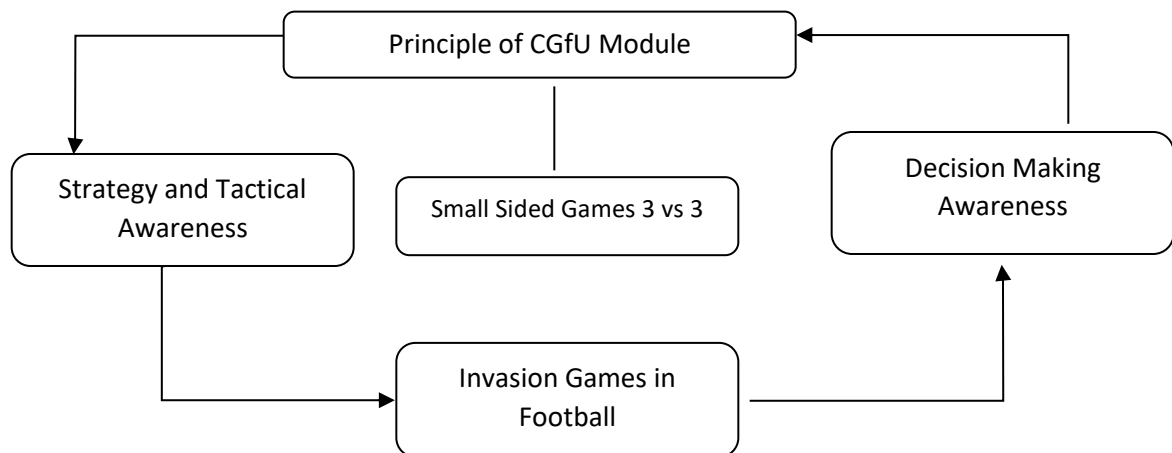


Figure 2. CGfU Module Framework

The first principle in CGfU Module is small sided games 3 vs 3. Small sided games have widely used as a training module in football with different age group and skills (Hoff et al., 2004; Koklu, 2012; Radziminski et al., 2013). Many movements in small sided games can improve the motor development in different situation (William & Hodges, 2005). According to Katis & Kellis (2009) also Owen et al. (2011) lesser player in the field i.e. 1 vs 1, 2 vs 2, 3 vs 3 and 4 vs 4 will significantly improve player's physiology compared to games with more players like 9 vs 9. Small sided games also can increase chances of dribbling, passing and shooting (Da Silva et al., 2011). Besides, Costa et al. (2011) claimed that small sided games 3 vs 3 is more likely the formal football games. Katis & Kellis (2009) also suggested 3 vs 3 in football to increase physical and skill of football players. Brandes et al. (2012) added the 3 vs 3 games able to increase aerobic fitness among players.

The second principle in CGfU Module is strategy and tactical awareness among players. Bailey (2001) and Mawer (1995) says strategy and tactical existed and it's related to cognitive ability. The

CGfU Module focus on the player's understanding during the training especially related to strategy and tactical. Aspect of understanding the strategy and tactical is important because it will help players to achieve games objectives. Castelao et al (2014) and Silva et al (2014) mutually agreed that small sided games will result the consistent strategy and tactical. Many coaches and managers of football applied small sided games to have more objectively training, encourage player's to committed in games and also apply the strategy and tactical during games (Reilly, 2005).

The third principle in CGfU Module is decision making awareness. According to Clemente et al (2014), players need to make decision during games in order to solve the problem in games. It's important to highlight to players that creative thinking is important in decision making. Generally, there are two types of decision making in CGfU Module which are decision with the ball and decision while off the ball. Reilly et al (2000) mentioned that decision making can be the assessment item in football. Ward et al. (2003) also says that decision making awareness can be on the ball or off the ball.

The fourth principle in CGfU Module is invasion games in football. According to Costa et al. (2011), principle of offensive games refers to penetration, offensive coverage, depth mobility, width and length also offensive unity.

The Development of CGfU Module

The development of module in this study follow the procedures and module development by Sidek & Jamaludin (2005). The procedures and development process is comprehensive to ensure the output (the module) meeting the objective and suitable as reference. There are two stages in module development which is preparing the draft module and the testing-evaluation. The first stage is preparing a draft module with nine steps. Second stage is a testing and evaluation stage.

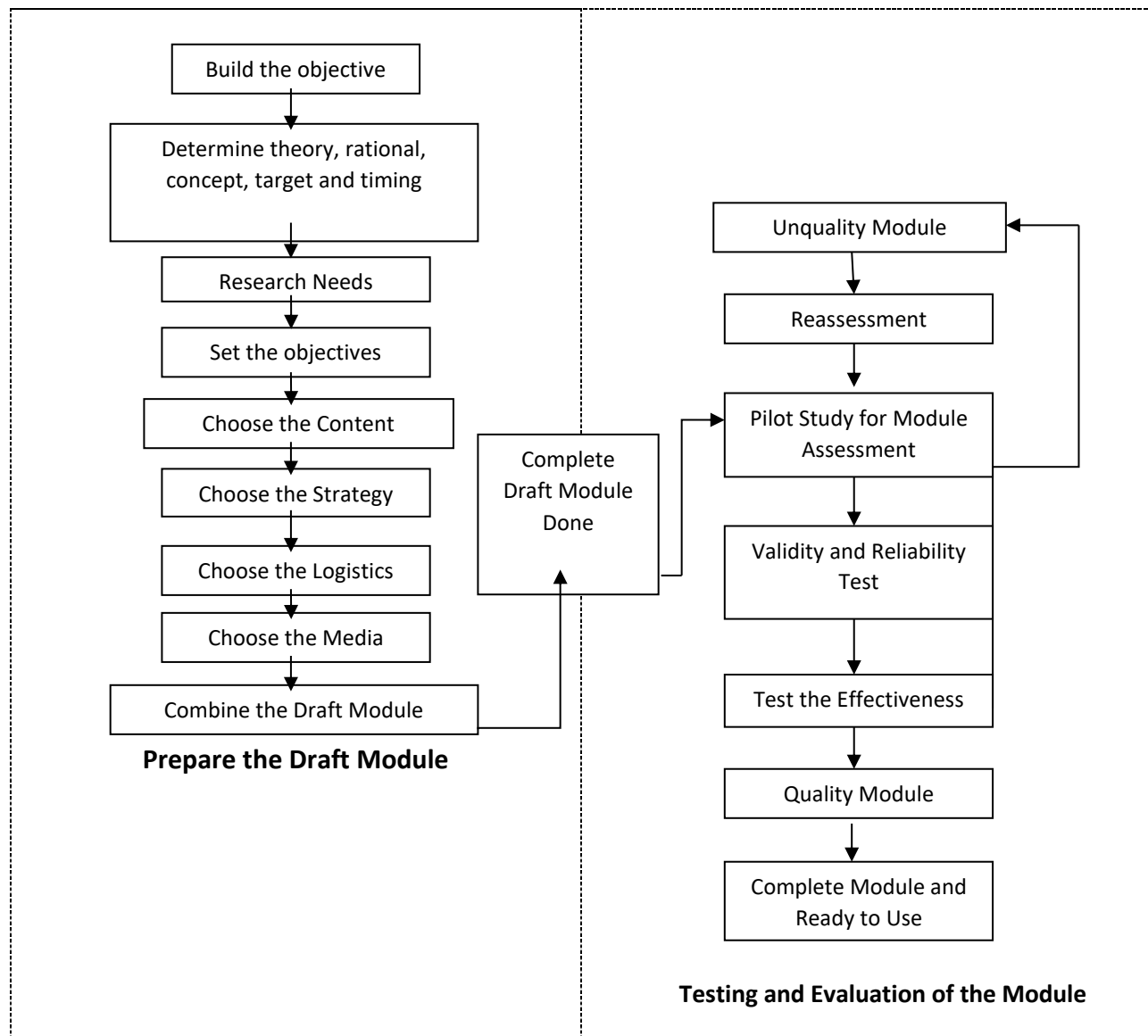


Figure 3. Development of Module Framework (Source: Sidek & Jamaludin 2005)

Figure 3 show the process of development a quality module based on Sidek & Jamaludin (2005). This model going through the testing phase or pilot study to see any weaknesses or room for improvement. After that, to ensure the quality of module, the validity and reliability analysis will be conducted.

The Validity and Reliability of Module

A completed Module then was distributed to the expert panels to assess the validity. There are five expert panels involve in CGfU Module validity. For reliability, 30 football players who is involved in pilot study will response to the effectiveness of the module.

The concept of validity was introduced by Kelly (1927), whereby the assessment is consider valid if it's measure what it's meant for. Ahmad (2004) also conclude that validity refer to the

instrument when it's really measures what it meant for. According to Kline (2005) expert panels review is needed to ensure the correct construct and content is understandable. Mohd Majid (2000) also stated that to determine the validity, expert panel s review can be used to obtain the feedback from them.

Russel (1974) on the other said the instrument assumed to have a good validity when it's meet certain conditions. The conditions are meet the population target, consider the background and behaviour of subject, sufficient timing to do assessment and there is improvement of subject performance. The questionnaires to assess the module validity according to Sidek & Jamaludin (2005) was sent to expert panels for evaluation. The questionnaires build with 5 likert scale with 1 (very not agree), 2 (not agree), 3 (not sure), 4 (agree) and 5 (very agree). The instrument validity was calculated using the following formula:

$$\frac{\text{Total Expert Score (x)}}{\text{Maximum Score}} \times 100 = \text{Content Validity Value}$$

For module reliability, Russel (1974) explained that in order the test the reliability of a module, we need to see how far people can follow the steps of module activity. In order to determine the reliability, a set of questionnaires can be established according to the activity in the module Jamaludin, 2008). The questionnaires assessment is based on 5 likert scale 1 to 5 consist of three aspects which are cognitive, psychomotor and affective. MacDonald (2009) also recommended likert scale to test the validity in few aspects such as behaviour, social skills, cognitive skills, objective, initiative and experience. All data then evaluated using *Alpha Cronbach*. According to Mohd Najib (1999) and Majid (2000), the value of alpha .60 is sufficient for instrument in social science and education.

The Validity of CGfU Module

The CGfU Module was sent to five expert panels for assessment. The assessment is to ensure the content of module is really assessed based on the its construct (Goodwin, 2007).

Table 1. Validity of CGfU Module based on expert panels in pilot study

Item	Content		Language	Procedural		Overall
	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	
Item 1	5	4	5	5	5	
Item 2	5	5	4	4	4	
Item 3	5	5	4	5	5	
Item 4	4	4	5	5	5	
Item 5	5	5	5	5	5	
Item 6	4	4	5	5	5	
Item 7	4	5	5	4	4	
Item 8	5	5	4	5	5	
<i>M</i>	.93	.93	.93	.95	.95	.94

Table 1 show the validity value for CGfU Module ($r = .94, n = 5$). The value .70 mean the CGfU Module is reach the high level according to Tuckman & Waheed (1981), Rink (2002), and Sidek & Jamaluddin (2005).

During the validity assessment, feedback from expert panels was collected and correction has been made to the items. For example, expert panels made a comment about total play time, the coaching points and pitch size.

The Reliability of CGfU Module

In this study, a set of questionnaires with 15 items has been use as the reliability instrument. The questionnaires cover 5 questions for cognitive, 5 questions for psychomotor and 5 questions for affective aspect. The respondent involved is 30 football players who has already involved in the pilot study. Analysis was done to get the value of *Alpha Cronbach*. Table 3 is showing the alpha value for the three aspects in the questionnaires.

The result shows all items has obtained an acceptable value. Majid (2000) stated that the minimum value of reliability is $r = .60$ which mean it having a good consistency. However, if the value is lower than $r = .60$, it's means not consistent and need a modification. The analysis result show $r = .769$ for psychomotor, $r = .689$ for cognitive and $r = .673$ for affective. As for overall the *Alpha Cronbach* value is more than $r = .60$ and meaning this CGfU Module is acceptable.

Table 3. The Reliability Value of CGfU Module

No	Module Component	Reliability Value
1	Psychomotor Aspect	.769
2	Cognitive Aspect	.689
3	Affective Aspect	.673
Overall Reliability Value		.643

Conclusion

The result explain that this study has been establishing a football module that already have the validity and reliability. The value of validity and reliability show that this football module is acceptable and its can be used for training under 14 football players. This can proof that this module has be developed systematically and follow the right procedures. The good things of this module are a clear theoretical framework and suitable to establish a football module under the complex environment. As such, this CGfU Module hopefully can be a reference point to the coaches to train under 14 football players to perform well in the football game.

References

- Abu Bakar, N. (1995). *Penilaian Afektif*. Kajang: Masa Enterprise.
- Aguiar, M., Botelho, G., Lago, C., Macas, V., & Sampaio, J. (2012). A review on the effects of soccer small-sided games. *Journal of Human Kinetics*, 33, 103–113.
- Ahmad, H. (2004). *Pengukuran Kecergasan Motor*. Tanjong Malim, Perak: Quantum Books.
- Barreira, D. (2013). *Tendências evolutivas da dinâmica tática em Futebol de alto rendimento* (Tese de doutoramento não publicada). Porto: Universidade do Porto.
- Bloom, B. S., Engelhart, M. D., Furst, E. J., Hill, W. H., & Krathwohl, D. R. (1956). *Taxonomy of Educational Objectives, Handbook I: The Cognitive Domain*. New York: David McKay Co Inc.
- Bompa, T. O. (1999). *Periodization Training for Sports*. Human Kinetics.
- Botma, Y., & Labuschagne, M., (2017). Application of the Donabedian quality assurance approach in developing an educational programme. *Innovations in Education and Teaching International*. DOI: 10.1080/14703297.2017.1378587.
- Brandes, M., Heitmann, A, & Müller, L. (2012). Physical responses of different small-sided game formats in elite youth soccer players. *Journal of Strength and Conditioning Research*, 26(5), 1353–1360.
- Bunker, D., & Thorpe, R. (1982). A model for the teaching of games in secondary schools. *Bulletin of Physical Education*, 18, 7-10.
- Castelao, D., Garganta, J., Santos, R., & Teoldo, I. (2014). Comparison of tactical behaviour and performance of youth soccer players in 3v3 and 5v5 small-sided games. *International Journal of Performance Analysis in Sport*, 14(3), 801–813.
- Chua, Y. P. (2014). *Asas Statistik Penyelidikan*. Edisi 3. Mc Graw Hill Education
- Clemente, F. M., Martins, F. M. L., Mendes, R. S., Figueiredo, A. J. (2014). A systemic overview of football game: the principles behind the game. *J Hum Sport Exerc*. 9(2):656–667. DOI: 10.14198/jhse.2014.92.05.

- Costa, I., Garganta, J., Greco, P., Mesquita, I., & Maia, J. (2011). System of tactical assessment in soccer (FUT-SAT): Development and preliminary validation. *Motricidade*, 7(1), 69–84.
- Donabedian, A. (1988). The quality of care. How can it be assessed? *Journal of the American Medical Association*, 260, 1743–1748.
- Fitts, P. M., & Posner, M. I. (1967). *Human Performance*. Belmont, CA: Brooks Cole.
- Goodwin, C. J. (2007). *Research in Psychology Methods and Design*. New York: John Wiley and Sons.
- Jamaludin, A., & Sidek, M. N. (2001). Pendekatan Alternatif Menentukan Kesahan dan Kebolehpercayaan Modul Program Maju Diri, Jabatan Pendidikan Selangor. *Jurnal PERKAMA*. 9: 97–118.
- Hoff, J., & Helgerud J. (2004). Endurance and strength training for soccer players. *Sports Med*, 34(3):165-180.
- Jamaludin, A., Aminuddin, H., & Norhasni, Z.A. (2008). Developing, validity and reliability of drug addiction module among drug addicts who are undergoing treatment at rehabilitation centres. *The Journal of Social Research*, 1(5): 47-57
- Kaplan, R. M., & Saccuzzo D. P. (2001). *Psychological Testing, Principles, Application and Issues*. Belmont: Wadsworth/Thomson Learning.
- Abd Karim, Z. (2016) Development characteristics of football coaches in Australia and Malaysia. PhD thesis, Victoria University.
- Katis, A., & Kellis, E. (2009). Effects of small-sided games on physical conditioning and performance in young soccer players. *Journal of Sports Science and Medicine*, 8(3), 374–380.
- Kementerian Belia dan Sukan Malaysia (2013). *Pelan pembangunan bola sepak negara fasa 1 : 2014-2020. Putrajaya*.
- Köklü, Y. A. (2012). Comparison of physiological responses to various intermittent and continuous small-sided games in young soccer players. *J Hum Kinet*. 31:89-96.
- Krathwohl, D. R., Bloom, B.S., dan Masia, B. B. (1964). *Taxonomy of educational objectives the classification of educational goals, handbook II: Affective domain*. New York: David McKay Company, Inc.
- Majid, M. K. (2000). *Kaedah Penyelidikan Pendidikan*. Ed. Ke-5. Kuala Lumpur: Dewan Bahasa dan Pustaka.
- Najib, M. A. G. (1999). *Penyelidikan Pendidikan*. Skudai, Johor: Penerbit Universiti Teknologi Malaysia.
- Mueller, J. D., & Judge, T. A. (2001). Self-esteem and extrinsic career success : test of a dynamic model. *Applied Psychology: AN International Review*. 57(2): 204:224.
- Owen, A. L., Wong, D. P., McKenna, M., & Dellal, A. (2011). Heart rate responses and technical comparison between small-vs. large-sided games in elite professional soccer. *The Journal of Strength & Conditioning Research*. 25(8), 2104–2110.
- Persatuan Bola Sepak Malaysia (FAM). (2019). Retrieve from : <https://www.fam.org.my/news/siaran-media-f30-penanda-aras-baharu-buat-fam>.
- Radziminski, L., Rompa, P., Barnat, W., Dargiewicz, R., Jastrzebski, Z. (2013). A comparison of the physiological and technical effects of high-intensity running and small-sided games in young soccer players. *Int J Sports Sci Coach*. 8(3):455-466.
- Reilly, T., Williams, A. M., Nevill, A., Franks, A. (2000). A multidisciplinary approach to talent identification in soccer. *J Sports Sci*. 18(9): 695±702. DOI : <https://doi.org/10.1080/02640410050120078> PMID: 11043895.

- Rink, J. E. (2002). Teaching physical education for learning (4th ed.). Boston: McGraw Hill.
- Rusell, J. D. (1974). Modular Instruction: A Guide to the Design, Selection, Utilization and Evaluation of Modular Materials. United States: *Publishing Company*.
- Sidek, M. N., & Jamaludin, A. (2005). Pembinaan Modul: Bagaimana Membina Modul Latihan dan Modul Akademik. Serdang: Penerbit Universiti Putra Malaysia.
- Silva, P., Travassos, B., Vilar, L., Aguiar, P., Davids, K., Araujo, D., & Garganta, J. (2014). Numerical relations and skill level constrain co-adaptive behaviors of agents in sports teams. *Plos One*. 9(9), e107112.
- Simpson, E. J. (1972). The clasification of educational objectives int he psychomotor domain. *The Psychomotor Domain*. Vol.3.
- Thorpe, R., Bunker, D., & Almond, L. (1986). Rethinking Games Teaching; Department of Physical Education and Sports Science, *University of Technology*: Loughborough, UK.
- Tuckman, B. W., & Waheed, M. A. (1981). Evaluation an individualized science Programme for community college students. *Journal of research in science teaching*. 18:489-495.
- Ward, P., & Williams, A. M. (2003). Perceptual and cognitive skill development in soccer: The multidimensional nature of expert performance. *J Sport Exerc Psychol*. 2003; 25(1): 93±111.
- Williams, A. M., & Hodges, N. J. (2005). Practice, instruction and skill acquisition in soccer: Challenging tradition. *Journal of Sports Sciences*. 23(6), 637–650.