Expert Validity of Futsal Skill Test

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The Deputy Asistant of Sport Science and Technology Division Deputy Minister of Elite Sports Enhancement Ministry of Youth and Sports



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Assalamu'alaikum warrahmatullahi wabarakatuh

May we first made our highest praise and thank to Allah SWT, for His bless we able to gathered here on the prestigious occasion Asean Forum And Infornational Conference On Sport Science And Technology (AFICSST) under the theme, "Bridging The Gap In The Advancement Of Sport Sciences And Technology Implementation Among South East Asia Countries". It is expected this event will create a venue for ASEAN sport scientists to learn, and understand each other's heterogeneous level of expertise and special feature in the area of sport sciences theories, their praxis, and in the priousness level of their implementation.

This conference which hold by The Deputy Assistant of Sport Science and Technology Division Ministry of Youth and Sports, The Republic of Indonesia, it's also expected to become arena for exchange experiences and expertise and at least information regarding the best practices in the area of sport sciences and technology, to learn together from the experience of other advance countries who also gather in the event of conference in the respected sport disciplines, and to initiate a concrete cooperation and synergy between and among university academicians and students in the area of sport sciences and technology researches.

I would like to deliver our highest respect and appreciation to Minister of outh and Sport of Republic of Indonesia and to all those who have helped bring this event, and it is my great pleasant to express my deep gratitude to our honourable gue 11. Dr. Bart Crum Retired Professor from the Free University, Amsterdam Netherlands; Mr. Randall L. Wilber, Ph.D., FACSM, Senior Sport Physiologist from USOC; Prof. Gareth Strason, Ph.D. from Swansea University, United Kingdom; Prof. Martin Lames from Faculty for Sport and Health Science Technical University Munich, Germany; Mr. Kevin Ball, Ph.D. Biomechanist from ISEAL, Victoria University Australia; Prof. Hideaki Soya, Ph.D. from University of Tsukuba Japan; Assoc Prof, Ma Xindong, Ph.D. from Tsinghua University, Beijing, China; Prof. Hyo Jeong Kim, Ph.D. from KNSU, Seoul, Korea; Prof. Suebsai Boonveerabut, Ph.D. from Srinakharinwirot University, Thailand; Assoc Prof. Mohd Salleh Aman, Ph.D. from University of Malaya, Malaysia; and last but fot least to Prof. Toho Cholik Mutohir, Ph.D. from State University of Surabaya Indonesia. I really expect that this meeting will be beneficial for all of us and have direct to the development of the sports.

Allow me to express my thank to the participants and audiences from Indonesia and other foreign countries who are enthusiastic to attending this precious conference. I do hope that all audiences will gain important values and colaborate it into our own fields and make crucials changes in the future. Beside that, I also convey thank to all of organizing committes who has gave their oustanding commitment for presenting this International conference.

Wassalamu'alaikum warrahmatullahi wabarakatuh

Sincerely yours,

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Prof. Dr. Djoko Pekik Irianto, M.Kes., AIFO.

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EXPERT VALIDITY OF FUTSAL SKILL TEST

Agus Susworo Dwi Marhaendro State University of Yogyakarta

ABSTRACT

The aim of this study was to assess the c54 ent validity of the Futsal Skill Test (FST). In order to achieve genuine validation, content validity ratio (CVR) was taken to formalize the FST's content validity. Procedure of the FST are passing, receiving, dribbling, and shooting respectively as quick as possible whereas mistakes is not tolerated in high percentage. As many as 10 coaches and 5 lectures involves as an expert in which the test validation depend on their integrity. The discussion is based upon data collected from the research instrument namely judgement sheet. The expert rates FST items in three options as foliatys: (a) essential; (b) useful; (c) not necessary. The data were analyse by means of content validity index (CVI). The results of the study showed that validity of the FST was .8644, meaning validity of the time taken and penalty time indicates .8912 and .8182 respectively. Therefore, it can be concluded that FST is a valid protocols to assess futsal skills performance.

Keywords: Skill Test, Futsal, Content Validity.

INTROCTION

Futsal is a 6FA regulated five-versus-five indoor football game played on a hard surface court. Futsal players cooperate with team member in pursuit of common aims, the principal ones being to score goals for the team when in possession of the ball, and to prevent goals being score 12 against the team when the opposing players have the ball (Travassos. et al, 2011). The players interact directly and concurrently to achieve an objective that involves team members fa 22 tating the movement of the ball or a similar item in accordance with a set of rule. The coach may consider that the individual played well if he/she has contributed to executing the overall game plan (Reilly, 2007). So it takes the performance of each player to be able to support the team's performance. Performance players have a minimum standard that must be mastere 4 Every player must have the futsal skills as an indicator the futsal team players. It would appear that skilful performances are crucial to winning futsal matches.

A futsal player might have good patterns of movement but if he/she does not perform the right action at the right time then he/she becomes an almost useless player. Futsal players must be able to demonstrate techniques of receiving, passing, dribbling, and shooting as the circuit is limited by space and time. A farther aid to the coach atempts to get to know the need of the players is by using tests (Whorthington, 1984). There have been previous attempts at designing tests that purportedly measure futsal skill.

The test should have the same goals with the needs of coaches. So it is necessary to design a test to measure futsal skills that content test have been validated by coaches as expert. The test had content validity that expert judgments are used. In the motor skill test content, experts judge whether the movements needed to complete the skill test are representative of the movements required to perform well at that skill in applied skill performance situation 2 Rowe and Mahar, 2006). The Futsal Skill Test was developed to assess futsal skills, including passing, receiving, dribbling, shooting, and decision making within match-play. Thus, the aims of the present study were to assess the validity of the FST as research tools in study of futsal skills.

METHODS

The study subjects for this study are people who are experts in the soccer or futsal, namely lecturers and coaches. Ten coaches of the futsal team from districts in DIY are prepared to follow PORDA DIY at 2013. Five lecturers from Faculty of Sport, who has expertise in soccer or futsal. The seearch instrument is a judgments sheet of the instructions for the FST. The expert rates whether the item is "essential," "useful," or "not necessary" to operationalization of the test guidelines. Previously, experts are giver be opportunity to read the guidelines and watch the video of the execution of the test. Content validity index (CVI) to determine an index of the content validity for the test as a whole (Shultz and Whitney, 2005). CVI was computed the content validity ratio (CVR) across all retained statements. This study used content validity ratio (CVR) by Lawshe (1975). The content validity to be accepted that CVI value equal to .70 or more.

Layout of The Futsal Skill Test

Figure 1 illustrates the layout of the FST. Test area needed free space 8 x 12 m. Prior to placement, two wooden rebound boards $(1 \times .4 \text{ m})$ as passing target, a goal $(2 \times 3 \text{ m})$, three passing areas $(1 \times 1 \text{ m})$, two shooting areas $(1 \times 1 \text{ m})$, a place for six balls $(1 \times .6 \text{ m})$, two dribbling pivot areas $(1 \times .2 \text{ m})$, and 13 cones (diameter .2 m). Before their placement, five colored passing target areas (white, red, yellow, red, and white; .4 x .2 m) west taped each rebound board. Shooting target area (dark; 1 x 2 m) was hanged on the middle of the goal.

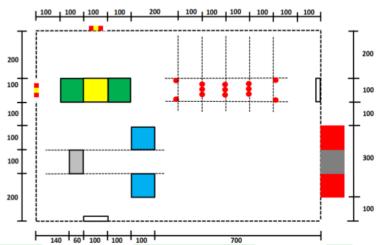


Figure 1. Diagrammatic representation of the Futsal Skill Test (FST)

Instructions for The Futsal Skill Test

Participant started with the futsal ball by the centre passing area (yellow rectangle). The first passing the participant was doing sequence of passes six times to the coloured target, and the first examiner started timing the test, using a hand-held stopwatch, from the moment the ball was passed at the first time. The second perform; the participant was strike dribbling to the pivot area, than dribbled back to the centre passing area again. The third perform; the participant was required sequence passes six times to the two coloured target by turns. The fourth perform; the participant was required dribbling zigzag to the other pivot area. The fifth perform; the participant are required sequence passes six times to the coloured target at the two passing area (green rectangle) by turns. The final perform; the participant was required shooting into

the net (goal) three times, two times with dominant leg and one with the other leg, at the two shooting areas (blue rectangle). If three balls had shot into the net two times with dominant leg and one time with the other leg, the shooting has been completed. But if it has not been able to shoot the three balls was given a chance up to seven balls. If seven balls have not been able into the net, the shooting has been also completed.

The first examiner started timing the test when the parti 44 ant was kicked the ball and stopped timing test to the shooting has been completed. The second examiner was to record penalty time points accrued during trials. Penalty time was awarded for the following errors. Three second for handling the ball. Shooting errors are two second for missing goal, one second for hitting the bar and shooting out if the designated area, and a half second for hitting the middle target. Dribbling error is one second for touching the cone and pivot out of the designated area. Passing and receiving errors are one second for receiving and passing out the designated area and hitting the white target area, and a half second for hitting the red target area.

Furthermore, the players were informed that for best performance on the FST they would have to perform the test as quickly as possible whilst making the fewest mistakes. Score test such as time taken and penalty time in performing a series of tasks. Penalty manifested in a sentence with the addition of time, according to the mistakes made. So the total test score (performance time) is derived from the sum of the time that execution time and penalty time. The score test was the best score of the two trials.

RESULTS

Table 1. CVR for Penalty Items

Table 1. CVN for Perfaity items						
Content Test		Penalty statement		CVR		
Passing &	1	hitting the red target area passing	.5 s	1.0000		
Receiving	2	hitting the wh	1 s	.8667		
(1 target,	3	ceiving the ball from outside of the designated area	1 s	.7333		
1 area)	4	passing the ball from outside of the designated area	1 s	.8667		
Dribbling	5	contact the ball less than five times	1 s	.8667		
(straight)	6	the pivot dribbling outside of the designated area	1 s	.8667		
Passing &	7	hitting the red target area passing	.5 s	.7333		
Receiving	8	hitting the white target area from passing	1 s	.8667		
(2 target,	9	ceiving the ball from outside of the designated area	1 s	.6000		
1 area)	10	passing the ball from outside of the designated area	1 s	.7333		
Dribbling	11	the ball touching any cone	1 s	1.0000		
(zig-zag)	12	the shoes touching ny cone	1 s	.8667		
	13	the pivot dribbling outside of the designated area	1 s	.6000		
Passing &	14	hitting the red target area passing	.5 s	1.0000		
Receiving	15	hitting the 57 hite target area from passing	1 s	1.0000		
(1 target,	16	ceiving the ball from outside of the designated area	1 s	.6000		
2 area)	17	passing t ₄₇ ball from outside of the designated area	1 s	.6000		
Shooting	18	shooting the ball from outside of the designated area	1 s	1.0000		
-	19	shooting the ball with inside foot	1 s	* .0667		
	20	hitting the middle target goal	.5 s	.7333		
	21	hitting the bar goal from shooting	1 s	.7333		
	22	missing the goal from shooting	2 s	1.0000		
General	23	handling the ball	3 s	.7333		
		- · · ·				

^{*} indicates rejection that value CVR less than 0.49.

The result of the content validity ratio by expert, are sented in table 1 (penalty statements) and table 2 (instructions test statement). The CVR is an item

statistic that is useful in the rejection or retention of specific items. Minimal value of CVR with fifteen experts is .49 (Lawshe, 1975), There are two statements have less than .49, number 33 in instructions test statement (table 1) and number 19 in penalty statement (table 2). Both of this statement about player can't shoot with inside foot, so the instructional this test, especially on shooting content, should revision. Finally, player shoots must on goal for three times or seven changes maximum with all part of foots, twice for dominant foot and once for the other foot. After items have been identified for inclusion in the final form, the *content validity index* (CVI) is computed for the whole test.

Table 2. CVR for Instructions Items

Content Test		Instructions test statement	CVR
Passing & Receiving	1	used both of foots	.8667
(1 target, 1 area)	2	inside foot only	1.0000
	3	passing target area are 0.2 m width and 0.4 m high	1.0000
	4	penalty target 0.2 m width on right and left.	1.0000
	5	passing and receiving area is 1 x 1 m.	.8667
	6	distance passing target is 2 m.	.6000
	7	passing without controlling.	1.0000
	8	6 repetitions	1.0000
Dribbling	9	with sole of shoes.	.6000
(straight)	10	dribbling track 5 meters	.7333
	11	contact the ball 5 times or more.	.8667
Passing & Receiving	12	used both of foots	1.0000
(2 target, 1 area)	13	inside foot only	.8667
	14	passing target area are 0.2 m width and 0.4 m high	1.0000
	15	penalty target 0.2 m width on right and left sides.	1.0000
	16	passing and receiving area is 1 x 1 m.	1.0000
	17	distance passing target is 2 m.	.8667
	18	passing without controlling.	.6000
	19	6 repetitions	1.0000
Dribbling (zig-zag)	20	both of foot freely	1.0000
	21	used all of part of the foot	.8667
	22	3 pieces dribbling obstacles	.6000
	23	0.6 m obstacle width.	.6000
	24	distance between each obstacle is 1 m.	.8667
Passing & Receiving	25	used both of foots	1.0000
(1 target, 2 areas)	26	with inside foot 21	.8667
	27	passing target area are 0.2 m width and 0.4 m high	1.0000
	28	penalty target 0.2 m width on right and left.	1.0000
	29	passing and receiving area is 1 x 1 m.	1.0000
	30	distance passing target is 2 m.	.7333
	31	passing without controlling.	.6000
	32	6 repetitions	.8667
Shooting	33	no inside foot	*.2000
	34	3 times on goals.	1.0000
	35	twice with dominant foot and 1 time with the others	1.0000
	36	7 time changes given	1.0000
	37	shooting area 1 x 1 m.	1.0000
	38	shooting distance 7 m.	1.0000
	39	the ball not stationary	1.0000

^{*} indicates rejection that value CVR less than 0.49.

The content validity FST was .8644. The time taken (speed) and the penalty time (accuracy) variables were .8912 and .8182. If test is viewed from a part of the contents of test, passing & receiving, dribbling, and shooting, the validity are presented in table 3. The content validity (.9056, .7667, and 1.000) to passing & receiving, dribbling, and passing contents from time taken variable. The content validity (.8000, .8400, .8667, .7333) to passing & receiving, dribbling, passing, and general from penalty time variable. The content validity from overall FST (.8704, .7949, .9467, and .7333) to passing & receiving, dribbling, shooting, and general contents. All the content validity were accepted (>.70).

Table 3. CVI (total statement) for Futsal Skill Test

Items	Time	e taken	Pena	Ity time	Perform	ance time
Passing & receiving 1	(8)	.9167 *	(4)	.8667 *	(12)	.9000 *
Dribbling straight	(3)	.7333 *	(2)	.8667 *	(5)	.7867 *
Passing & receiving 2	(8)	.9167 *	(4)	.7333 *	(12)	.8556 *
Dribbling zig zag	(5)	.7867 *	(3)	.8222 *	(8)	.8000 *
Passing & receiving 3	(8)	.8833 *	(4)	.8000 *	(12)	.8556 *
Shooting	(6)	1.0000 *	(4)	.8667 *	(10)	.9467 *
General			(1)	.7333 *	(1)	.7333 *
Passing	(24)	.9056 *	(12)	.8000 *	(36)	.8704 *
Dribbling	(8)	.7667 *	(5)	.8400 *	(13)	.7949 *
Shooting	(6)	1.0000 *	(4)	.8667 *	(10)	.9467 *
General			(1)	.7333 *	(1)	.7333 *
Futsal skills	(38)	.8912 *	(22)	.8182 *	(60)	.8644 *

^{*} indicates validity accepted.

DISCUSSION

Validity refers to degree to which a test actually measures what it claims to measure (Miller, 2002). The valid futsal test should measure 28 sal skill. The FST have validity by content validity could use to assess futsal skill. Content-related validity is evidence of truthfulness based on logical decision making and interpretation (Morrow, et al, 2005). Contents of the FST, passing, receiving, dribbling and shooting, are part of the skill that is always displayed the players during games or competitions. Thus, by the logic can be interpreted that futsal skills test must be comprised of passing, receiving, dribbling, and shooting skills. Content validity depends on professional judgment using logic and comparison (Lacy, 2011). Not just anyone can judge that logics, the person must be a person who is an expert or a professional in the field. Expert as subject in this study are futsal coach and lecturer who has skills futsal or soccer. To be a "good" test, a test ought to have adequate evidence for its validity, reliability, and accuracy for the purpose it is being used for, and for the persons it is being used with (Kubiszyn and Borich, 2010). Finally, the FST is a good test, because it has a content validity.

Test items should be representative of the actual game skill (Kirkendal, 1987) (Strand and Wilson, 1993). The shooting item a little change, namely the provision contact to the ball of the foot. The experts have the opinion that the shooting did not have to use the instep foot, but player can use all parts of the foot, so that when the shooting is not restricted. Ideally in the game of futsal can do the shooting with the entire foot with a goal scores. Thus a series of skill in the FST has been approached with skills in actual games, so this test can measure the level of skill to play futsal. This test contains a series of skills of pass, receive and dribble the ball are varied and ends with shooting the ball. The series is a series of skill exhibited in the actual game.

This test records two important variables, namely speed and accuracy in futsal skills. The difference of these variables have the opposite side, so the player must be able to perform a series of futsal skills quickly and accurately, not quickly but a lot of mistakes or otherwise accurately but do it slowly. The steps in learning skill were; understanding, practice and performance (Schempp, 2003). At performance's stage, the skill is executed in a match or activity. When executing the skill, players should focus on the purpose of the activity and not the process. When a skill is being performed conscious thought is replaced by automaticity. More mastery players are core automaticity, making it quicker and more accurate to adapt the situation. The results of this study suggest that the more skilful players were able to do this, thus highlighting the validity of the FST.

The value of validity has its own interpretation. The validity of test can be established using either qualitative or quantitative approach (Lacy and Hastad, 2007), the qualitative approach depends upon the use of common sense and professional judgment in making subjective judgments about the test in question while the quantitative approach is a data based approach that involves calculating correlation coefficient to determine the validity. The FST has value of validity that established by expert judgment. The experts are lectures and futsal coaches who making judgment about the test. The validity of FST has established using qualitative approach. Furthermore, the validity of test needs to be studied using quantitative approach, especially criterion-related validity.

Finally, the FST have been shown to be valid methods of assessing futsal skill performance. This test can be used as an instrument in research. The value validity of test is used content validity methods. That is needed further research using other methods of estimation validity, especially with quantitative approach to establish the value validity.

CONCLUSION AND SUGGESTION

The FST was developed to measure futsal skill for general players. This test can be used for research purposes and the selection of players. Furthermore, need to be assessed on the validity of this test with different methods of quantitative approach. Evidence criterion-related validity was completing the content validity of the FST.

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