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Measuring Instrument Development of *Long passing* and *shooting* Skill of Football School Students

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Abstract This study aims to produce a *long passing* and *shooting* skill measuring instrument of Football School (SSB) students. Type of this research is research and development using experimental methods with these following steps (a) drafting, (b) validation, (c) small group trials, and (d) large group trials. Small group trials were conducted 3 times and 1 time in large group. Large group trial involves 150 male students of 8 SSB. Based on the result of factorial analysis (validity test) and test and retest technique (reliability test), the result of the study showed that the *long passing* and *shooting* measuring instrument is valid and reliable. Hence, the required instrument is able to be applied in soccer activity for measuring students' *long passing* skill that is beneficial for evaluation process.

Keywords Measuring instrument, *Long passing*, Football school, *Shooting*

1. Introduction

Football is a sport that is very popular by Indonesian people including children. Football association is the participation and main spectator of sport in the world [1]. Furthermore, according to FIFA quoted by Ali, stated that as the governing body of world football, estimates that there are 265 million active players globally, while about 3.2 billion people watch the 2006 World Cup final tournament held in Germany. Football could be said to be the most played sport in the world. The proof of this popularity is at the World Cup held every 4 years, attracting larger television viewers than the Olympics [4].

Traditionally, the majority of football players for many years stick with the fact that football consists of 4 components, namely technique, tactics, physical and mental [6]. Football is a team game that requires many complementary components: (a) technique, (b) physical, (c) tactics, and (d) mental [24]. Victory or defeat is not determined by the sophistication or carelessness of one or two players [26]. The suggestion implies that football should be done with cooperation and good skills or expertise. Individual skills are something that is valuable and necessary in the game. But good skills can not be obtained easily, the individual skill of a great and fascinating soccer player is the fruit of his hard work since childhood, not something that comes by itself [26].

In the process of Footbal School (SSB) student coaching, ideally there is an improvement in skills, especially in terms of skills. To see the improvement it is necessary to evaluate and then to evaluate the results of the exercise required a measuring instrument. A program must have a purpose and to know whether the program achieved its objectives, of course must be held evaluation [21]. Therefore the *long passing* and *shooting* skills taught to the students should be evaluated. Evaluation decisions are made based on measurement results and criteria [21]. The ability to plan and conduct measurement activities and use information gained from these activities to make meaningful and accurate evaluations is essential for success as a professional in the activity-based field you choose [17].

Based on preliminary study, it was found that SSB trainers in Medan City did not have adequate evaluation instruments. The trainer performs evaluation only through observation, while the evaluation conducted by observation contains many weaknesses, one of which is there is a subjective element.

Some common difficulties in the method of observation, namely; (1) observers are often caught in subjectivity, (2) observers are carried away with observed situations, (3) observed incidents often complicate observers, (4) observation becomes distorted due to the emergence of other events, (5) observation is very limited by the ongoing incidents such as the incidents are very fast, (6) sometimes the observer mixes up between observational data and personal opinions or personal perceptions.

There are some prior measuring instruments relevant for review: (1) Rösch et al., With a *long passing* test. Participants tried 10 long (30 m) by air to the target area

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measuring 10 5 m; points given (3, 2 and 1) for precision to this target area, (2) Rostgaard et al. with a *long passing* test, the participant tried 10 long (30 m) by air to the target area measuring 10 5 m; points are given (3, 2 and 1) for precision to this target area [1].

A qualified *long passing* could change the outcome of the match. In the 1994 World Cup, a remarkably *long passing* measured from the Dutch defender to the striker Dennis Bergkamp scored for Dutch team. *Long passing* could be very effective, especially because the defender tend to keep their opponents lesser than that of the action. Accuracy in doing *passing* is very important because any errors will be taken into account (DK, 2011: 78).

Corresponding to this notion, the researcher is interested to develop a measuring instrument for *long passing* and *shooting* skills for SSB students aged 14-15 years. In order to position this research, some prior research needs to be reviewed so that this study is not considered plagiarious and authentic.

First, Vieira, Vitor, Rodrigo under the title Construct Validity of Tests That Measure Kick Performance for Young Soccer Players Based on Cluster Analysis reported his research results that five tests demonstrate a reasonable construct validity and can be used to predict the accuracy (penalty kicks, free kicks, a rolling ball kick and volleyball test to the wall and the ability to spin on the ball (free kick and corner kick) while kicking the ball.

Second, research of Satria, Rahayu, Soegiyanto conducted a research entitled Evaluation of Football Development Program at Sekayu Youth Soccer Academy (SYSA) of Musi Banyuasin Regency of South Sumatera, and the result of the soccer coaching program at Sekayu Youth Soocer Academy went well.

Third, Bekris and Gioldasis in his research entitled Juggling Test Batteray (2016). His research aims to develop a juggling test battery and the result is a juggling test is an effective means of improving basic soccer techniques skills, meaning the test battery has good validity and reliability.

The last, Zaldy (2015) in his research entitled Development of Football Game Appraisal Instrument in Learning of Physical Education, Sport and Health on Elementary School Students, reported the result of its research, which is valid measuring instrument of football game with relative reliability coefficient of 0.64.

1.1. *Long passing* Skill

The classic definition of skill is the ability to obtain results with high certainty often with minimum energy and time or both [1]. The simplest skill in football is called basic skill. Of the various basic soccer skills that must be owned by football players are *long passing* and *shooting*. The situation in football games sometimes requires players to give the ball to friends who are farther away. This requires that players have to perform long-distance bait (*long passing*). *Long passing* is a technique not practiced by many trainers. Far, accurate, passing penetration, especially aimed at the front of the player who appears to be feeding, and the ability to change the point of attack quickly and accurately is a necessity in modern games [19]. Huijgen et al in his research stated that, in high level juvenile soccer, the combination of speed and precision is more important than speed alone [13].

To do the passing in the field at a greater distance, you must throw it. This passing skill uses the back of a shoe, not the inner legs. Passing away or cross can be very effective, especially as the rear players tend to keep their fewer opponents from the action. Accuracy in carrying out this passing is very important because any errors will be ruled out [8].

According to Mielke a few things to consider for doing long-distance passing are (a) kick the ball at the bottom to give a sufficient force, (b) tilt the body backwards when touching the ball, (c) as the pedestal strongly positioned slightly in front of the ball and somewhat sideways, (d) stretch your arms to get the balance.

1.2. *Shooting* Skill

In the rules of football game (laws of the game) set by FIFA, the team that deserves to win the game is a team that scores more goals. The fact that football should be won by scoring more goals than conceding is undeniable [6]. In a game there are several chances to score, a good team will exploit this opportunity [18]. The skills of netting the ball into the goal is very important to score numbers [15]. If players cannot fire the ball right on goal, they cannot win the game.

The standpoint of attack, the purpose of football is to shoot into the goal. A player must master basic skills of kicking the ball and further developing a series of *shooting* and scoring techniques from various positions on the pitch.

Shooting skills to the goal (*shooting*) is a very important skill in the game of football. Football is nothing without a goal. Besides a header or a lucky deflection, fire is the way to score [8]. Scheunemann states what it means when a player is able to feed and dribble well without being able to shoot well [24]. Furthermore states that:

> "Being able to shoot well is of course very important because playing football aims to score goals! Beautiful play is not rated. Passing an opponent with 1001 ways is also not rated. In football there is no jury that gives value to this and that. There is only a scoreboard! Since the goal is the final goal of an attack, a player is required to kick the ball towards the opposing goal" [24].

Shooting is an effort with the goal of entering the ball into the opposing goal [11]. A *shooting* can be done after the finishing touch but can also after stealing the ball in attacking. Another option is to shoot from a distance. All the techniques previously learned will be of little use in a game of football if not equipped with good *shooting* skills. LA84 Foundation states that *shooting* should be part of every training session [18]. How much we notice a team or a player capable of passing, dribbling, and heading well enough but can not do a good *shooting*. Koger states that your team must be able to

shoot (*shooting*) and enter the ball into the opposing goal [16]. Some teams found that they were able to fire the ball into the opponent's goal, but were unable to put it into the goal.

The idea of playing football is to insert as many balls as possible into the opposing goal and to avoid the goal itself being shot by the opponent to a minimum. Of course the biggest part to create a goal against the opponent's goal is to do the *shooting*. *Shooting* requires technical quality (kicking the ball well and accurately), physical quality (explosive power, coordination, balance) and mental quality (determination, courage, confidence) [3]. Efforts to develop appropriate *shooting* techniques: proper body mechanics, accuracy, explosive power and timeliness include other important aspects of mental aspects [18]. *Shooting* practice will help develop players' confidence, but you as a coach should keep in mind that they should practice *shooting*, because it is better than nothing [16].

In principle *shooting* must be oriented towards the creation of goals into the opponent's goal. To be able to score against the opponent can be done by using several ways, including instep drive shots, full volley, half volley, side volley, and swerving or cornering. There are several ways to make goals; can always shoot the ball with all his strength, but do not sacrifice accuracy [8]. To do all the above *shooting* steps required a quality workout. The technique of kicking the ball is: (a) prepare the ball with the outer front side of foot of 45^o toward the front side, (b) foot forward to the prepared ball, then the unused foot for kick the ball a few inches beside the ball, (c) aim the hips toward the target while swinging the legs, (d) the legs should be bent forward so that the center of the foot touches the center of the ball when the ball is kicked. Make sure the ankle is "locked" so the foot does not limp when touching the ball, (e) in order to optimize the hard kick, make sure the swing legs are not stopped in the middle of the road but continue to be swung forward. Make sure your legs keep bending forward during this process [24].

The basic concept that should be mastered in doing *shooting* according to Koger [15] is: (a) when kicking the ball into the goal do quickly without hesitation. Do not let your opponent's goalkeeper be able to read your kick direction, (b) do not kick the ball at the goalkeeper, center the whole body's gravity to kick the ball, and focus all of that power on your foot, pay attention to the direction of your ball running and follow the ball, to anticipate your chances of getting the ball again.

To be able to acquire good *shooting* skills, you must practice following the correct stages. Players are important to learn and improve all *shooting* techniques after practice of herding, controlling, and spinning through many repetitions. The stages of practice are: (a) shoot the silent ball by the immobile player, (b) shoot the silent ball by the moving player, (c) shoot the moving ball by the immobile player, (d) shoot the moving ball by a moving player, (e) *shooting* opportunities with light pressure, then like a game, with the pressure of the defender [12]. The way *shooting* practice is divided into two, to beginners and professionals. For beginners it can be done by: (1) kicking the ball straight into the goal, (2) aiming well at the goal after herding, (3) converting the throw in with the foot or head. As for the advanced level can do: (1) shots after spinning, running or after jumping, (2) a series of different techniques, (3) constant adaptation to the speed and height of the changed ball.

In the process of SSB students development, ideally there is an improvement in skills, especially in terms of skills, including basic skills to perform *long passing* and *shooting*. To evaluate the results of the exercise required a measuring instrument. A program certainly has a purpose and to know whether a program achieved its objectives, evaluation should be done [21]. Therefore, *long passing* and *shooting* skills taught to students should be evaluated. Decision-making is done after evaluation activities, and evaluation should be based on measurement results and criteria [21]. The ability to plan and conduct measurement activities and use information obtained from these activities to make meaningful and accurate evaluations is very important for a professional in the activity-based field you choose [17].

Evaluation is a systematic and continuous process for collecting, describing, interpreting and presenting information about a program to be used as a basis for making decisions, preparing policies or preparing the next program. Evaluation is the process of interpreting the measurements collected and determining some price or value [17]. Evaluation can also be called an assessment. Evaluation and measurement are two terms that are not the same but interrelated. Measurement and evaluation are two sustainable activities. Evaluation is done after the measurement and evaluation decision is done based on measurement result [21]. Measurement is a technique necessary to evaluate [17]. The measurement represents the status of a particular attribute or property and is a terminal process. Evaluation is a broader term that represents a more complex process than the other two. The measurement is comparing something measured by the measuring instrument and then explaining the numbers according to a particular rule system [21]. In the opinion of Verducci in Widiastuti, measurement has a useful meaning to determine information about an object appropriately [28]. Measurements should be precise, reliable, and objectively possible, and the results should be expressed in numerical form indicating the number of properties or attributes measured [17].

In the SSB training process, coaches are always confronted with activities that are essentially evaluating. After the end of the training in one season, you will need to assess the child's development of the training you have provided [9]. To be able to properly evaluate, the trainer must perform tests or measurements. Measurements made in sports or sport education are based on: (1) objectives that should be measured, in accordance with the narrowness of the goals we measure or achieve, (2) a scientific view closely related to the sport's progress itself , (3) the values of sport can not be known before the measurement, (4) the benefits to

improve the program, (5) professionalism (trained and experienced personnel) [28].

1.3. Principles, Purposes and Benefits of Measurement

In order for the implementation of an evaluation program to be successful, it is necessary to understand some of the principles of measurement and evaluation. These principles are: (1) must be aligned with the foundations of educational or training philosophy, (2) should be done in accordance with the objectives, (3) positioning testing is part of the measurement, (4) should interpret the results of testing in context of the overall development of individuals covering physical, intellectual, emotional, social and moral aspects, (5) guided by basic assumption that all attributes to a person can be tested and measured, (6) known initial ability to be compared with the results of further tests, (7) using a valid or reliable measuring instrument or test instrument, as it will affect the evaluation results [10].

There are many reasons why a trainer needs to do testing and measurement. Measurements that are merely to obtain data or information will only be a waste of time, effort, and cost. The benefits of are for diagnosis, classification, achievement, improvement, motivation, program evaluation, public relations, and forecast [17]. The benefits of tests and measurements are determining status, clarification, diagnosis and guidance, motivation, improvement of teaching, and assessing teachers (trainers), methods, and materials [28]. Measurement and evaluation aims to (1) grouping, (2) assessment, (3) motivation, and (4) research [10].

1.4. Measurement Requirement

A teacher or trainer must always be able to choose a good measuring instrument so as to produce educational or coaching decisions that are also appropriate and good [10]. A measurement or test must meet certain requirements, so that the measurement can be categorized well. A test is said to be good if it meets 5 requirements, namely; has validity, reliability, objectivity, precilability, and economy. The conditions that must be met to be a good learning outcome measure related to the validity and reliability.

Validity is a noun, while a valid is an adjective and valid in other terms often also called sahih. If the resulting data comes from a valid instrument, then it can be said that the instrument is valid, because it can provide a description of the data correctly in accordance with reality or real circumstances. According to Anastasi and Urbina in Purwanto [21], validity relates to whether the test measures what should be measured and how well it does it. Validity comes from the word validity which means the extent to which the accuracy of a test or scale in performing its measurement function [2].

A test or measuring instrument can be said to have high validity when the instrument performs its measuring function, which is in accordance with the purpose of the measurement. Tests that produce data that is irrelevant to the purpose of measurement is said to be a low validity test. A valid measuring instrument is not only able to express the data correctly but also must provide a careful picture of the data [28].

Reliability comes from the English language reliability, which originally derived from the word reliable which means to be trusted. Sometimes there are others who use another term that is reliable. There is even a mean with fixed words. Reliability is also called reliability, keajegan, consistency, stability or dependability.

Reliability is a series of measurements or a set of measuring instruments that have consistency when measurements made with the measuring instrument is done repeatedly. Although the term reliability has many other names such as consistency, reliability, trustworthiness, stability, sharpness, etc., the central idea embodied in the concept of reliability is the extent to which a measurement process can be trusted [2]. Reliability is the extent to which the results of a measurement can be trusted and measurement results can be trusted only if in several times the implementation of measurements on the same subject group obtained relatively similar results [28].

Based on the principles, objectives, benefits and requirements of the above measurements, the trainers throughout the SSB must perform tests or measurements. By conducting tests or measurements, the trainer has accurate data to evaluate his or her trainee. The results of the evaluation or assessment obtained then used as a foothold to take the next step.

2. Method

This research is focused on the development of football skills measure on SSB. The method used in this research is research and development. Research and Development is a type of research used to produce a particular product, and test the effectiveness of the product. Procedures or research development steps taken in this study are:

1. Preliminary study phase includes; (a) literature study (b) data analysis of preliminary study results and description of field data findings, and (c) preparation of initial product design of measuring instrument to be developed.
2. Development stage; the draft is distributed to experts to be corrected and subsequently revised. The result of the draft revision, focus group discussion (FGD) involving experts, draft revised and design of measuring instruments ready to be tested.
3. Test of measuring instrument phase; trials were conducted on several SSBs with experimental methods. During the trial, experts and researchers made observations and evaluations by making notes. The test results, discussed and evaluated between the researcher, trainer and observer and draft, were then revised. The above steps are shown in Figure 1.

The development of this measuring instrument is designed

in a test battery. This test is done individually by students accompanied by guidance of its implementation. Students start the test from inside a 2 x 2 m square box. This test consists of 2 directions, first for *long passing* and second for *shooting*. There are two cues in this test that is Ready and Yes. After the student is in the square box, the officer gives a signal to start with the signal Yes. When the signal Yes is mentioned, the student starts the test with a *long passing* to the target 3 times, then the student continues with the *shooting* test on the target wall as well as 3 repetitions. Target on *long passing* and *shooting* include scores obtained, ie scores 3, 2, and 1. In addition, the time is also recorded using a stopwatch. Students try to get high scores in quick time. In a simple scheme this test field is shown in Figure 2.

After the draft was revised in accordance with the results of expert validation and FGD, measuring instruments were tested 3 times in small groups and 1 times in large groups. The trial runs from August 2014 to September 2015. The first group of 1 (first) trial involved 56 students, the second was 12 and the third was 21. Revisions are made after the trial stages are undertaken and the basis for revision is based on analysis of data, notes, and advice from experts and trainers. The revised chronology can be seen in table 1.

The change occured from the first step to the second step in *long passing*g test because the target point is not reached. Thus, the researcher decrease the distance of the target from 35 m to 30 m. Unfortunatelly, in the second phase, the target is still far for student, hence it should decrease to 25 m.

However, in *shooting* test, the repetition is reduced from three times to two times because the target point is ideal.

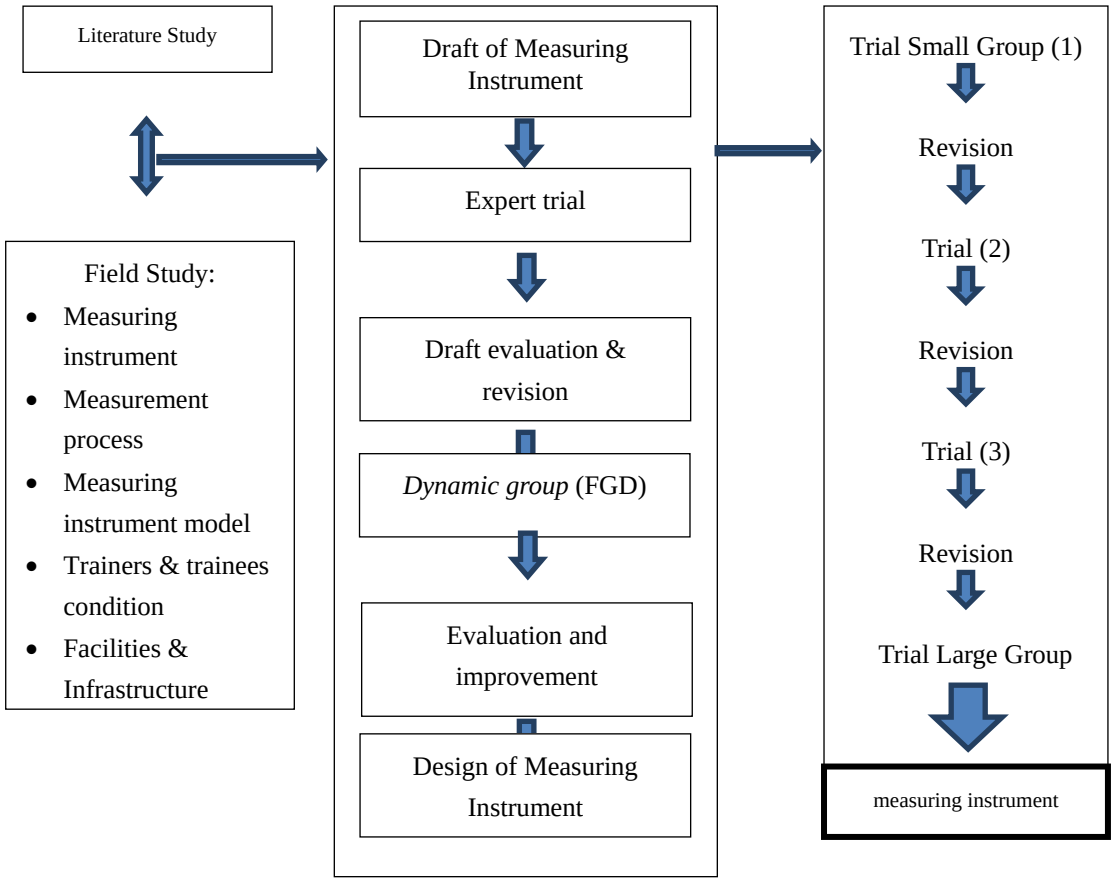

Figure 1. Research framework of measuring instrument development

Table 1. Notes & Revision of Measuring Instrument Development

Type of test	Small Group Test			Large Group Test
	Test I	Test II	Test III	
Long passing	▪ The target is too far 35 m ▪ The target area of the test is less proportional (1: 6 m, 2: 4.5 m, 3: 3 m) ▪ Repetition is played three times	▪ The target is still far away (30 m) ▪ The target area of the test is proportional (1: 6 m, 2: 4 m, 3: 2 m) ▪ Repetition is reduced from three times to two times.	▪ The target is ideal (25 m)	
Shooting	▪ Repetition is played three times	▪ Repetition is played twice		

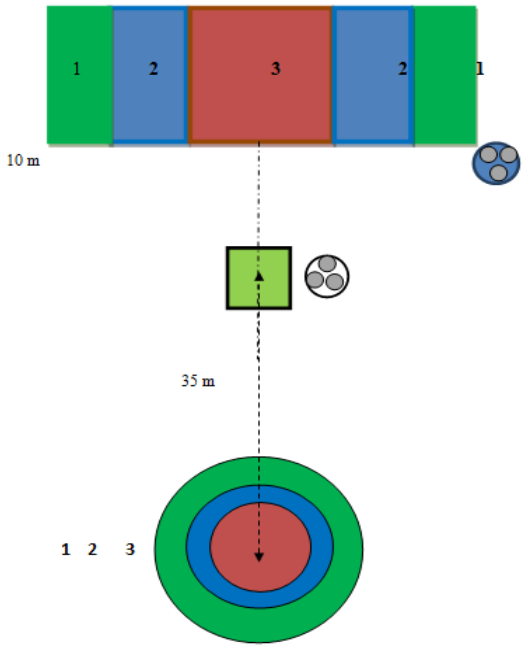

Figure 2. Scheme of initial development of measuring instrument

2.1. Preliminary Study Development of Measuring Test Trial of Measuring Test

There are two kinds of data in this research that is qualitative and quantitative data. Qualitative data has been basically done since the beginning of research activities and continuously lasts until the research is completed. The data is obtained through observation and questionnaire given to trainers and parents. Then, it is described in the form of writing and analysis. Quantitative data were collected to examine the effectiveness of the application of developed measuring instruments. Data collected through experiments on samples of small and large amounts is primary, since the main purpose of this study is discovery the measuring instrument design. The subjects of this study are SSB students of Medan City, among others; students SSB Gumarang, SSB Kenari, SSB Patriot, SSB Bhineka, SSB Bima, SSB Mandiri, SSB Putra Melati, SSB Perfect Unimed, and SSB Tasbi.

In the testing phase of both small groups and large groups, it takes a long time. Each trial is done for 2 days ie Saturday and Sunday. After the first trial, a revision was made taking into account the data obtained, notes, expert advice, and trainers. And so on until this measuring instrument can describe the true skills of the tested students.

After the data obtained, then the next step is to test the validity of data, test the validity of data and test reliability data. The test is performed at each stage of the test. To ascertain whether the data obtained is correct, the researcher uses the means by increasing persistence. Sugiyono states that the validity test of data in qualitative research includes test credibility (internal validity), transferability (external validity), dependeability (reliability), and confirmability (objectity). Sugiyono further stated that the various ways of testing data crediability is by extension of observation, improvement of perseverance, triangulation, discussion with peers, negative case analysis, and membercheck. Things that happen during the testing phase are always the researcher's attention. Increasing perseverance means making observations more thoroughly and continuously, in this way the data certainty and sequence of events will be recorded with certainty and systematic. All data obtained is carefully examined by noting, marking, removing or minimizing them. Researchers always pay attention to the processes that occur during the test, starting from the first trial to the last trial.

Some of the things that happen during the testing process are: (a) the *long passing* goal is too far, (b) the *long passing* target size is not ideal, and (c) the location of the ball being prepared is less than ideal for *shooting* tests.

3. Result and Discussion

From the results of needs analysis and field findings obtained that the evaluation conducted by trainers to students is only through observation. Through the questionnaire given to trainers and parents, also obtained the result that the measuring instrument to assess the skills of *long passing* and *shooting* students is needed.

The draft designed design is validated by 3 football experts, 2 AAFC licensed trainers, 1 football lecturer, 3 evaluation experts, and 2 test and measurement experts. The expert's notes on the initial draft design are: (1) each test item must be completed with a description of the assessment, (2) the use of consistent terms (tryers or experiments), (3) improved editorial content; (4) each test item is recorded not just time total, (5) consider the repeatability of each test item and adjusted to the energy system.

The development of *long passing* and *shooting* skills must meet the validity and reliability test. The results of validity and reliability test are as follows:

Table 2. Result of Validity Test

Skill	Category	Trial Stages							
		Trial 1		Trial 2		Trial 3		Large Group Sample	
		r	Ket	r	Ket	r	Ket	r	Ket
Long passing	Score	0,770	V	0,825	V	0,843	V	0,834	V
	Time	0,548	V	0,832	V	0,814	V	0,833	V
Shooting	Score	0,734	V	0,825	V	0,899	V	0,900	V
	Time	0,870	V	0,947	V	0,862	V	0,927	V

The Data above is shown that 1, Trial 2. Trial 3 and largegroup trial are all valid (V), so in terms of validity, the development of measuring instruments has been qualified valid.

Table 3. Result of Reliability Test

Trial	Category	Reliability Score	Criteria
Trial 1	Score	0,299	Not Reliable
	Time	0,651	Reliable
Trial 2	Score	0,756	Reliable
	Time	0,373	Not Reliable
Trial 3	Score	0,901	Reliable
	Time	0,906	Reliable
Large Group Sample	Score	0,843	Reliable
	Time	0,931	Reliable

The above data shows that in the 1st trial the score is not reliable but time shows reliable results so that the measuring instrument is improved and tested in the 2nd trial. The 2nd test data shows a reliable score but the timing shows unreliable results so that the measuring instrument is improved and tested in the 3rd trial. The 3rd trial showed a reliable result both in terms of score and time so that the measuring instrument has been able to meet the requirements of reliability test.

Further measuring instruments are tested on large group samples and the results show that the whole is valid (V) and reliable. The validity and reliability of those skills are considered from the time and score of the students made statically: 0.6. Thus, it can be stated that the development of measuring instruments can be used to measure the skills of *long passing* and *shooting* in football.

The final result of measuring instrument field scheme is revised until satisfactory results are obtained, undergoing a change from the initial scheme. The changes are illustrated in the following table 4.

Table 4. Scheme change of measuring instrument, initial design and final improvement

Initial design	Final improvement
long passing target : 35 m	*long passing* target 25 m
Repetiton: 3 kali	Repetition: 2 kali
Radius of circle in *long passing*, radius 3 m for score) 3, 4,5 m for score 2, and 6 m for score 1.	Radius of circle in *long passing*, radius 2 m (score) 3, 4 m, and 6 m
shooting ball is placed in small radius circle 0,5 m beside target wall	Ball is placed in small circle 0,5 beside squre box, 1 m from the closest side of the squre.

4. Discussion

Based on the above results, it can be proven that the *long passing* and *shooting* skills developed are good validity and reliability. This is in accordance with theory that students who have the ability of *long passing* and *shooting* are accurate and fast will get high score in fast. Zago, et.al states that skilled players take less time in completing tests because they are able to control the ball while running through a shorter path. Russell, Benton, and Kingsley [23] in their research entitled Reliability and Construct Validity of Soccer Skills Tests That Measure Passing, *Shooting*, and Dribbling report that *shooting* measurements are valid and reliable in measuring football skills.

Cripps, Hopper, and Joyce [5] with the title Inter-Rater Reliability and Validity of The Australian Football League's Kicking and Handball Tests also reported the results of his research that in kicking skills and handball there is strong validity and reliability. Likewise Cripps, Hopper, and Joyce [5] with the title Inter-Rater Reliability and Validity of The Australian Football League's Kicking and Handball Tests reported the results of his research that in kicking skills and handball there is strong validity and reliability.

Ali drew up the Loughborough Soccer *Shooting* Test, participants ran to the cone, turned around and came back to start, passing the ball against the bench and then firing to target 16.5m away (minimum firing speed) of 64 km / h). After the shot sprint player passes the line of 6 yards (4.5 m) to finish each shot sequence. Ten shots were performed per experiment with points and average time taken for each sequence, shot speed and shot accuracy (scoring points) [1]. Haaland and Hoff in Ali, construct a volleyball test, the player receives the ball at chest in front of goal, with his team facing his goal, at 10m, then controls the ball and then fires the ball at goal with a different zone scoring [1]. Thus the *long passing* and *shooting* skills of SSB students produced in this study can be proven and have good validity and reliability in measuring the skills of SSB students.

5. Conclusions

Based on the experiment test conducted in both the small groups and the large group, it can be drawn a conclusion that *long passing* and *shooting* skill measuring instrument for Football School (SSB) students in Medan is valid and reliable. Hence, the required instrument is able to be applied in football activity for measuring students' *long passing* and *shooting* skill that is beneficial for evaluation process.

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