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ASSESSMENT INSTRUMENT AUTHENTIC ASSESSMENT BASIC TECHNIQUE (FOREHAND AND BACKHAND) GROUNDSTROKES FOR JUNIOR TENNIS IN GUNUNGKIDUL REGENCY, INDONESIA

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Abstract:
This assessment aims to develop an instrument for assessing the basic techniques of forehand and backhand groundstrokes for junior tennis players in Gunungkidul Regency because the basic forehand and backhand groundstrokes are very important in the game of tennis. This research design was a research that used the Research and Development (R&D) stage which adopted the 4-D model of the instrument used in the form of assessment sheets for material experts, trainers, and athletes. Qualitative data analysis in the form of criticism, suggestions, and opinions of material experts, coaches, and athletes. This assessment aimed to develop instruments for assessing basic forehand and backhand groundstroke techniques for junior tennis players in Gunungkidul Regency. This study used research and development methods with the 4-D method consisting of define, design, development, and dissemination with the following steps: (1) collecting information in the field, (2) analyzing the information obtained, (3) developing the initial product (4) expert validation and revision, (5) small-scale trials and revisions, (6) large-scale trials and revisions, (6) finalization and manufacture of assessment instrument products. The subjects in this study were junior tennis players in Gunungkidul Regency. Data analysis for validity testing was carried out using CVR (content validity ratio) and reliability using Alpha Cronbach. This research results in a basic technique assessment instrument product for forehand and backhand groundstrokes for junior tennis players which contains instructions, task sheets, scoring guidelines, scoring rubrics, and scoring tables that have high validity and hhigh-reliabilityforehand groundstroke initial attitude: r = 0.861, implementation r = 0.920, and final attitude 0.853. Backhand groundstroke initial attitude: r = 0.817, implementation attitude r = 0.871, and final attitude r = 0.824.

Keywords: court tennis, assessment instruments (forehand and backhand) groundstrokes

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1. Introduction

The game of tennis uses a ball and a racket as a means of hitting the ball over the net. According to Sukadiyanto (2002: 29), the basic principle in playing tennis is to hit the ball over the net and into the opponent's playing field. The game of tennis does not only use the hands to hit but must pay attention to the concentration and movement of the other limbs to support a good shot. Yudoprasetyo (1981: 10) learning tennis must pay attention to the following questions, namely focusing (concentration), holding the racket, swinging the racket, moving the legs (footwork), moving the body, and using the senses. The basic technique of tennis is (forehand and backhand) groundstrokes, (forehand and backhand) volleys, and service. Technique Groundstroke is a stroke made when the ball has bounced, volley is a blow made before the ball bounces, meanwhile, service is a stroke made to start the game. Of the three techniques, the technique often used in tennis is hitting (forehand and backhand) groundstrokes. According to Jim Brown (1999:31), groundstroke is the blow after the ball bounces off the court. Doing strokes should be done with as possible so that the resulting strokes are accurate.

According to Cangelosi (1995: 21), assessment is a decision about value. Assessment is the process of obtaining and using information to make judgments that are used as the basis for retrieving information. Assessment can be interpreted as a process of systematically collecting data to make a coach's decision in determining the quality of his athletes. Data obtained by using tests and non-tests are then processed into information about students.

Assessment in tennis assessment is very necessary, the aim is to measure the ability of tennis players to carry out playing techniques and as evaluation material to improve tennis abilities. Assessment can be done in various ways, one of which is authentic assessment (authentic assessment) is a performance-based assessment model carried out by students in real (authentic) conditions.

The main focus of this research is to assess the groundstroke technical skills (forehand and backhand) of junior tennis players through authentic assessment. Therefore, the researcher wants to examine the research entitled "Assessment Instrument Authentic Assessment Basic technique (Forehand and Backhand) Groundstrokes for Junior Tennis Players in Gunungkidul Regency"

2. Materials and Methods

2.1 Participants

This research was conducted on a sample of 20 junior athletes 10-18 years old, boys and girls who often practice tennis at the HYTEC club. All participants will be tested on basic techniques forehand and backhand groundstrokes. This assessment is carried out by a team of trainers consisting of 4 coaches. Participants are given directions according to the assessment guide.

2.2 Research Stages

In this study was used the 4-D development method with the following stages:

Table 2: Development Stage Procedure

No.	Development Procedure	Name of Activity
1	Level Define	a. Background b. Goal analysis
2	Level Design	a. Preparation of material b. Preparation of rubric
3	Level Development	a. Instrument production b. Product validation c. Product revision d. Product trials e. Large-scale product validation f. Test product effectiveness
4	Level Disseminate	a. Final production b. Product packaging

2.3 Data Collection Instruments

Participants and trainers were given a manual that contains procedures for assessing tennis forehand and backhand groundstroke abilities. The researcher prepared an assessment instrument in the form of an assessment rubric that had been made in such a way complete with assessment procedures and guidelines.

Participants were asked to do routine exercises according to the training schedule. The basic technique of forehand and backhand groundstrokes requires coordination between all the interrelated parts of the body. Each junior athlete is asked to perform or demonstrate the basic forehand and backhand techniques to the maximum extent possible according to the techniques they have mastered. To get maximum results, researchers recommend doing a good warm-up, core exercises and cool down so you can get the most out of it and avoid the risk of injury. In the weekend schedule, the researcher conducts an assessment to measure the ability of tennis forehand and backhand groundstrokes. The assessment was carried out by the trainer using the method prepared by the researcher.

The data collection technique uses an authentic-based assessment instrument (authentic assessment). The purpose of authentic assessment (authentic assessment) is to assess the skills of junior tennis players in Gunungkidul Regency when performing basic hitting techniques (forehand and backhand) groundstrokes according to the rubric/questionnaire that has been made and agreed upon. The assessment instrument applies to junior tennis players in Gunungkidul Regency at all levels from beginners to advanced levels with agreed conditions. Alternative answers using a Likert scale are given with five alternative answers, namely very good, good, enough, and less.

The criteria for scoring items in a questionnaire with a Likert scale are:

Table 2: Likert Scale

Information	Score
Very Good	4
Good	3
Enough	2
Less	1

Making a rubric is carried out by researchers by carrying out the stages of observation, determining criteria, and determining results. The determination of the basic technique assessment criteria for forehand and backhand groundstrokes is as follows

Table 3: Rating Rubric Grid

Initial Attitude	a. Racket grip position b. View position c. Leg position d. Body position
Implementation	a. View position b. Leg position c. Body position d. Arm position e. Regarding the racket f. Racket and body movements
Final Attitude	a. Move the racket b. Body position c. View position d. Leg position

2.4 Research Stages

In this study was used the 4-D development method with the following stages:

Table 4: Development Stage Procedure

No	Development Procedure	Name of Activity
1	Level Define	a. Background b. Goal analysis
2	Level Design	a. Preparation of materials b. Preparation of rubrics
3	Level Development	a. Instrument production b. Product validation c. Product revision d. Small-scale product trials e. Small-scale product validation f. Large-scale product trials g. Large-scale product validation h. Test product effectiveness
4	Level Disseminate	a. Final production b. Product packaging

2.5 Data Analysis Technique

The data analysis technique used in this study focuses on testing the results of the assessors. To gain confidence from an authentic-based assessment instrument (authentic assessment) basic technique (forehand and backhand) groundstrokes in junior tennis. An assessment instrument is good if it has validity and reliability. To test the validity of this study, an initial draft of the basic technical assessment instrument was prepared forehand and backhand groundstroke which contains: (1) identifying aspects of the performance process to be assessed, (2) compiling grids based on indicators, (3) guidelines for assessment and observation (4) compiling task sheets and athlete implementation instructions, sheets.

3. Result

The draft that has been compiled is then validated by four members with a score of 1 if they agree and 0 if they disagree, resulting in an evaluation from the experts as follows:

Table 5: Expert Assessment Results

No.	Indicator	Evaluator				Total
		Expert 1	Expert 2	Expert 3	Expert 4	
1	Initial attitude	1	1	1	0	3
2	Implementation	1	1	0	1	3
3	Final attitude	1	1	1	1	4
4	Whole	1	1	1	1	4

From the results of evaluation by experts or evaluation experts using Lawshe's CVR formula (1975) *(content validity ratio)* with the formula:

$$CVR = \frac{(Ne - N/2)}{(N/2)}$$

Details:
CVR: Content validity ratio;
Ne: The number of suitable experts;
N: The number of experts.

From the results of the validation test by experts, the values are as follows:

Table 6: Expert Assessment Results

No.	Indicator	*Ne*	CVR	Category
1	Initial attitude	3	0,500	Good
2	Implementation	3	0,500	Good
3	Final attitude	4	1,000	Good
4	Whole	4	1,000	Good

From Table 6, it can be concluded that the CVR value has a vulnerability between 0.500-1 so it can be concluded that the validation test results obtained good results by the experts so that it can be said that the instruments made can be continued.

Test the reliability of the assessment using instruments to obtain complete reliability data. Testing the reliability of the instrument using Cronbach Alpha and Interreter Reliability Test using Interclass Correlation Coefficient (ICC) with assistance software SPSS 25.0. The following are the results of the Reliability Test Cronbach Alpha and Interclass Correlation Coefficient (ICC):

Table 7: Reliability Test with SPSS v. 25c Cronbach Alpha and Interclass Correlation Coefficient (ICC) Wide-scale

	Forehand		Backhand	
Indicator	**Cronbach Alpha**	**ICC**	**Cronbach Alpha**	**ICC**
Initial attitude	0,861	0,854	0,817	0,802
Implementation	0,920	0,912	0,871	0,858
Final attitude	0,853	0,846	0,824	0,817

From Table 7, it can be concluded that the results of the large-scale trial obtained the reliability value of the basic technique performance-based assessment instrument forehand and backhand obtain data that is analyzed using statistical tests and produces high values of instrument reliability and inter-reference. So that the product is valid and reliable so that it can be used to assess basic techniques of forehand and backhand groundstroke to be used as evaluation material during training.

The instruments that have been made are then subjected to instrument trials conducted by junior tennis athletes to find out whether the instrument can be used according to its function. Instrument testing was carried out on 20 Gunungkidul Regency tennis athletes. The following results are obtained.

The results of data processing were obtained from the assessment of junior tennis athletes in Gunungkidul Regency by coaches. The following are the results of the forehand groundstroke ability of junior tennis athletes in Gunungkidul Regency.

Table 8: Forehand Groundstroke Technique Assessment Norms

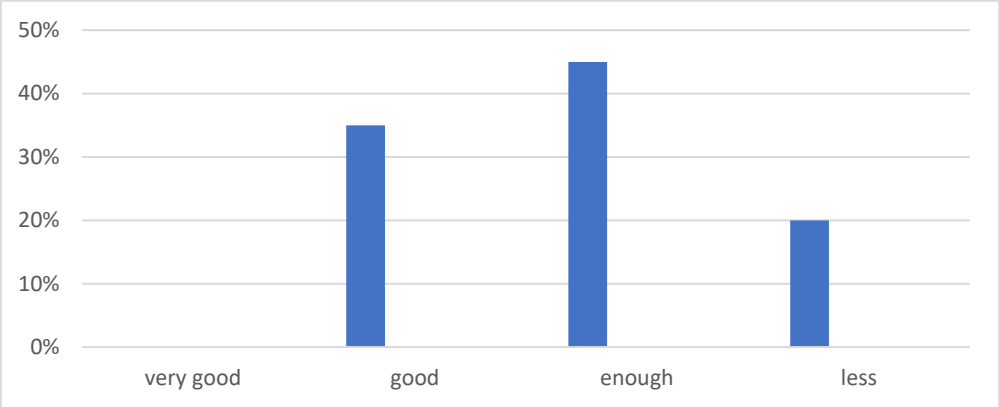
Category	**Rating Norms**
Very good	X≥M + 1,5 SD
Good	M≤X<M+1,5 SD
Enough	M-1,5 SD ≤X<M
Less	M-1,5 SD ≥X

These norms are used as an assessment guide to determine or categorize the abilities of junior tennis athletes in Gunungkidul Regency. The results of the assessment according to the norms are as follows:

Table 10: The Results of the Categorization of Groundstroke Forehand Abilities for Junior Tennis Athletes in Gunungkidul Regency

Category	Rating Norms	r	%
Very good	X ≥ 48,31	0	0
Good	43,67 ≤ X < 48,31	7	35
Enough	39,03 ≤ X <43,67	9	45
Less	39,03 ≥ X	4	20
	Total	20	100

Figure 1: Percentage Results for the Ability of Ground Strokes Forehand Junior Tennis Athletes in Gunungkidul Regency



From these data, it can be concluded that the groundstroke forehand ability of junior tennis athletes in Gunungkidul Regency is most included in the "Enough" category so there is a need to improve skills in basic groundstroke forehand techniques.

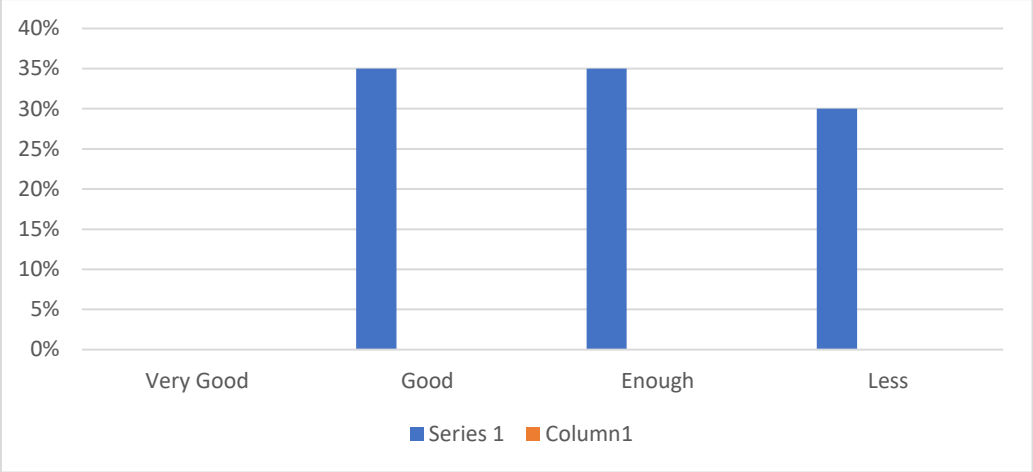
Results of data processing from the results of the assessment groundstroke backhand district junior tennis player Gunungkidul Regency obtained data with the same assessment norm as the groundstroke forehand technique. The following results are obtained:

Table 11: The Results of the Categorization of Backhand Groundstroke Abilities for Junior Tennis Athletes in Gunungkidul Regency

Category	Rating Norms	r	%
Very good	X ≥ 47,54	0	0
Good	43,18 ≤ X < 47,54	7	35
Enough	38,82 ≤ X <43,18	7	35
Less	38,82 ≥ X	6	30
	Total	20	100

From these data and percentages, it can be concluded that the backhand groundstroke ability of junior tennis players in Gunungkidul Regency results were in the "Good" and "Enough" categories, so there is a need for improvement in the basic backhand groundstroke technique.

Figure 2: Percentage Results of the Backhand Groundstrokes Ability of Junior Tennis Athletes in Gunungkidul Regency



4. Conclusion

The conclusion of this research is good for the process of assessing the basic technique of forehand and backhand groundstrokes in field tennis, especially for junior tennis players. The results of the assessment of the two basic groundstrokes forehand and backhand techniques show that the ability of junior tennis athletes in Kab. Most of Gunungkidul's results are in the "Enough" category, so there is a need to improve the quality and ability of athletes to master basic forehand and backhand groundstroke techniques.

Conflict of Interest Statement

I confirm that neither I nor any of the institutions have any personal or business conflicts of interest regarding the research project to develop an instrument for assessing basic groundstrokes forhand and bachand techniques for junior tennis players. I also declare that the information disclosed is true in accordance with the real situation and does not create a conflict of interest in this project. I was involved in this research project myself so as to minimize conflicts between interests. I also confirm that I have not plagiarized or plagiarized other people's work for my personal interests

About the Author(s)

Asyam Alauddin is a Physical Education teacher at a Sleman Regency School. Currently the author is studying Masters at the Faculty of Sports and Health Sciences, Yogyakarta State University. The author currently also works as a Tennis Coach and because of his love for Tennis, he wants to develop this sport, especially evaluating the performance of junior tennis athletes. Asyam Alauddin comes from Gunungkidul Regency and has an Instagram account named @asyam_alauddin.

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