

Validity and Reliability of Authentic Assessment Instruments for Basic Techniques of Forehand and Backhand Groundstroke Based on Actions Method

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ABSTRACT: The purpose of this research is to develop a valid and reliable model of authentic assessment instrument for basic techniques of forehand and backhand groundstroke learning outcomes in tennis. It is expected that this valid and reliable instrument can be used as a standard to assess the learning outcomes of basic techniques for the forehand and backhand groundstroke by FIKK UNY students.

The research design to develop the authentic assessment instrument utilizes quantitative and qualitative or mixed method approaches with the 4D model (Define, Design, Development, and Disseminate). The population in this study were students of the Faculty of Sports and Sciences (FIKK) UNY, while the sample was students of the Physical Education, Coaching Education (PKO), Sport Sciences (IKOR), and Physical Education for Elementary School (PJSD) Study Programs with a purposive sampling technique with total of 84 people, consisting of 63 male and 21 female students. The research instruments used interviews, questionnaires, and observations. 7 experts were involved in developing authentic assessment instruments consisting of; 3 tennis course lecturers, 2 tennis practitioners/coaches, 1 test and measurement expert, and 1 PJOK evaluation expert, and the expert validation was carried out using the Delphi technique. Content validity was analyzed using the Content Validity Ratio (CVR). The reliability test of the assessment instrument was conducted with Cronbach's Alpha Consistency, and the inter-rater reliability analysis was analyzed using the Inter Class Correlation Coefficient (ICC) analysis.

The results of the research found that the content validity has a very good level of accuracy. The CVR analysis results show that all factors and indicators of authentic assessment instruments developed are > 0.50 . Consistency Alpha Cronbach's and ICC reliability coefficient ≥ 0.80 . Thus, it can be concluded that the authentic assessment instrument model of basic techniques for the forehand and backhand groundstroke based on the actions method that was developed has excellent content validity and reliability and can be used as an assessment instrument to assess the learning outcomes of basic techniques for the forehand and backhand groundstroke in playing tennis for FIKK UNY students.

KEYWORDS: Authentic Assessment, Forehand and Backhand groundstroke, Actions Method.

I. INTRODUCTION

Assessment is an integral part that cannot be separated from the learning process in the university. To obtain an appropriate and accurate assessment instrument model to assess student learning outcomes, it is required to have an assessment instrument that can access all student learning outcomes performance authentically. The model of assessment that can be used to access all student learning outcomes authentically is called authentic assessment/performance-based assessment. Authentic assessment is an assessment model in the form of tasks that require students to demonstrate their performance in the real world as an implementation of the knowledge and skills that have been mastered (Suzann, 2000; Lund & Kirk, 2010; Ngatman, et al., 2024). From this opinion, it can be concluded that authentic assessment is a model of assessing learning outcomes that has multidimensional characteristics and refers to the "real" world. In addition, this authentic assessment model can also provide opportunities in problem solving to assess learning outcomes using several alternatives [Ngatman, et al., 2024]; [46]. In other words, authentic assessment can monitor and measure students' abilities with a variety of possible solutions for problems that

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are faced in the real world (Mueller, 2009; Crespo & Reid, 2009; Salom, 2019; Nieto, López & Palacios, 2022). Based on these considerations, the learning process conducted by lecturers is expected to have valid and reliable assessment instruments.

Tennis is one of several sports taught in all study programs at FIKK UNY where this sport has complex motion characteristics. This is since tennis is categorized as an open motoric skill. Open motoric skills have characteristics, such as the game situations and conditions that occur on the field are difficult to predict, they always have different circumstances, and the challenge given by the opponent is difficult to guess. In addition, tennis players never hit the same shot twice in a row and are very dependent on the return of the ball given by the opponent (Ngatman & Gani, 2023; Ngatman, et al., 2024; Novick, 1988). Therefore, in performing each stroke tennis players must consider the four stages in the open skill process, i.e. perception, decision, execution, and feedback. These four stages are the main characteristics of the actions method in tennis teaching (Bakhtiar & Ballard, 2015; Ngatman, et al., 2024; Novick, 1988). Actions method is a tennis teaching method that is oriented towards the four stages of the open skill process. A tennis teaching method that has 3 main features, including: (1) the teaching process is child-centered/learned centered, (2) combines technical and tactical frameworks, and (3) requires children to always think critically every time they hit a shot (Crespo, 1988; Crespo & Reid, 2009; Ngatman & Gani, 2023; Ngatman, et al., 2024).

Based on the results of researchers observations, presently FIKK UNY has several problems faced by lecturers who are teaching tennis courses, including: (a) the assessment carried out by lecturers still relies on expert sports skills tests from abroad several decades ago. The skill test is only limited to measuring the level of basic technical skills and is not in line with the real tennis playing situation. The use of the assessment model through the sport skill test is a predictor that is considered "invalid" in measuring real tennis playing skills (Villouta, 2022; Ngatman & Susworo, 2022), (b) so far FIKK UNY does not have a standard assessment instrument to assess student learning outcomes (c) tennis course lecturers still have difficulty determining the standard assessment criteria, both the process and the results of forehand and backhand groundstroke techniques, (d) based on the results of interviews with tennis course lecturers from all study programs at FIKK UNY it turns out that so far the assessment instrument used has 90% used subjective ratings where the objectivity of this assessment model is still doubtful. Furthermore, to explore the problem to be more comprehensive, the researcher also conducted a need analysis by giving questionnaires and conducting interviews with students from the four study programs who have taken tennis courses. The data obtained indicated that the study programs at FIKK UNY require standard assessment instruments that can be used to assess the learning outcomes of forehand and backhand groundstroke techniques in accordance with the real tennis playing situation.

Based on the background of the problems described earlier, the researcher developed a valid and reliable authentic assessment instrument to assess the learning outcomes of basic techniques for the forehand and backhand groundstroke based on the actions method for FIKK UNY students.

II. RESEARCH METHOD

a. Research Design and Sample

The design utilized in this study is the research and development model 4D (Define, Design, Development, and Disseminate) (Sugiyono, 2019). However, the report of this research consists of 3 stages, including: preliminary studies, making a draft assessment instrument, analyzing the content validity of the instrument model, and finding the reliability coefficient of the authentic assessment instrument that has been developed. The population in this study was FIKK UNY students. The research sample amounted to 84 students with purposive sampling technique, consisting of: 21 female and 63 male students.

b. Data Collection Techniques and Research Instruments

The preliminary study was conducted through observation of the assessment model that has been used by FIKK UNY lecturers to assess the learning outcomes of tennis courses, conducting interviews, and distributing questionnaires. In addition, needs analysis is also conducted through literature review, searching for articles in journals related to authentic assessment to obtain a theoretical basis in developing a comprehensive assessment model. Based on the results of this preliminary study, they were used to develop a draft model of authentic assessment of basic techniques for the forehand and backhand groundstroke based on the actions method.

The development stage begins by compiling assessment instrument drafts for basic techniques of forehand and backhand groundstroke in tennis games based on the actions method. At this stage, an assessment rubric has also been prepared which contains factors and indicators of basic forehand and backhand groundstroke techniques based on the actions method according to the characteristics of playing real tennis. This rubric will be used as a guideline to assess the skills of basic techniques of forehand and backhand groundstroke. Thus, at this stage a set of authentic assessment instruments has been produced to be tested by material experts in tennis and continued with expert validation who are competent in the field of tests, measurements and

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evaluation of PJOK. The experts involved totaled 7 people consisting of: 3 tennis lecturers, 2 tennis practitioners/coaches, 1 test and measurement expert, and 1 PJOK evaluation expert. Expert validation was conducted using the Delphi Technique.

c. Data Analysis Techniques

The content validity testing of authentic assessment instruments is conducted using CVR (Content Validity Ratio). The CVR formula is as follows.

$$CVR = \left[\frac{2 Mp}{M} \right] - 1$$

Descriptions:

Mp = $\sum$ [Experts who gave good scores (3-4 ratings)]

M = Number of experts

1 = Results performed by experts (Currel & Jeukendrup, 2008; Ngatman & Susworo, 2022).

The reliability test of the assessment instrument to determine the reliability coefficient of the developed assessment instrument was conducted using Cronbach's Alpha Consistency, while the inter-rater reliability was analyzed using the Inter class Correlation Coefficient (ICC) (Tomoliyus, Sumaryanti, & Jatmika, 2016; Ngatman, et al., 2024).

III. RESULT

a. Conduct Preliminary Study

The results of the preliminary study of the assessment system that has been used in FIKK are presented in Table 1.

Table 1. The result of Preliminary Study

No.	Components	Percentage	
		yes	no
1.	Do you assess the skills of basic techniques of forehand and backhand groundstroke at the end of each tennis lecture?	100	0
2.	Does the assessment of basic techniques of forehand and backhand groundstroke that you do include aspects: techniques, tactics, and attitudes of students in playing tennis?	10	90
3.	Does the assessment of basic techniques of forehand and backhand groundstroke that you do use student performance-based assessment?	20	80
4.	Have you ever assessed the basic techniques of forehand and backhand groundstroke using standardized assessment instruments?	10	90
5.	Is the assessment instrument for basic techniques of forehand and backhand groundstroke that you use is an assessment instrument of your own development?	10	90
6.	Is the assessment instrument for the basic techniques of forehand and backhand groundstroke playing tennis that you use is technique-oriented?	70	30
7.	Is the assessment of basic techniques of forehand and backhand groundstroke that you use based on process and product assessment?	10	90
8.	What success criteria do you use to assess basic techniques of forehand and backhand groundstroke based on process and product achievement standards displayed by students?	10	90
9.	Do you need an assessment instrument for basic techniques of forehand and backhand groundstroke that is oriented towards technical skills and tactics based on the action method?	100	0
10.	Do you need a standard authentic assessment instrument for basic techniques of forehand and backhand groundstroke based on action method comprehensively to assess tennis learning outcomes for students?	100	0

b. Compile Assessment Instrument Drafts

The preliminary draft of the authentic assessment instrument developed consists of three components, including: (1) open skill process framework that contains factors and indicators of basic techniques of forehand and backhand groundstroke based on action method, (2) observation sheet that includes guidelines for assessing basic techniques of forehand and backhand groundstroke, and (3) assessment sheet to assess the learning outcomes of basic techniques of forehand and backhand groundstroke for students in playing tennis. The framework of the authentic assessment instrument draft prepared to obtain expert judgment is presented in table 2 below.

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Table 2. Framework of authentic assessment instrument drafts

Factors	Indicators
Self-confidence and mental determination to play.	✓ Be confident when hitting forehand and backhand groundstrokes while playing. ✓ Do not hesitate in making decisions (decision making) every time they hit forehand and backhand groundstrokes while playing. ✓ Have mental strength in hitting forehand and backhand groundstrokes at critical points when playing. ✓ Consistent in utilizing forehand and backhand groundstrokes despite leading the score during play. ✓ Having high motivation every time using forehand and backhand groundstroke techniques to win the game
Before hitting a forehand or backhand groundstroke (perception and decision skills)	✓ The ability to analyze the game situation before hitting a forehand or backhand groundstroke. ✓ The ability to justify the ball from the opponent before hitting a forehand or backhand groundstroke. ✓ The ability to place the right position before hitting a forehand or backhand groundstroke. ✓ The accuracy in making decisions (decision) before hitting a forehand or backhand groundstroke. ✓ The ability to control the ball from the opponent (5 ball control: direction, speed, rotation, height, distance / depth of the ball) before hitting a forehand or backhand groundstroke during play. ✓ The ability to take ready position, backswing, and balance, before hitting a forehand or backhand groundstroke.
When hitting a forehand or backhand groundstroke, and evaluating the results of the stroke (execution and evaluation / feedback)	✓ The decision to hit a forehand or backhand groundstroke is correct, effective, and efficient. ✓ The decision to hit a forehand or backhand groundstroke is effective in making it difficult for the opponent. ✓ The decisions made in hitting forehand or backhand groundstrokes are effective to get important points. ✓ Recognizing the success and failure rates in hitting forehand or backhand groundstrokes made during play.
Attitudes and behaviors during play	✓ After hitting a forehand or backhand groundstroke always return to the starting position (basic position) before hitting the next shot. ✓ During play keep showing high spirit (fighting spirit). ✓ Show a gesture of disappointment if you make an unforced error in hitting a forehand or backhand groundstroke while playing. ✓ Has a strong character and is always behaving in a fair play/sporting manner when playing. ✓ Show respect for the opponent.

c. Validate Authentic Assessment Instrument Draft and Observation Sheets

The validation test was conducted by involving 7 experts to provide assessment and feedback on the material content of the assessment instrument using the Delphi Technique. The experts during the assessment were guided by the observation sheet that the researcher had made. The observation sheet and authentic assessment guidelines consist of four factors, including: self-confidence and mental determination to play, before hitting a forehand or backhand groundstroke, when hitting a forehand or backhand groundstroke and evaluating the results of the shot, as well as attitudes and behavior while playing.

The authentic assessment observation guidelines are presented in table 3.

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Table 3. The Authentic Assessment Observation Guidelines

1) Self-confidence and mental determination to play

Signs or Score	Descriptions
" + " (plus) and score 3	If confidence, courage, not hesitating, mental determination, high motivation to win the match, consistently utilizes forehand or backhand groundstroke during play is always displayed between 90 - 100%.
" v " (checklist) and score 2	If confidence, courage, not hesitating, mental determination, high motivation to win the match, consistently utilizes forehand or backhand groundstrokes during play is displayed quite a lot, between 66% - 89%.
" – " (minus) and score 1	If confidence, courage, not hesitating, mental determination, high motivation to win the match, consistently utilizes forehand or backhand groundstrokes during play is displayed slightly, between 0 - 65%.

2) Before hitting a forehand or backhand groundstroke (perception and decision skills)

Signs or Score	Descriptions
" + " (plus) and score 3	If the ability to analyze the game situation before hitting the ability to justify the ball from the opponent before hitting, the ability to place the right position before hitting, the accuracy in making decisions (decision) before hitting, the ability to control the ball from the opponent (5 ball control: direction, speed, rotation, height, distance / depth of the ball) before hitting a forehand or backhand groundstroke while playing is always displayed and performed efficiently between 90 - 100%.
" v " (checklist) and score 2	If the ability to analyze the game situation before hitting the ability to justify the ball from the opponent before hitting, the ability to place the right position before hitting, accuracy in making decisions before hitting, the ability to control the ball from the opponent (5 ball control: direction, speed, rotation, height, distance / depth of the ball) before hitting a forehand or backhand groundstroke while playing is displayed quite a lot and performed efficiently between 66% - 89%.
" – " (minus) and score 1	If the ability to analyze the game situation before hitting the ability to justify the ball from the opponent before hitting, the ability to place the right position before hitting, accuracy in making decisions before hitting, the ability to control the ball from the opponent (5 ball control: direction, speed, rotation, height, distance / depth of the ball) before hitting a forehand or backhand groundstroke while playing is displayed a little and performed efficiently between 0 - 65%.

3) Factors when hitting a forehand or backhand groundstroke, and evaluating the results of the stroke (execution and evaluation / feedback)

Signs or Score	Descriptions
" + " (plus) and score 3	If the decisions made when hitting are precise, effective, and efficient, the decisions made in hitting are effective to make it difficult for the opponent, the decisions made in hitting are effective to get important points, knowing the success and failure rate of each forehand or backhand groundstroke made while playing is always displayed between 90 - 100%.
" v " (checklist) and score 2	If the decisions made are precise, effective, and efficient, the decisions made are effective to make it difficult for the opponent, the decisions made are effective to get points, knowing the success and failure of each forehand and backhand groundstroke performed is displayed quite a lot and is done between 66% - 89%.
" – " (minus) and score 1	If the decisions made are correct, effective, and efficient, the decisions made are effective to make it difficult for the opponent, the decisions made are effective to get points, knowing the success and failure of each forehand and backhand groundstroke performed are displayed slightly between 0 - 65%.

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4) Factors attitudes and behaviors during play

Signs or Score	Descriptions
" + " (plus) and score 3	If after hitting always returns to the starting position (basic position) before hitting the next shot, while playing still shows high enthusiasm (fighting spirit), shows a gesture of disappointment if you make your own mistakes (unforce error) in hitting forehand or backhand groundstroke, has a strong character and always behaves fair play / sportsmanship when playing is always displayed between 90% - 100%.
" v " (checklist) and score 2	If after hitting always returns to the starting position (basic position) before hitting the next shot, while playing still shows high enthusiasm (fighting spirit), shows a gesture of disappointment if you make your own mistakes (unforce error) in hitting forehand or backhand groundstroke, has a strong character and is always fair play / sportsmanship when playing is displayed quite a lot between 66% - 89%.
" - " (minus) and score 1	If after hitting always returns to the starting position (basic position) before hitting the next shot, while playing still shows high enthusiasm (fighting spirit), shows a disappointed gesture if you make your own mistakes (unforce error) in hitting forehand or backhand groundstroke, has a strong character and is always fair play / sportsmanship when playing displayed a little between 0 - 65%.

After the authentic assessment instrument model that has been developed has no revisions from the experts, the next step is to test the content validity of the authentic assessment instrument model to determine the essence/importance of the factors and indicators of the assessment instrument developed. Assessment data from the 7 experts can be seen in table 4.

Table 4. The results of expert assessment of authentic assessment instruments for factors and indicators of basic techniques of forehand and backhand groundstroke based on the actions method.

Expert Assessor	Factors Assessment			Attitudes & behaviors during play
	Self-confidence & mental determination to play (1)	Before hitting a forehand or backhand groundstroke (perception and decision skills) (2)	When hitting a forehand or backhand groundstroke, and evaluating the results of the stroke (execution and evaluation / feedback) (3)	(4)
AA	Significant	Significant	Significant	Significant
HY	Significant	Significant	Significant	Significant
YD	Significant	Significant	Significant	Significant
WN	Significant	Significant	Significant	Significant
AS	Useful but not significant	Significant	Significant	Significant
GT	Significant	Significant	Significant	Useful but not significant
GN	Significant	Significant	Significant	Significant

The results of the experts' assessment were then analyzed to determine the Content Validity Ratio. Table 5 below presents the results of content validity analysis with CVR analysis.

Table 5. CVR analysis results

Factors of Authentic Assessment Instrument for Basic Techniques of Forehand and Backhand Groundstroke based on Actions Method	Content Validity Ratio
Self-confidence and mental determination to play	0.71

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Before hitting a forehand or backhand groundstroke (perception and decision skills)	1.00
When hitting a forehand or backhand groundstroke, and evaluating the results of the stroke (execution and evaluation / feedback)	1.00
Attitudes and behaviors during play	0.71

In this study, because there were more than 2 experts (7 experts), the Inter-Class Correlation (ICC) analysis was used to test inter-rater reliability. This ICC analysis technique is used to determine the level of stability or consistency between raters. The results of the four-factor ICC analysis are contained in Table 6.

Table 6. ICC reliability coefficient test of authentic assessment instrument based on action method

Factors	<i>Alpha Cronbach</i>	<i>ICC</i>	Status
Self-confidence and mental determination to play	0.86	0.87	Reliable
Before hitting a forehand or backhand groundstroke (perception and decision skills)	0.89	0.91	Reliable
When hitting a forehand or backhand groundstroke, and evaluating the results of the stroke (execution and evaluation / feedback)	0.88	0.87	Reliable
Attitudes and behaviors during play	0.86	0.89	Reliable

IV. DISCUSSION

The validity and reliability of assessment instruments are the two main requirements that must be considered in the data collection process for teaching/training purposes in all sports. With valid and reliable data, conclusions can be drawn accurately. This is in line with the opinion of (Salmon & Dudley, 2023) which states that "validity and reliability are essential to the effectiveness of any data gathering procedure". To improve the quality of data collection on student learning outcomes, the instruments that are utilized must meet the requirements of good validity and reliability. In assessing the domain of psychomotor/performance of a sport, the requirements of validity and reliability are indispensable. This is due to the fact that if the assessment instrument meets these requirements, it will have a degree of accuracy, consistency / constancy in assessment (Mohajan, 2017). Therefore, when developing an assessment instrument, the validity and reliability requirements of the assessment instrument must absolutely be considered (Currel & Jeukendrup, 2008; Best & Kahn, 2010; Elderton, 2013; Wright, et al., 2005; Susiono, et al., 2024).

One of the assessment models in the psychomotor domain that is currently trending and widely used is performance-based assessment/authentic assessment. This is because authentic assessment is an assessment model based on processes and products. A form of assessment that is collected through various aspects that are integrated / holistic, objective, the data collection process is carried out continuously, and the assessment is according to real situations (Lund & Kirk, 2010; Ngatman. 2017; Slingerland & Weeldenburg, 2019). Through authentic assessment, it is expected that student learning outcomes can be conducted in terms of the process of movement skills and the results of the performance displayed. Therefore, a real picture will be obtained and can authentically portray the skills demonstrated by students. The results also show that the authentic assessment model is an assessment model that can measure what should be measured. Furthermore, it is said that authentic assessment is an assessment model that has a level of accuracy in measuring learning outcomes in accordance with the abilities displayed (Georgakis, Wilson, & Evans, 2015; Barrientos, et al., 2022; Sewagegn & Diale, 2020).

The content validation test of several experts in developing authentic assessment instruments has successfully developed four factors in the assessment rubric that can be used as an authentic assessment instrument for basic techniques of forehand and backhand groundstroke based on the actions method. This is in accordance with the opinion of (Nitko & Brookhart, 2011) which says that the level of accuracy (validity) of an assessment instrument if the CVR coefficient obtained is > 0.50 then the assessment instrument has a good level of validity. In other words, the instrument has a degree of measurement accuracy and is able to measure the items that should be measured (Lund, 2013; Nieto, López & Palacios, 2022; Fresneda, 2023). The same thing is also said by (Borg & Gall, 2003), who said that if the assessment instrument has a good content validity coefficient, then the instrument has represented what is planned to be measured. Furthermore, (Nitko & Brookhart, 2011; Taherdoost, 2016) argue that if the test items of the assessment instrument have covered all aspects of the construct or variable to be measured, then the instrument in terms of content can be declared valid.

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The assessment instrument used to assess sports skills if it has an intra-rater and inter-rater reliability coefficient ≥ 0.80 , it can be said that the instrument is good to use as an instrument to measure sports skills including tennis (Martin, 2013; Medina, Barquera & Janssen, 2013; Elderton, 2013). An assessment test/instrument is said to meet the requirements of a good assessment instrument if the test implies “the degree to which the instrument measures consistently the target being measured”. The degree of consistency of the assessment is carried out by two or more expert assessors if they get relatively the same / consistent score and the magnitude of the inter-rater reliability coefficient is 0.80 and above (Azwar, 2011; Mohajan, 2017). In other words, the authentic assessment instrument model for forehand and backhand groundstroke basic techniques based on the actions method developed have a good degree of measurement reliability (fixity).

In a tennis game to win a match is not only determined by the skill of mastering the forehand and backhand groundstroke techniques alone. There are other factors that have a significant role beyond the mastery of these two basic techniques. Factors that influence the success of hitting forehand and backhand groundstroke in playing tennis, including: the ability to analyze the situation and read the direction of the ball (perception), decision making before hitting (decision), the accuracy of execution in hitting (execution), doing feedback (feedback) and evaluating the results of the stroke (Novick, 1988; Bakhtiar & Ballard, 2015; Ngatman, et al., 2024). These elements take place simultaneously and quickly when playing tennis so that a fast motion response is needed as well. In playing tennis, the actions taken by the tennis player imply continuous reaction and decision-making in diverse situations. Reactions are undertaken starting from the stage of situation analysis, anticipation and adjustment of the direction of the ball's arrival, before decision making, technical decision making, and the evaluation stage of the result of the shot. Therefore, the training/teaching process must be designed properly so that tennis players can automate the decision making and adjust it to the technical decisions made. Based on this expert opinion, in the preparation of the assessment instrument these components must be part of the assessment (Ngatman & Gani, 2023; Ngatman, et al., 2024).

The learning results of playing court tennis skills conducted through the $\frac{1}{2}$ competition match system will be able to be observed carefully how the confidence and mental attitude when playing, before decision making, the accuracy of making decisions when hitting and hitting results, as well as the attitude and behavior of a tennis player in implementing the four factors in performing basic forehand and backhand groundstroke techniques while playing tennis. Through this $\frac{1}{2}$ competition match, players will feel the real tennis playing situation which will always be encountered when they play / the real game of tennis. (Elderton, 2013; Wright, 2005) said that with the modification of the tennis playing situation made through matches will engage students cognitively, stimulate student interest, allow students to play more games, and provide students with the opportunity to transfer concepts from one game to another. In order to carefully observe these four factors, an observation sheet instrument and a scoring sheet are needed to see the performance displayed.

V. CONCLUSIONS

The need for authentic assessment instruments for basic techniques of forehand and backhand groundstroke based on the actions method is very necessary to assess the learning outcomes of the tennis course for FIKK UNY students. The authentic assessment instrument model for basic techniques of forehand and backhand groundstroke based on the actions method turns out to provide convenience for lecturers in assessing the learning outcomes of tennis courses according to the real playing situation. The authentic assessment instrument has very good validity and a high reliability coefficient so that it can be used as a standard instrument to assess basic techniques of forehand and backhand groundstroke. Factors of Confidence and mental, before the execution stroke (perception and decision), execution of the stroke and evaluation of the results of the stroke (execution and feedback), as well as attitudes and behavior in playing tennis are 4 fundamental factors in the authentic assessment instrument of basic techniques of forehand and backhand groundstroke based on the actions method for FIKK UNY students

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