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The Quality Test of Psychomotor Competency Assessment Instrument during Physics Praxis at Senior High Schools

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Abstract: Praxis is an effective method in science learning, especially physics where there is interaction between teachers and students, and is guided by the scientific method. Learning with praxis provides direct experience with the scientific method. This study aims to test and determine the quality of psychomotor assessment instruments for dynamic fluid practicum. The applied method was quantitative. The quality test used empirical and field tests with expert judgment, physics teachers (the practitioners), and learners. The researchers collected the data with test and non-test techniques. The data collection instruments were the product validation sheet, item assessment sheet, and user's response. The quantitative data analysis used descriptive statistics. The researchers used V-Aiken for product validation, Pearson Product Moment for test item quality, and Cronbach Alpha to determine the item reliability. The researchers analyzed the responses with percentage values. The results showed the instrument quality and question items get a high V-Aiken score and get a significance value that fulfills the minimum value limit for validity and the reliability aspect get the high category. Then, responses from users represent that the majority of users agree about using the instrument so that the assessment instrument tested has adequate, feasible and adaptive quality to use in the physics praxis of Senior High Schools.

Keywords: Assessment instrument, Psychomotor Competency, Reliability, Physics praxis

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INTRODUCTION

Assessment is an important stage in the learning process. BSNP defines assessment as a series of activities to obtain, analyze, and interpret data about learners' processes and learning outcomes. These data become the information to reach the stated objectives in the curriculum and decide the next learning stages (Asmawati et al., 2018). Assessment should consider all requirement fulfillment based on the capability on the field (Amin, 2017). The other definition is from Cronbach (1963) and Stufflebeam (1969), they explain that assessment is important to determine learners' advancement and development levels in a certain period. Assessment refers to an educational system component. Thus, it needs adequate attention (Imran, 2018). The assessment also indicates the correlation between learning activities and learning outcomes of learners (Harlis & Budiarti, 2017). Ariyanto, Munoto, & Muhaji (2019) argue that psychomotor assessment could be used to evaluate learners' competencies. The shift of evaluation in Kurikulum 2013 asserts the changes in the assessment procedure. These changes become the system to do comprehensively and authentically. Thus, assessment can measure affective, cognitive, and psychomotor skills. This shift makes assessment continuously and comprehensively to support learners' learning autonomy(Mahmuda et al., 2017). Therefore, the assessment system must adjust to the learners' learning and the objectives to master the competence.

A survey by Organization for Economic Cooperation and Development showed the PISA score of Indonesia was in 70^{th} rank from 78 countries in terms of science competence (Kasih, 2020). This rank indicates less optimum science skills of learners. One of them is the psychomotor school that should have been developed via physics learning and praxis. Muniarti (2017) explains that physics learning emphasizes direct experience provision to develop competence, especially psychomotor skills(Ertikanto et al., 2019). Thus, learners can explore and understand nature scientifically. Integrating physics theories and applications is important to prepare skillful outputs that can solve problems (Winarti & Saputri, 2018). The psychomotor learning outcomes come from experience or behavioral changes based on the content meaning in affective and cognitive aspects of a learning experience (Murniati et al., 2018). Improving the psychomotor aspect of learners can be the solution in teaching-learning processors in the future life.

Project-based learning provides designing and investigating activities for the learners. Then, the teachers can measure their psychomotor skills (E. R. Dewi & Rahayu, 2018). Psychomotor development for physics is observable from the praxis activity. The learning content standard asserts that physics is a lesson that requires investigation or observation (Hidayah, 2017). Fitriah & Makmun (2019) explain that laboratory skills can train learners to develop their scientific natures, such as observing, analyzing, and drawing conclusions. These activities empower and develop the learners' curiosity, active skill, and autonomy via direct experience (Winarti & Saputri, 2018). The statement aligns with laboratory classroom learning that could effectively improve the science process skills because of the direct-autonomous experience (Murniati et al., 2018).

Hidayah (2017) explains that psychomotor assessment includes psychomotor assessment procedures. It happens during the various observation activities, such as preparing the materials and tools, arranging the experimental devices, experimenting,

and observing the experiment. The evaluation process needs to consider valid and reliable data provision to make an accurate decision. Therefore, the assessment instruments of the psychomotor aspect must be based on the determined competencies. Thus, the results could be accurate, careful, and meaningful.

Psychomotor assessment refers to an instrument with a non-test technique. Thus, teachers use it without "*testing*" the learners. However, they do it via observing the behavioral changes of the learners and the learners' constructed knowledge (Arifin, 2014). Assessment should focus on the science skill aspect process (Istiyono & Kadarisman, 2017). Therefore, learners need valid and accurate science skill assessments (Elfrida et al., 2021). Psychomotor assessment is a non-test assessment that judges the psychomotor aspect with observation. It is different from cognitive or affective aspects that cannot be observed directly via senses. Kurikulum 2013 mentions that peer friends could promote psychomotor competence assessment (Sani, 2014). The non-test technique variety is useful for teachers to assess the praxis.

From the urgency of psychomotor assessment, it is important to develop assessment instruments in observation and peer-assessment sheets. Thus, teachers can assess the praxis activity. This development becomes the alternative and facilitates teachers to judge the learners' skills based on the scientific procedure criteria, science process skill, and peer assessment. The applied assessment instrument was in line with the need to assess the learners' achievements in promoting experimental tasks at the laboratory, discussion, and presentation.

The psychomotor assessment instrument needs assessment rubrics to categorize the assigned skills into components. The instrument provides a textual description of the skill characteristics for each task level (Sukmawa et al., 2019). This rubric becomes the guideline to assess. It applies the preferred criteria to assess the learners' mastery levels based on the performed skills.

Before implementing the assessment instruments, it is important to test the reliability of the instruments based on some instrument quality aspects. Retnawati (2016) explains some applied aspects to determine the non-test instrument quality, such as validity, reliability, and response of users. Thus, the instrument can be reliably applied. Maulana, Rusilowati & Soegiyanto (2018) explain the importance of determining the instrument's reliability by analyzing the instrument based on the experts' judgment.

Based on the physics syllabus of eleventh graders at Senior High Schools and the observation during the praxis, the researchers found a physics material that should have been based on praxis. It was about dynamic fluid. Dynamic fluid is a material with praxis intensity in the last three years. This material also has various types of praxis. Therefore, the assessment instrument development should take this material, dynamic fluid for the eleventh graders in the second semester. From the background, the researchers aimed to determine the feasibility of the psychomotor assessment instrument based on the science psychomotor aspect during the praxis of dynamic fluid at Senior High Schools. The feability test also included judgment from content material experts, teachers, and learners.

Retnawati (2016) mentions that the quality standard of an instrument includes: 1) *validity*- it refers to the instrument test to determine the relevance of the test and the implementation objectives of the test Validation requires dissemination whether the instrument is relevant with the praxis assessment. 2) *reliability* - refers to the

instrument's consistency capability to test the measured aspects. This reliability test aims to determine the instrument's feasibility in repeated applications. Thus, the obtained data will be valid and trusted. 3) *users' responses* - the responses come from teachers, learners, or other users of the instrument. The responses represent the instrument feasibility based on the users' experience.

Ningrum, Abdullah & Nasution (2019), in their research shows the psychomotor competence of students needs to be improve so that it is necessary to develop an appropriate practicum-based assessment instrument. Thus, teachers needed feasible praxis-based assessment instruments. Liew, Lim, Saleh & Ong (2018), in their research found that psychomotor competence assessment required a non-test technique that met the quality test. From the previous findings, psychomotor assessment instrument or praxis needed some tests to determine the quality and feasibility to measure the praxis activities.

The reality that happens at school indicates something different. Interviews with physics teachers at MAN 3 Bantul obtained information that the practicum activities carried out could not be assessed using psychomotor assessment instruments, due to limited resources to initiate the making of instruments. Information obtained from teachers in other schools stating that the practicum assessment has used existing instruments several times, but the quality of these instruments has not been tested so it is not known whether the scores obtained are in accordance with the performance practiced by students (Hidayah, 2017). The limitations of teachers in making and testing assessment instruments are the background of this thing can be happen, adding by the provisions of Kurikulum 2013 which stipulates that assessments must be based on several approaches, one of which is science process skills.

The description above is the basis for this research, entitled *"The Quality Test of Psychomotor Competency Assessment Instrument during Physics Praxis at Middle Schools"*. The formulation of this research is: "How to test and determine the quality of psychomotor assessment instruments in physics practicum in high school?". In an effort to focus on solving problems, the following questions were asked: (1) What is the quality of the psychomotor assessment instruments in secondary schools? (2) What is the feasibility of the instrument based on user responses?.This study aims to test and assess the quality of the psychomotor assessment instrument. In more depth, this study aims to assess and describe: (1) the quality of the instrument based on validity and reliability, and (2) the feasibility of the instrument based on user experience.

METHOD

This research uses a mixture of qualitative and quantitative methods. The researchers took the sample with research instruments. Then, the researchers analyzed the data quantitatively and tested the proposed hypotheses (Sugiono, 2016). In addition to being obtained through instrument assessments in the form of point scores, data were also obtained from responses from material experts, evaluation experts, and physics teachers through limited testing. The researchers took the research site in MAN 3 Bantul, Pleret District, Bantul Regency, and in the Islamic State University of Sunan Kalijaga, in Yogyakarta.

The researchers had developed the procedure to develop an assessment instrument with the *4D* method before testing the reliability (see Figure 1).

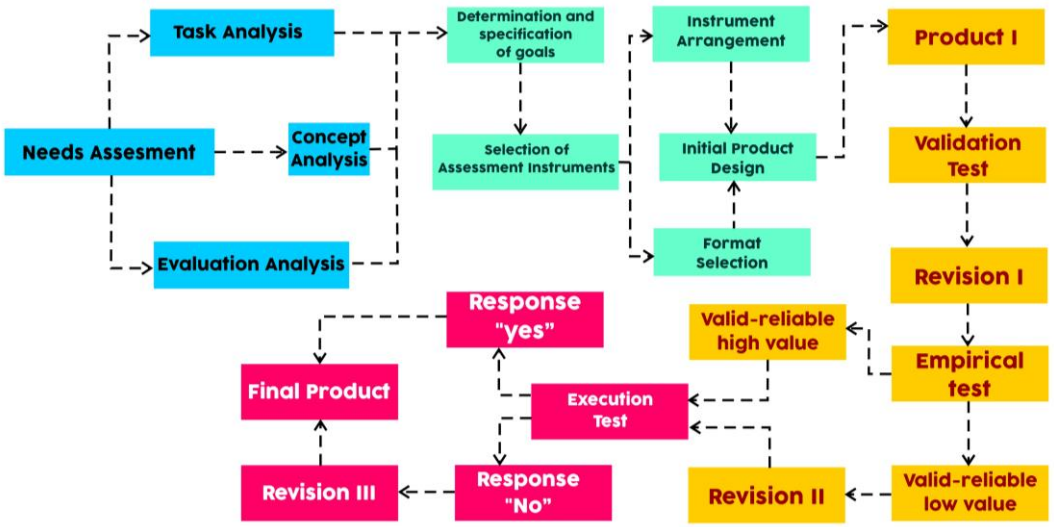

Figure 1. The Research Flowchart

The instrument was developed in March 2020 through a series of *R&D* research at the school concerned. Furthermore, in order to follow up on the research results, a series of quality tests were conducted on psychomotor assessment instruments in order to determine the feasibility of the instruments developed using the science process skills approach.

The focus of this research is on testing the quality of the psychomotor assessment instruments that have been developed. The test stages of this research consisted of two procedures. They were 1) *Alpha testing* in the form of validations by material and evaluation experts, empirical test in the form of construct validity by some lecturers and teachers, and instrument reliability test; 2) *Beta testing* in the form of responses of the users based on the implementation test of the instrument. The data collection technique was non-test with questionnaires and scales. The researchers used questionnaires to collect the data in written information about a certain phenomenon (Arifin, 2014). Before the researchers distributed the questionnaire, the researchers tested the instrument's validity and conducted the empirical and field tests. The questionnaire used *Likert*, and *Guttman* scales so that the respondents only needed to provide the answers based on the options.

Before validating the product, the researchers validated the instrument to obtain criticisms and recommendations from the instrument experts and the physics teachers. The criticisms and recommendations would be useful to improve the indicators and questions. The instrument validation process involved two experts to validate the instrument. This process refers to *expert judgment* (Retnawati, 2016).

The researchers validated the instrument comprehensively based on material, construct, and language aspects with four scales: 1 = *not excellent*, 2 = *under average*, 3 = *excellent*, and 4 = *very excellent*. Then, the researchers analyzed the results with *V-Aiken* based on this equation:

$$V - Aiken = \frac{P_0 - P_e}{1 - P_e} V = \frac{\sum s}{[n(c - l_0)]}$$

After obtaining the V-Aiken results, the researchers interpreted the result with Retnawati's criteria (2016). The researchers obtained the product quality from an empirical test in construct validity. The researchers analyzed the construct validity with Pearson Product Moment with a significance level lower than 0.05. Here is the equation:

$$r_{xy} = \frac{n\sum x_i y_i - (\sum x_i)(\sum y_i)}{\sqrt{(n\sum x_i^2 - (\sum x_i)^2)\,(n\sum y_i^2 - (\sum y_i)^2)}}$$

In addition to construct validation, product quality is also obtained from item reliability. The reliability test uses an agreement between classes, namely the Cronbach Alpha coefficient which is used to measure the level of reliability of an instrument item, based on the interactions and correlations that occur between the item items and the user (Nurulsari et al., 2021) with the equation:

$$r_{ac} = \left(\frac{k}{k-1}\right)\left(1 - \frac{\sum \sigma_b^2}{\sigma_t^2}\right)$$

The interpretations of the reliability coefficient, *Cronbach Alpha*, based on Widiyanto (2010) are:

Table 1. The Reliability Level based on Cronbach Alpha

Cronbach Alpha	Reliability Levels
0,0 – 0,20	Under average
0,21 - 0,40	Average reliability
0,41 - 0,60	Fair reliability
0.61– 0.80	Reliable
0,81 – 1,00	Strongly reliable

The data analysis technique used is quantitative analysis technique. Research data obtained from validators and reviewers were analyzed by qualitative descriptive analysis and used as guidelines in revising the product in order to obtain appropriate instrument products to be used in assessing the practicum. The initial product that has been developed is assessed by the validator using a validation sheet based on the material, construction, and language aspects measured using a Likert scale from options 1 to 4. *Likert* scale is a type of scale that has a gradation from very positive to very negative. Meanwhile, the quality assessment of the validity and reliability of items by lecturers and teachers, as well as the feasibility assessment by users was measured using *Guttman* scale so that a clear agreement was obtained between raters. The selection of this scale is intended to obtain an explicit answer to the quality and feasibility of the product (Sugiono, 2016).

The choices of the instrument consisted of two scales. In the validation process, each indicator had four choices: 1 = *not excellent*, 2 = *below average*, 3 = *fair*, and 4 = *very excellent*. Then, in quality and feasibility assessments, the researchers provided two options: "*Agree*" or "*Disagree*."

The next step is to analyze the results of user responses so that it is known the feasibility of the instrument product to be implemented in assessing dynamic fluid

practicum activities in class XI MIPA 2. The user response used is the response after using the instrument product once and then filling out the response sheet consisting of aspects of language, construction, and language. After the data is obtained, an analysis is carried out by calculating the percentage of user responses. Then the results of the percentage of responses are used to determine the feasibility of the product with the following criteria by Arikunto (2009):

Table 2. Feasibility Criteria

Percentage	Categories
< 21%	Extremely unreliable
21 -40%	Unfeasible
41– 60%	Fairly feasible
61– 80%	Feasible
81– 100%	Strongly feasible

RESULT AND DISCUSSION

The results of this study indicate the quality of the product of the psychomotor assessment instrument consisting of observations and peer assessments that are suitable for use. The product was based on dynamic fluid praxis. Resmiyanto (2015) explains that praxis refers to serial activities to prove the hypotheses, search and deliver the knowledge for learners, and provide personal experience via individual and collective experiments. Therefore, if learning involves peer-assessment observation, it indicates the learning process uses psychomotor assessment (Sabdaningtyas et al., 2018). Educators must consider many things in assessing learners' psychomotor. Some aspects to consider are the learners' cognitive level, application skill, and investigation skill (Dahlia et al., 2020; Rahayu & Munadhiroh, 2020). Thus, psychomotor assessment skill is important to determine the learning performances of the learners. Here are the procedural stages of this research.

Problems and Potencies

Potential and problem analysis was carried out at MAN 3 Bantul in the 2020/2021 academic year by conducting observations and interviews with physics teachers. Observations for instrument development carried out on physics teachers show that there is no assessment instrument available in schools. This makes the assessment of practicum activities cannot be carried out objectively in order to measure the psychomotor of students. The results of observations also confirm that it is necessary to develop and apply assessment tools in physics practicum activities. So that researchers have developed psychomotor assessment instruments in physics subjects that can be used by teachers in assessing student performance in March 2021. The next step is to examine and assess the quality of the developed instruments.

Collecting Information and Research Data

Based on a literature review conducted by researchers, there is still little development of psychomotor assessment instruments in Dynamic Fluids practicum activities whose quality has been tested. The performance assessment instrument that

has been developed is the material of Elasticity and Hooke's Law in XI grade SHS in Lampung. Other instruments that have been developed are practicum assessment instruments on titration material. However, the quality of the instruments developed has not been disclosed.

Researchers conducted a literature review on physics learning submaterials that accommodated the development of psychomotor assessment instruments where the results of Dynamic Fluids material were obtained because they had a variety of different practicum forms. The product development has been carried out on the R&D research that the researchers did previously.

Product Design

Based on the results of the analysis of the potential, problems, and approaches used previously, the next stage is product design development. The product design development stage includes content analysis and practicum procedures, compiling performance components, determining instrument scales, compiling rubrics, and determining scoring guidelines so as to produce products in the form of psychomotor assessment instruments in practicum activities consisting of teacher observation sheets and peer assessment sheets.

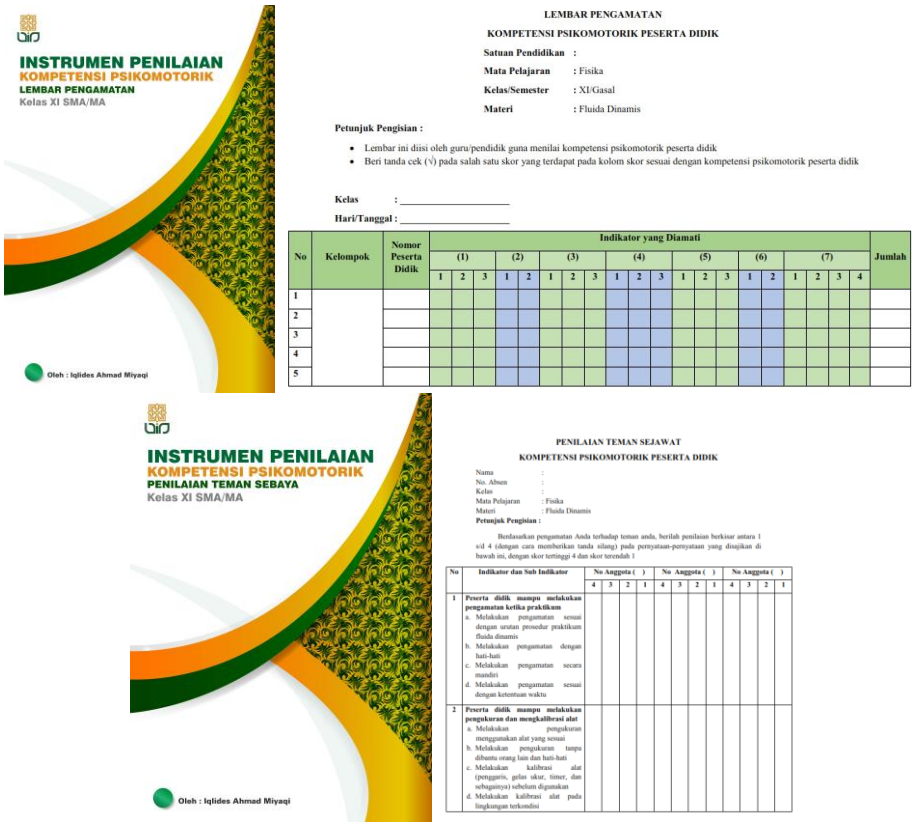

Figure 2. Instrument Product

After the product has been developed, the next step is to conduct quality testing starting from the validity of the instrument so that the value of product validity and expert input is obtained to improve the product, then test the validity and reliability of

the items to determine the quality of the content of the product. The test ends by conducting an implementation test for users.

Product Validation

The research data were obtained from the results of product quality testing which were interpreted in filling out a set of instruments in the form of a questionnaire questionnaire given to two material experts, two evaluation experts, five teachers, and 32 students of class XI MIPA 2 to assess the quality and feasibility of the product. Before the respondents filled out a questionnaire on the product being assessed, each respondent conducted a trial of the product assessment instrument in the form of observation sheets and peer assessment sheets to assess the practicum activities that had been developed. The results of the validation test by material experts and evaluation experts are in the form of responses and assessments, then analysis using V-Aiken is carried out on the results of the data obtained and revises the product according to the responses. The validation questionnaire on the material aspect contains 2 statements, the construction aspect contains 3 statements, and the language aspect contains 4 statements. The results of the observation sheet validation data are shown in Figure 3.

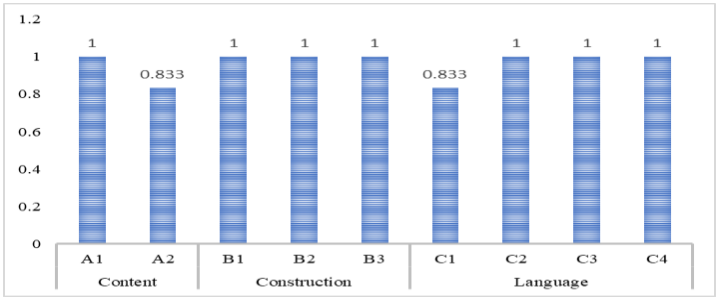

Figure 3. The V-Aiken values for each aspect of the observation sheet

Figure 3 shows the feasibility of the observation sheet in terms of expert validation which was analyzed with V-Aiken statistics from two experts. The material aspects for the A1 indicator are the availability of a grid with a value of 1.00; indicator A2 is the suitability of the indicator with the grid which gets a value of 0.833. Furthermore, based on the construction aspect of indicator B1 in the form of a non-double statement meaning with a value of 1.00; indicator B2 in the form of statements arranged coherently with a value of 1.00; and indicator B3 in the form of a statement that does not contradict the value of 1.00. As for the last aspect, namely language with C1 indicators in the form of using standard spelling with a value of 0.833; indicator C2 in the form of the absence of regional terms with a value of 1.00; indicator C3 in the form of a statement that does not have the potential to offend with a value of 1.00; and indicator C4 in the form of ease of understanding terms with a value of 1.00 so it can be concluded that the observation sheet is feasible to use. Then the results of the validation of the peer assessment sheet are shown in Figure 4 as follows:

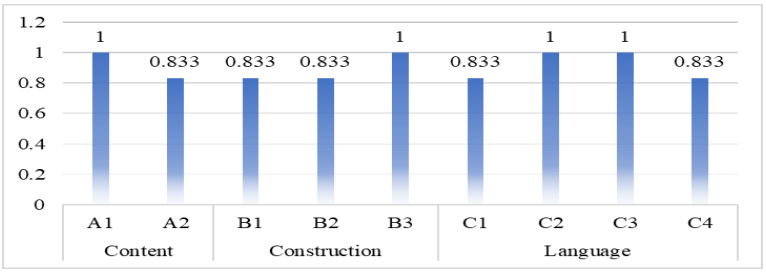

Figure 4. The V-Aiken results for each aspect of the peer-assessment sheet

Figure 4 shows the feasibility of the peer assessment sheet in terms of expert validation. The material aspect for the A1 indicator gets a score of 1.00; indicator A2 got a value of 0.833. Furthermore, based on the construction aspect, indicator B1 gets a score of 0.833; indicator B2 scored 0.833; and the B3 indicator scored 1.00. Meanwhile, for the last aspect, language with C1 indicator got a score of 0.833; indicator C2 gets a value of 1.00; indicator C3 gets a value of 1.00; and the C4 indicator got a value of 0.833 so it can be concluded that the peer assessment sheet is feasible to use.

The construct validity test on the correlation of items was carried out on an empirical test to 2 lecturers and 3 physics teachers. Then the data obtained were analyzed with the *Pearson Product Moment* correlation coefficient with the help of the *IBM SPSS Statistics 26* application to determine the validity of each instrument item before being used for the implementation test. The results of the validity for the observation sheet are presented in Table 3.

Table 3. The Results of Observation Sheet Item Validation

Aspects of the Items	The Significance Values	Correlation with Sig < 0.05	Item Validations
1	0.000	Lesser than	Valid
2	0.004	Lesser than	Valid
3	0.001	Lesser than	Valid
4	0.001	Lesser than	Valid
5	0.000	Lesser than	Valid
6	0.000	Lesser than	Valid
7	0.001	Lesser than	Valid

Here are the validation results of the peer-assessment sheet (Table 4).

Table 4. The Results of Peers Assessment Sheet Item Validations

Items	The Significance Values	Correlation with Sig < 0.05	Item Validations
1	0.000	Lesser than	Valid
2	0.000	Lesser than	Valid
3	0.000	Lesser than	Valid
4	0.000	Lesser than	Valid
5	0.000	Lesser than	Valid
6	0.000	Lesser than	Valid
7	0.000	Lesser than	Valid

The researchers conducted the reliability test internally by testing the instrument once (*internal consistency).* Then, the researchers analyzed the obtained data with

Cronbach Alpha technique assisted by *IBM SPSS Statistics 26*. The obtained results were useful to predict the reliability level of the instrument. Here are the *Cronbach Alpha* coefficient results during the observation and peer-assessment sheets (see Table 5).

Table 5. The reliability results of observation and peer-assesment sheets

Reliability Statistics

Cronbach's Alpha	N of Items
.790	14

Reliability Statistics

Cronbach's Alpha	N of Items
.633	14

The result of calculating the reliability value of the observation sheet is 0.723 and the peer assessment sheet is 0.693 so it is categorized based on the interpretation of the *Cronbach Alpha* value, then it is included in the reliable category, so it can be trusted to be used in the implementation test.

The implementation test was carried out at MAN 3 Bantul by 2 teachers and 32 students of class XI Mathematic and Science 2. The instruments used included aspects of material, construction, and language which had been tested for validity and reliability. There are the results of the implementation test from the observation sheet.

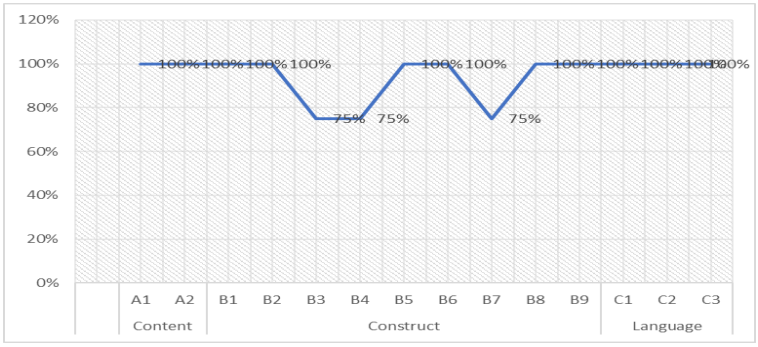

Figure 2. The implementation test results of the observation sheet

Figure 5 shows the percentage of the feasibility of the observation sheet in terms of the feasibility aspect. The material aspect for the A1 indicator is the suitability of the grid with the indicator obtaining an average of 100%; indicator A2 in the form of conformity of indicators with aspects of obtaining an average of 100%. Furthermore, based on the construction aspect of indicator B1 in the form of a short statement structure, the average is 100%; indicator B2 in the form of statements prepared with relevance to obtain an average of 100%; B3 indicators in the form of statements that do not have multiple meanings get an average of 75%; indicator B4 in the form of free statements from the past obtained an average of 75%; indicator B5 in the form of statements according to facts obtained an average of 100%; indicator B6 in the form of the absence of statements with potential blanks obtaining an average of 75%; indicator B7 in the form of the integrity of the statement idea obtained an average of 100%; indicator B8 in the form of free statements from the word gradation obtaining an average of 100%; and the indicator B9 in the form of the absence of ambiguous word usage obtained an average of 100%. As for the last aspect, namely language with a C1

indicator in the form of using a language that is appropriate to the level of education, it gets an average of 100%; C2 indicator in the form of the use of standard language gets an average of 100%; and the C3 indicator in the form of a statement not using the local language got an average of 100%. The total percentage of the overall indicator aspects of the user response is 95%.

On the other hand, the implementation test of the peer-assessment sheet obtains the following results.

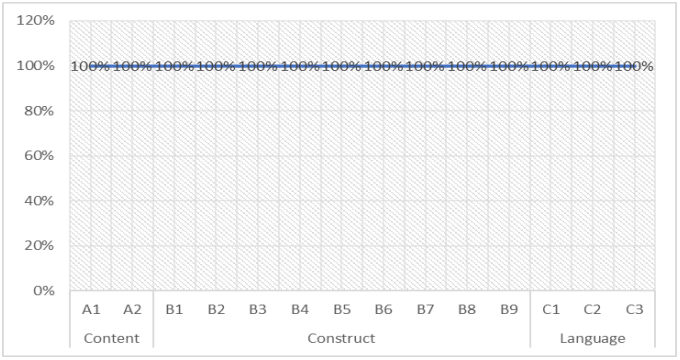

Figure 3. The Field-Testing Results of Peers Assessment Sheet Item Validations

Figure 6 shows the percentage of eligibility for peer assessment sheets in terms of the feasibility aspect. The material aspect for indicators A1 and A2 obtained an average of 100%, then based on the construction aspect of indicators B1, B2, B3, B4, B5, B6, B7, B8, and B9 obtained an average of 100% and the last aspect, namely language with indicators C1, C2, and C3 got an average of 100%. The total percentage of all aspect indicators of user response is 100%. So it can be concluded that the observation sheet and peer assessment sheet in dynamic fluid practicum activities are categorized as very feasible to be used to assess practicum activities in order to determine the level of psychomotor competence of students at MAN 3 Bantul..

Product Design Revision

In addition to analyzing and assessing the quality of the developed instrument, several minor improvements were also made according to the responses of the assessors. There are several suggestions for improvement from material experts and evaluation experts, including 1) Improvement of verbs into operational forms, 2) Formulation of indicators that do not cause double meaning, 3) Replacement of words that are adjusted to the level of education, 4) Need to add calibration and rearrangement activities equipment, 5) The use of statements with the same weight, 6) Formulation of words that are more rearranged, and 7) Replacing sentences in the third aspect statement with more adaptive words. Based on suggestions from the validator, the researchers made improvements to the psychomotor assessment instrument such as the advice given in order to obtain a quality product that is suitable for use

The Feasibility of the Developed Instrument

The purpose of this study was to analyze and assess the quality of the product of psychomotor assessment instruments for high school physics subjects. Psychomotor

assessment instruments that have been developed previously are intended to assist teacher performance in carrying out assessments in the psychomotor realm when learning with the practicum method. Before it can be used in assessing students' practicum, it is necessary to do some feasibility tests so that the instrument can be used properly. Based on the results of the expert validation test, the instrument is declared feasible and can be applied to physics lessons at the high school level based on its suitability for the material, construction, and language aspects used..

The Instrument Feasibility of Material Aspect

The total score of the experts about the material aspect completion was 0.917, categorized high, based on Retnawati's criteria (2016). The obtained scores indicated the instrument reliability from the applied material aspects, consisting of science process skills based on the core competence and basic competence. The assessed psychomotor aspects were in line with the indicators of the rubrics, the relevant scoring guideline, the difference of score range with excellent understandability, the relevance of the rubric and the assessed dimension, and the understandability of learners and teachers.

Sukmawa (2019) also found some urgent validity aspects, such as evidence of the test content, internal arrangement, response, inter-variable correlation, and test evidence. The experts suggested further revision for material aspects, such as revising the verbs into operational verbs and ambiguous statements. Then, the researchers revised based on the suggestions into operational verbs and non-ambiguous statements.

The Instrument Feasibility of Construction Aspect

The total score of the experts about the construction aspect completion was 1.00, categorized high, based on Retnawati's criteria (2016). The score indicated the instrument's reliability based on the applied construction aspect. It consisted of rubric availability and relevant statements based on the rubric. The question indicators represented the skills, such as observing, reading the scale, calibrating the device, and many more. The researchers selected the indicators correctly based on the science process skill aspect. The researchers provided the scoring guideline excellently without any ambiguity. The researchers also developed the rubric based on the form. Wintersein (2008) explains that construct validity is based on accumulative scores from product tests with certain measuring tools or assessed by competent and expert individuals based on the measured construct.

The experts recommended the researchers revise the construct aspects, such as the equal proportion of the statements, the re-arrangement of the effective statements, the understandability, and the rubric relevance. The researchers revised by re-arranging the statement on the proportional questions. Then, the researchers re-arranged the ineffective statements to be more adaptive and understandable.

The Instrument Feasibility of Language Aspect

The total score of the experts about the language aspect completion was 0.958, categorized high, based on Retnawati's criteria (2016). The obtained score indicated the instrument reliability of the applied material aspect, consisting of the language of the statements, had communicative and adaptive languages. The applied language also fitted the learners' levels, used the standard language, and was free from tribal, racial,

religious, and cultural matters. Matondang (2010) explains that the language reliability of an instrument consists of communicative language for all educational levels of the learners without tribal, racial, religious, and cultural matters.

The experts revised the sentence into standard forms and removed the past-event meaning. The researchers also revised the punctuations. The researchers revised the language into standard language, reduced the past-event meaning in the statement, and considered the punctuation.

Windayani, Qudus, & Widjanarko (2018) explain that measurable elements in learning could influence the learning quality to improve some competencies. Rahmah, Ariyanto, Iskandar, & Dewi (2020) explain that adjusted psychomotor instruments with the learners' learning environment and conditions could make the instruments reliable for learning purposes.

CONCLUSION

Based on the results of the research and discussion above, it is concluded that the product of the assessment instrument to assess psychomotor competence in practical activities can be categorized as very feasible to be used in dynamic fluid practicum at MAN 3 Bantul according to the assessment of validators, reviewers, and users according to the eligibility criteria based on the validation score. The *V-Aiken* obtained is 0.833 – 1.00;. Then the item analysis obtained an empirical test score that exceeded the correlation limit of 0.5; item reliability of 0.693-0.723; and the response stated that 96% of users agreed that the instrument was feasible to use. So that this instrument product is ready and very suitable to be used to assess practical activities for physics subjects at MAN 3 Bantul.

Suggestions that can be given by researchers related to the quality of assessment instruments to assess psychomotor competence at MAN 3 Bantul are the ease of use of assessment instruments that can be adapted to the reality that occurs in class XI, improve the economic aspects of the instrument made because it is only designed for each student so that requires doubling if the number of students is large. In addition, it is necessary to include other aspects of product quality so that product quality is more reliable. This of course requires feedback and input from several educational experts and practitioners

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