

Research Article

Students' Perceptions in Developing Authentic Assessment with Website Integrated to Measure Physics Learning Outcomes: A Need Analysis

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Abstract.

Assessment is one of the crucial roles in measuring student abilities to face challenges of the 21st century. This study examines how college students' ambitions influence their perceptions and desires for authentic assessment, based on website development. Data series via interviews and closed query questionnaires were given to 131 high school students within the metropolis of Surakarta. Facts analysis used a qualitative method with descriptive strategies. The findings of this look suggest that 64% of 130 senior high school students find it tough to clear up physics questions. Students experience that they consider physics issues harder to resolve than the equations that have been memorized. Students want within the evaluation, they have experienced those actual troubles within the learning system so that the ability to understand principles, abilities, and attitudes can be higher. Therefore, it is far essential to expand real assessment as an incorporated device between getting to know and evaluation of getting to know to degree physics learning outcomes.

Keywords: authentic assessment, website integrated, physics learning outcomes

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1. INTRODUCTION

Dealing with the challenges of the twenty-first century, the sector of education plays a critical function in generating human resources who have the thinking skills and are wished within the twenty-first century [1]. The future challenges of current learning require college students not only to master concepts but also to increase questioning skills [2]. One of the abilities that students should have is being capable of solving diverse problems starting from easy to complicated ones that arise in normal lifestyles [3]. In order that higher innovation is wanted inside the area of training to prepare it [4] but the reality is that schools do not prepare their students to clear up real-lifestyles

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troubles, because the knowledge gained at school sometimes cannot reach this and there's a gap among studying in faculty and what students want even as in society [5].

Assessment is one of the activities undertaken to measure and determine the achievement level of a curriculum and the process of studying [6]. An authentic appraisal is an assessment that engages beginners into an authentic, beneficial and meaningful mission. The development of proper instrument assessment can degree higher Order thinking skills learners [7], and measure science process skills and achievement-based on students' performance [8]. measure The Social attitude of senior high school learners [9] and Affective assessment device In Physics high faculty [10]. So, the authentic evaluation is able to describe as a lot as a feasible improvement that takes place to learners. it can be said that authentic assessment is suitable if it is used to measure the learning results of excessive school physics getting to know.

Furthermore, the occurrence of the COVID-19 pandemic throughout the world has caused many changes, one of which is the change in the mechanism for providing education. The rapid process of technological disruption has resulted in a decline in the quality of education. Website is one of the generic products that may be accessed by everybody anywhere and every time, along with students. Academics can assess every project and show the outcomes of the evaluation directly via e-learning, in order that the evaluation is meaningful and complete [11, 12]. The development of a real evaluation device with a website incorporated needs to be executed due to the fact this assessment tool is not only flexible but also capable of measuring the learning outcomes of high school physics gaining knowledge of. Later the development of the instrument may be an alternative choice to facilitate the needs of college students in learning.

Of course, this gap cannot be blamed on my own due to the fact the components are interrelated, the evaluation that has been developed via the teacher or researcher may still be difficult for students and won't provide area for college students to respond to the assessment that has been given by way of the teacher. in order that the evaluation does now not provide maximum result [13]. Previous studies only checked out the trouble from the teacher's attitude [14]. The life of a needs analysis by regarding students in gathering ideas and what they want from the assessment is wanted further in order that the assessment is meaningful for students [15].

Part of the physical materials related to many natural and technological phenomena is fluid mechanics. The properties that arise in fluid dynamics are very essential to recognize due to the fact they have got many programs in ordinary life, each inside the form of easy technology and superior technology [16]. The simple ideas that students want to grasp on the topic of fluid dynamics are the software of the concept of the

continuity equation, and the Bernoulli equation [17]. The numerous preceding research has discovered students' difficulties in making use of fluid principles. students' problems associated with fluid mechanics [18] reveal students' failure to combine continuity equations and Bernoulli's law. Then according to analyze dynamic fluid concept [19] showed that students lacked know-how of Bernoulli's principle and its application.

This needs analysis aims to discover problems, problems, and deficiencies inside the instruments which have been utilized by teachers and college students as objects in education have to additionally be protected in this analysis. These studies are an early level in developing a fluid dynamic authentic assessment with a website integrated to measure students' learning outcomes.

2. RESEARCH METHOD

This study uses a descriptive qualitative research framework that targets local presenting present data, realities, symptoms and events to be offered accurately [20]. Qualitative descriptive research is systematically recording the overall photo of a detailed topic of interest [21]. In this examination the use of a combination of information, it's far was hoping that the evaluation may be as near as possible to the desires of students and interests to gain its main purpose, that's to discover the wishes of college students in genuine evaluation. The study method used is semi-established interviews and closed query questionnaires with 131 senior high school students inside the metropolis of Surakarta with the primary focus on finding problems and students' views on the assessment evolved with the aid of the teacher as well as students' needs and recommendations for growing a better genuine evaluation. Similarly, this takes a look at also uses closed questions with questionnaires as reinforcement on this study that is used to measure students' interest inside the assessment to be able to be developed. The research procedure in the adaptation of the steps are: (1) Preparation stage, (2) Implementation stage, (3) Research stage and (4) Reporting stage. In the preparatory stage, research preparation became completed and made a list of questions and selected respondents for research. The implementation stage became achieved via 15 excessive senior high school students within the metropolis of Surakarta, then from the results of the interviews, the consequences obtained could later be analyzed with a qualitative method in order that the conclusions of the have a look at had been acquired and the last stage became record writing.

3. RESULTS AND DISCUSSION

Authentic assessment is a meaningful and direct assessment. authentic means real, genuine, or legitimate. authentic assessment is regularly contrasted with the use of standardized norm tests within the form of multiple choice questions, matched, brief answers, and real or fake alternatives due to the fact these forms of assessment are judged to be not able to offer a direct and real picture of students' questioning and knowledge abilities in gaining knowledge of situation matter [22]. The opinions of the students play a vital function in analyzing the quantity to which students recognize the material and are capable of providing suggestions to the teacher as Table 1 shows the needs analysis of the students.

The first question indicates that there are differences in perceptions about the assessment given through the teacher in which most students still regularly have problem working on questions and some students hardly ever revel in difficulties. This happened according to students due to the fact the questions given by the teacher used plenty of questions that required students to memorize physics equations to clear up problems. That is in line with research by Azizah et al. [23] that 76% of students have problems fixing troubles at the question by using the purpose of forgetting or no longer understanding, 19% of students do no longer apprehend the answer to the problem and only 5% of students had been capable of resolve the troubles in the questions. in addition, those problems occur because in getting to know the delivery of material has not been conveyed nicely and students receive the material partly [24].

In the subsequent question, in line with the students, the questions given by way of the teacher have been no longer associated with the phenomena that took place round the students in order that they felt that there has been no relevance among what they skilled at home and the material that students obtained at school. The thought of students at the level of secondary schooling or higher seems as an aggregate of spontaneous ideas generated via their daily lifestyles' reviews within the real world [25]. This takes place due to the fact students will be predisposed that the physics cloth they examine in college is solely for the purpose of finishing physics on school assessments and checks without realizing the relevance of these concepts of their everyday lives [26].

Fluid dynamic material could be very essential to be studied and understood through students because it's far carefully related to numerous engineering technology, but in studying this material, it nonetheless uses many method derivations, resulting in students having trouble gaining knowledge of the standards. Based on the research

TABLE 1: Needs analysis of student responses.

No.	Question	Student response
1	Do you feel that you are still having trouble doing the fluid dynamic assessment given by the teacher?	In operating on dynamic fluid questions, 46 students stated they rarely determined it tough, even as 36 students felt it became often hard and 48 students very regularly had an issue.
2	What do you think about the fluid dynamic assessment given by the teacher?	The exams are given by using the teacher more often than not tend to be in the form of questions that lead to questions the use of many physics equations in their answer.
3	Is the assessment/test given by the teacher in the form of story questions and is it related to the phenomena of everyday life?	Most respondents stated that the tests made by way of the teacher did not describe the relationship between concepts and ordinary phenomena and had been much more likely to be mathematical questions, so students felt that during solving these questions they had to use many formulations given by the teacher.
4	Are you able to know the steps or strategies for solving physics problems?	Most respondents stated that they have been capable of working at the issues in physics if they had memorized the formula given by the teacher. However, they've now not seen how it is applied in everyday life.
5	What do you think about the fluid dynamic authentic assessment with the website integrated?	A total of 114 students were interested by this improvement due to the fact in their perception, the instruments developed can discover students' learning outcomes from the physics by getting to know the effects they have got studied. meanwhile, 31 students disagreed with the existence of its instrument in learning due to the fact they felt it will become greater tough.
6	What are your suggestions for developing dynamic fluid assessments so that they can be useful in your learning and make you understand the concept of dynamic fluids?	The majority of students stated that they're interested in the innovation of developing HOTS questions that are directly related to the issues they experience immediately in learning. they're additionally interested in it because on this assessment, students may be involved in the assessment process.

of Saputra [27], 65.32% of students' expertise of dynamic fluid materials had misconceptions, 13.06% of students did not recognize, 6.76% of college students have been lucky/less assured and 14.86% had clinical expertise approximately fluid dynamic concepts.

Regarding question number 4, Inside of the students' mind, the instrument developed can determine the effect of student mastery on the results of learning physics that they have learned. In addition, they may be involved in the assessment procedure. They

feel compelled to solve HOTS questions while it relates to problems of daily life. This happens because students do not understand the concept of the material, and the assessment given through the trainer requires many formulas or equations that must be memorized with the help of students in answering them. Furthermore, the evaluation given by the instructor is not entirely related to the phenomenon or its software in various technologies [28]. So that most of students think that the problem can be solved by applying the actual assessment instrument.

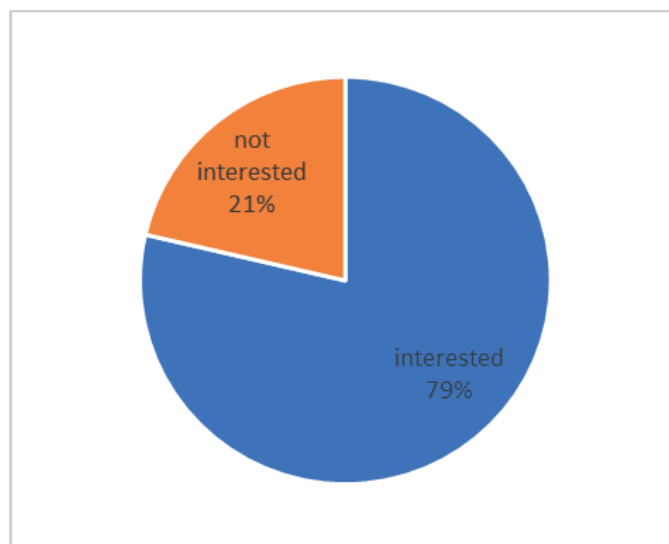


Figure 1: Student interest in assessment development.

The majority of students are interested in the development of this assessment, a total of 114 (79%) students were interested in developing authentic assessment with website integrated to measure physics learning outcomes while 31 (21%) students were not interested in this development. Students who are interested in the reason that authentic assessment is sustainable and already in accordance with the utilization of existing technology development. Students' interest in developing this instrument can be seen in Figure 1. Suggestions from students in developing this assessment are in the preparation of which they have experience those actual troubles within the learning system in order that the ability to understand principles, abilities and attitudes can be higher. Furthermore, students' expectations from the assessment that will be developed are not only with the aim of getting good grades but also to measure their learning outcomes such as High Order Thinking Skills (HOTS), science process creativity including science attitudes and social attitudes.

4. CONCLUSION

From the various opinions of the students above, it can provide information that there are still many students who often have difficulty finishing on fluid dynamic questions given by the teacher. This happens because students do not understand the concept of the material, and the assessment given by the teacher requires a lot of formulas or equations that must be memorized by students in answering them. In addition, the assessment given by the teacher is not fully related to the phenomenon or its application in various technologies. Suggestions from the students from the results of this interview were that they have experienced those actual troubles within the learning system before. There is authentic assessment innovation integrated website, students are very interested in trying this assessment to measure their learning outcomes including High Order Thinking Skills (HOTS), science process creativity, science attitudes and social attitudes.

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