Student Worksheet Based Inkuiri Social Interactions

Dandan Luhur Saraswati¹, Dasmo²

¹²Pendidikan Fisika Universitas Indraprasta PGRI
Jalan Nangka No. 58 C, Tanjung Barat, Jagakarsa, Kota Jakarta Selatan, DKI Jakarta 12530

dandanluhurst9@gmail.com

Abstract. Student worksheet is one of the learning media often used as student guide. However, student worksheets are often found less noticed aspect of effectiveness and interested. Therefore, the student worksheet development model of social interactions on the material inkuiri fluid dynamic. The purpose of this research is to produce media learning student worksheet aimed at students of physical education University of Indraprasta PGRI (UNINDRA) that can be used when learning in class. This research uses the steps of development according to Borg & Gall, which includes 9 steps, namely the preliminary study, planning, product development, preliminary trials of the early, early product revisions, field trials, product revision field trial results, test field operations, and revision of the final product. However this research only to the initial product development, namely the validation test step experts. Based on the analysis it can be concluded that the design dimension with a value of 83.3 categories are good enough, and the language dimension 80.1 category is quite good, in terms of content it can be concluded that these student worksheet have a good category with 85.2 rating. Then it can be inferred that the student worksheet model inkuiri social interactions can be found quite well with a value of 82.8.

Keywords: student worksheet, Inkuiri Social Interactions, Fluid Dynamic, Learning Outcomes

1. Introduction
The development of science, technology, and art that is very rapidly made the demands in a world of higher education. World Education is inseparable from the process of learning which includes teachers, students, and the learning environment of mutually influencing each other (Saraswati, et al: 2018). This condition then in derivatives demand educators and learners to enhance and develop the quality of learning resulting in external quality (Dasmo: 2018) Physics as one of the basic sciences in the IPA has the large participation in the advancement of science and technology. It is characterized by the development of technology in all fields that apply the concepts of physics. But it is inversely proportional to the achievement studied physics nationally rated low and still less than optimal. Most students assume that physics is one of the subjects that are frightening and difficult to grasp so that students motivation to learn physics becomes low. (Wahyuningsih, et al: 2014)

Learning physics requires a variety of effective ways to develop the thinking ability of students. One of the ways that can be done is to use the medium of instruction. The existence of the media learning undertook to determine the success of a learning. (Astuti, et al: 2017). Existing learning
media usually are monotonous, so it needs media that can provide students a learning experience directly. In conjunction with the process of teaching and learning are very important teachers can motivate students to interested and interact with the lessons being taught. Provide motivation to students means moving students to do something or want to do something. (Saraswati & Ishafit: 2015).

We know the material physics is very hard and impressed abstract, so that learners can not explore what is being learned in the neighborhood a day day (Dasmo, et al: 2017). This is due to the physics of only focusing on various formulas or minimal practical work is done. Using an interesting learning media is expected to cultivate motivation of study. Already we know that the media learning available variegated-based media, such as prints, namely student worksheet.

Student worksheet is one of learning resources that are used to help students in adding information about the concepts learned through learning activities that are conducted systematically. Student worksheet can assist students in achieving the learning objectives. But in reality, many student worksheets that have not been in accordance with the curriculum in effect at this time, so using the student worksheet students not yet optimally performing experience directly to find concepts and principles will be studied.

Trianto (2010) reveals "Students Worksheets is a learning resource that is used in the learning process". so too with the students Worksheet is used to assist students in achieving the concept and knowledge of students.

The students Worksheet contains a set of activities to be done by the student to maximize the understanding in an effort to build the knowledge and the concept of a material. empowered through the provision of media studied on each experimental activities so that learning becomes more meaningful situations, and can be effective at understanding of students. Because shades of alignment is one of the concept's impact on learning activities, then the charge materials every student worksheet (LKS) in each of its activities will be able to reflect that.

Sukamto (2009) reveals the usefulness of LKS was:
1. Concrete experience for students;
2. Help the learning variations;
3. Student interest;
4. Enhance teaching and learning retention;
5. Utilizing time effectively and efficiently

So also with the student worksheet that created aims such as what is pointed out by Sukamto.

Nurseto (2011) revealed that, of the student worksheet (LKS) has several functions, among others:
1. The purpose of the exercise, students were given a series of tasks/activities exercise;
2. Describe the application (the application), students are guided to toward a settlement of the problem with the framework of the completion of a series of specific questions;
3. Research activities, students are assigned to collect certain data, and then analyze the data. For example in statistical subjects;
4. The discovery, in the piece of work is student guided to investigated circumstances, in order to find the pattern of that situation and then use a common form for making an estimate;
5. Research the things that are open, use this student work sheets requiring numerous students in research in a particular field

Inspired by Nurseto's opinion about LKS so that the resulting in a Worksheet (LK) allocated to the students. LKS and student worksheet both worksheets which distinguish it from the level of its users only. Based on observation at the Universitas Indraprasta PGRI Jakarta, nearly all students agreed would be the existence of development of student worksheet by including case studies and practical work in the students Worksheet.

Rusdi (2008:1) explains that, the steps in preparation is LKS was:
1. Analysis of the curriculum. This analysis is done with regard for the subject matter, the student learning experience, and competence which must be accomplished students
2. Compile map needs of LKS. Map needs of LKS useful to know the number of LKS and LKS a sequence of needs.

3. Specify the titles of LKS. The title of the LKS should be in accordance with KD, subject matter and learning experiences of writing the LKS.

BSNP (2006:1) outlines some criteria for the assessment of the LKS is adapted from the standard assessment of textbooks eligibility standards content, among others:

1. eligibility standards presentation
2. the eligibility standard language
3. Eligibility Standards chart.

Uno (2006:32) revealed that, when 75% of students can achieve the purpose of the lesson then the media is said to be effective. Therefore, learning physics requires learning innovations one is media of learning interest of students, so students will be easier to understand the lessons of physics optimally.

Based on the results of the tests given to students. Note that the fluid dynamic subject matter is one material that is difficult to understand. For, on this material in addition to the theory there are several formulas for each of the different discussions so that students have difficulty in calculation.

Fluid Dynamic subject matter is material consolidation of previous material. On this matter will be discussed about the fluid dynamic's own sense, discharge, the equation of continuity, Bernoulli's law, application of Bernoulli's law, as well as their application in everyday life.

Weak understanding of students also due to the large number of references to different books and gives a different explanation so came the confusion for students, which led to the minimum understanding of the student against this dynamic fluid material.

In order to deliver material that has a fairly high complexity such as fluid dynamic, students Worksheet is required using the inquiry approach to social interactions, i.e. where the teacher must provide direction and guidance to the students in doing learning activities. In addition the students Worksheet with method of inquiry social interactions can help students to more easily understand the learning material and can provide learning experiences directly to students. Model inquiry is an appropriate learning model used in practical work, the virtual laboratory.

Susilana (2007) stated that, the essence of the model is: inquiry learning to engage students in a real problem with how to provide challenges to an area (scope) investigation, assisting them to identify a problem conceptually or methodological nature, and reverse engineer them to devise ways of solving the problem.

Suparno (2007) outlines that, the role of teachers in inquiry social interactions is to solve problems that are given to students who provide the questions in the process of discovery so that students will not be confusion. So the conclusion would be faster and easier to take. The teacher acts as a guide to assist students to use ideas, concepts and skills that they had learned earlier in order to get new knowledge.

Trianto (2010:30) lays down that, stages of learning inquiry social interactions, among other things:

1. Present questions or problems
2. make a hypothesis
3. designing experiments
4. Perform experiments to gather information
5. Collect and analyze data
6. Make a conclusion.

Based on the above discussion, the model of learning inquiry emphasis on the process of seeking and finding so that the subject matter is not given directly in learning activities with the use of the model. In this case, students are required to seek and find their own subject matter and only serves as a facilitator and supervisor. The purpose of this research is to produce inquiry-based students Worksheet social interactions on the material fluid dynamic approach using inquiry social interactions.

2. Research Methods
The research model used is a research and development (research and development). Research and development is done in the form of learning physics-based students Worksheet inquiry social interactions on the subject matter of the fluid dynamic, with this research using the development according to Borg & Gall, which includes 9 steps, namely the study introduction, initial planning, product development, preliminary trials, the revision of the initial product, field trials, product revision results field trials, field trials, and revision of the final product. However this research only to the initial product development, namely the validation test step experts.

Data obtained from this research is the primary data. These data include:
1. The results of the now needs of learners and teachers towards the student worksheet will be developed,
2. Validation and responses from the validator of student worksheet covering the eligibility of the contents of the assessment score, cover, language.
3. The Data findings about flaws and expert advice from the validator.

In the early draft development stage students Worksheet fixed/revised based on suggestions/feedback from the experts. Before tested students Worksheet developed validated by expert material and media experts using the formula of Gregory. The criteria used is if the CV > 0.700 then analysis can proceed. (Wahyuningsih, et al: 2014).

3. Results and Discussion
Students Worksheet inquiry-based social interactions that have been developed. Then validated by expert material and media experts based on the eligibility criteria of content, language, and the cover. Validation of student worksheet based on social interactions inquiry fluid dynamic subject matter done to know the quality of the student worksheet, developed with the expert assessment of the material and media experts based on the eligibility criteria of language, content, presentation, and graph. From the results of validation above shows the highest assessment, i.e., on the appropriateness of the content, because the material expert and media experts stated relevant to all indicators on these aspects. The results of the assessment due to the content that is contained in the students Worksheet already complies with KI and KD, as well as in accordance with the needs of the students and learning materials.

Figure 1. Product
Based on the analysis it can be concluded that the design dimension with a value of 83.3 categories are good enough, and the language dimension 80.1 categories fairly well, review in terms of content it can be concluded that these student worksheet have a good category with 85.2 rating. Then it can be inferred that the students Worksheet model inquiry social interactions can be found quite well with a value of 82.8. From the results of this data indicate that the students Worksheet is very good or very worthy to become one of the guidelines/learning materials in fluid dynamic learning.

4. Conclusions

Based on the analysis it can be concluded that the design dimension with a value of 83.3 categories are good enough, and the language dimension 80.1 categories fairly well, review in terms of content it can be concluded that these student worksheet have a good category with 85.2 rating. Then it can be inferred that the students Worksheet model inquiry social interactions can be found quite well with a value of 82.8 and can be used at the Universitas Indraprasta PGRI, Jakarta.

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