Using Learning Media Based Autoplay Media Studio 8.0 on Student Learning Outcomes in Acid Base Material

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Abstract. Purpose of the research to determine student learning outcomes by learning media based autoplay media studio 8.0 on acid-base material in class XI MIPA in SMAN 6 Pekanbaru. The research design used was posttest only group design with Mann-Whitney U nonparametric analysis that there were significant differences in student learning outcomes using learning media based on studio autoplay media 8.0 with the significance of Mann-Whitney U 0.000 <0.005 with an average and observations of student attitudes during the learning process. The results showed learning outcomes of 89 compared to the control class 79. Based on observations of the learning process using the autoplay media studio 8.0 media, it was found that there was an increase in the attitude of cooperation, discipline, responsibility, activeness and curiosity of students. The results of this study are recommended to be applied to online learning.

1. Introduction
Education is one of the most important parts of human life that can make oneself better in all aspects of life. The aim of education in schools is that students have the knowledge, skills and attitudes of learning as a form of learning behavior change, so that the aim of education can be achieved [1]. Different policy changes in education to improve the quality of education has been carried out such as developing a curriculum in 2013 into the curriculum 2013 revised edition that emphasizes the process of learning and authentic assessment to achieve competence attitudes, knowledge, and skills of especially face learning 21st century [2].

The 21st century is called the age of knowledge, the age of knowledge-based economics, the age of information technology, globalization and so on. In the 21st century there has been a very rapid and unpredictable change in all aspects of life such as economics, transportation, technology, communication, information, education and others. Learning in the 21st century has a difference with learning in the past. At this time educators are encouraged to develop 21st Century skills in school students with core skills areas (Communication, Collaboration, Critical Thinking and Problem Solving and Creativity and innovation) and special skills namely the use of Technology, Information and Communication (ICT) [3].

ICT-based learning is important to be done so that students are accustomed to the development of newer digital technologies, which are sophisticated, stable, and unreal and are accustomed to presenting new challenges [4]. Educators are required to use more technology in their teaching. Learning innovations need to be developed and implemented in order to prepare teachers who are ready to act as educators and researchers to face the challenges of the 21st century [5] [6]. ICT-based learning can overcome common obstacles that often occur in the learning process, such
as limited hours in class, boredom in the learning process, and the complexity of delivering abstract material [7]. Combine ICT into classroom can becomes good part to teaching 21st century [8].

Based on observations in the field of mastery of chemical concepts that are still lacking. This can be seen in the atmosphere of teaching and learning in the classroom that is still passive. For example, students do not want to ask questions when teachers provide opportunities for students to ask questions, so there is a need for a good and enjoyable learning process, among others, by organizing planned education. Teachers should learn from fellow teachers, in a way that when doing learning in class followed by other teachers, so that there is an increase in professionalism, then supported by interaction between teachers and students who are harmonious in class and outside the classroom allows teachers to capture what cannot be expressed by student. The teacher needs planning before conducting the learning process so that the results obtained in the teaching teacher will be maximal. There are four professionalism of a teacher, namely having knowledge of learning and human behavior, mastering the field of study he fostered, having the right attitude towards himself, school, friends and the field of study he fostered, and finally having technical teaching skills [9].

In addition to teacher professionalism, the quality of education will also be low when teachers are only fixated on conventional teaching materials without any creativity to develop these teaching materials innovatively. Based on interviews with several chemistry teachers in SMA N 6 Pekanbaru and SMA 2 Pekanbaru, the learning process is still using teaching materials in the form of textbooks. Textbooks published by several publishers have weaknesses and cannot meet all curriculum demands, so it is recommended to use books that are more applicable in the learning process so that it can help students to be able to understand the learning material and students are able to associate learning obtained with real life so that not only get satisfactory grades in class but students are also able to apply the knowledge gained in their lives.

Efforts that can be made to overcome the above problems are by developing a learning media that can attract the attention of students so as to facilitate students’ thinking processes to understand the purpose of the material delivered and improve student learning outcomes. Learning media is one of the prominent aspects in the success of a learning process [10]. The position of teachers in the industrial revolution era 4.0 tends to be as a facilitator who provides the latest information related to the development of science to students from various sources, so teachers must have competence in the field of technology and digital [11]. The complexity of the material delivered to students can be simplified with the help of the media [12]. Technology-based learning media at this time have been developed. This type of learning media in addition to adding value to the function and usefulness of technology [13], can also improve student academic performance [14] [15]. Academic performance can include cognitive learning outcomes, learning motivation and learning independence. One program that can be developed into an interesting learning media is the Autoplay media studio 8.0 program.

Autoplay media studio 8.0 is used because this application is in the form of multimedia software by integrating various types of media such as images, sound, video, text and flash into presentations made. Autoplay media studio 8.0 is not only sophisticated but also widely used because it is easier and has a very good quality learning media [16].

2. Research Methods
This research has been conducted in SMAN 6 Pekanbaru in the semester even the teachings 2019/2020 on January - February 2020. The population in this study were all students of class XI MIPA SMAN 6 Pekanbaru consisting of 6 classes. The sample used was 1 control class and 1 experimental class chosen randomly with 54 students. Design experiments used were posttest only cont roller group design [17]. The study design can be seen in Table 1.

| Class       | Treatment | Posttest |
|-------------|-----------|----------|
| experiment  | X₁        | O.       |
| control     | -         | O.       |
Whether or not there are differences in learning outcomes between the control class and the experimental class are analyzed through independent-sample t-tests assuming homogeneous and normally distributed data. If the data is normally distributed, the Mann-Whitney U nonparametric test can be used. All statistical tests were performed with the help of a SPSS v23 computer program using a 95% confidence level. The hypothesis taken in this study is as follows.

Ho: There is no significant difference in learning outcomes between the experimental class and the control class
Ha: There is a significant difference in the improvement of learning outcomes between the experimental class and the control class.

The observation technique was used to see students in the learning process in the experimental class and in the control class. This observation was carried out using a questionnaire at each meeting and analyzed using descriptive analysis of the average percentage of student attitudes (collaboration, discipline, responsibility, activeness and curiosity). The questionnaire was arranged using a Likert scale 1-4.

### 3. Results And Discussion

Chemistry learning media based on autoplay media studio 8.0 on acid-base material is a learning media that can be operated using a device with a computer operating system. The learning media developed generally consist of: 1) curriculum referred to in learning media (Competency Standards, Basic Competencies, Learning Indicators); 2) a summary of the material in the form of explanatory descriptions that are accompanied by pictures and animations, and 3) evaluation. The material presented in the learning media is about acid-base material given at chemistry lessons in the even semester XI high school. Some views of learning media based on autoplay media studio 8.0 can be seen in Figure 1.

**Figure 1. Several Displays Of Learning Media Based On Autoplay Media Studio 8.0**

The influence of the use of learning media based on autoplay studio media 8.0 on acid-base material on the learning outcomes of students of Class XI M IPA SMAN 6 Pekanbaru was analyzed by comparing the learning outcomes of students in the experimental class who used the media and students in the control class who did not use the learning media. The assumption test is first performed to see whether the data on the value of learning outcomes in both groups are normally distributed and come from a homogeneous population. The results of the normality test can be seen in Table 2.
Table 2. Data Normality Test

| No | Class          | Shapiro-Wilk Statistics | df | Sig. | Conclusion |
|----|----------------|--------------------------|----|------|------------|
| 1  | Experiment class | 0.809                    | 27 | 0.000 | Abnormal   |
| 2  | Control class   | 0.851                    | 27 | 0.001 | Abnormal   |

Based on data normality table 1 in the control class and the experimental class are not normally distributed. Thus, the assumption of normality of data to do the t-test is not fulfilled so that the analysis continues using the Mann-Whitney U nonparametric test with the assumption that if the significance <0.005 then Ho is rejected. Mann-Whitney U test results on learning outcomes data in both groups can be seen in Table 3.

Table 3. Hypothesis Testing

| Test data    | Acid-based Learning Outcomes | Kesimpulan                                      |
|--------------|------------------------------|-------------------------------------------------|
| Mann-Whitney U | 165,500                      | Ho rejected (there were significant differences in learning outcomes in the two groups) |
| Wilcoxon W   | 543,500                      |                                                |
| Z            | -3.482                       |                                                |
| Asymp. Sig. (2-tailed) | 0.000                     |                                                |

Mann-Whitney U test results in table 2 show that Ha is accepted, which means that there are significant differences in learning outcomes between the experimental class that uses learning media based on autoplay media studio 8.0 and the control class that does not use the learning media. The average student learning outcomes in the experimental and control class can be seen in Figure 2.

Figure 2. Graph of The Average Learning Outcomes of The Experimental and Control Classes

The research results obtained are relevant to those conducted by Arsad Bahri, et al which states an increase in average student learning outcomes as a result of the use of learning media based on autoplay media studio 8 [18]. With this media, students can concentrate on the material delivered by the teacher so that student learning outcomes improve. This is consistent with the statement that one of the advantages of autoplay media studio -based learning media is that it can make student concentration can be fully centered on learning because with students concentrate on learning materials will create an attractive quality of student learning outcomes [19].

This result is also confirmed that student learning outcomes using studio media autoplay are higher compared to other learning models [20]. This happens because the use of learning media based
on autoplay media studio 8 software can arouse learning motivation which further increases learning activities and makes it easier for students to understand the material. This will have an impact on improving student learning outcomes. This shows that learning motivation has an important role in increasing student activity and learning outcomes. This is supported by various studies that show a relationship between learning motivation and increased student learning outcomes [21]. There is a positive and significant influence between learning motivation against the attitude of student learning, the attitude of learning on the results of student learning. The implication is an effort to improve the learning outcomes of students it is necessary to increase the motivation to learn the self and attitudes of students in learning process [22]. Based on the observations result made during the learning process can be seen students attitude in class experiments using media autoplay media studio 8 0 higher than the control class that is the attitude of collaboration, discipline, responsibility, activeness and curiosity. The average attitude observation results can be seen in Figure 3.

Figure 3. Average Percentage of Attitudes of Experiment and Control Classes

The results obtained indicate that an increase in student attitudes and student learning outcomes as a result of the use of media based autoplay media studio 8 software which shows the function of audiovisual learning media in the process of learning. Four function of visual media is (1) The function of media attention visual that is me at my and direct attention to the students to concentrate on the lesson content related premises n meaning visual display or text accompanying the subject matter. (2) The affective function of visual media can be seen from students' attitudes in learning. (3) The cognitive function of visual media is seen from research findings which reveal that visual symbols or images facilitate the achievement of goals to understand and remember information or messages contained in images. (4) The compensatory function of instructional media can be seen from the results of research that visual media that provide context for understanding texts help students who are weak in reading to organize information in texts and recall them [12]. In accordance with media classification, me he's including audiovisual media by type. Based on the materials making me he's including complex media because it requires equipment hardware (device k eras) and software (software) as well as its use requires skills that are adequate. This media format is a tutorial. Students and media users can play this video manually so that indirectly intrinsic motivation arises in themselves [7].

All aspects of media studio autoplay media function as situational interests in the form of independent video tutorials that generate and maintain student attention. This can be seen from an increase in student activity, especially the percentage of students who pay attention to the teacher's explanation by using learning media based on Autoplay media studio 8. The application of autoplay
media studio 8 attracts students’ interest and attention. This means that they have an interest in participating in the learning process. Interest and excitement of the students on what they are learning is one of the most important factors in education [23]. It is also emphasized that one of the advantages of ICT media such as autoplay media studio when used in the field of education is able to offer a more enjoyable learning media that is able to attract attention, increase motivation and stimulate the thinking of students who are more memorable [24].

In addition, autoplay media studio can also be used for independent learning such as distance learning and online learning in the face of the covid 19 pandemic. Learning independence can be trained and demonstrated during the self-learning process. Whereas independent learning is an attitude of learning where the learner determines consciously his motivation and makes decisions in his own learning. Studying alone is often seen as an important element in independent learning [25]. Technology -based learning media, has the potential to facilitate the achievement of an independent learning atmosphere. The media needs to be built interactively so that it can be used as a learning supplement to motivate students independently and easily, anywhere and anytime so that it can improve student learning outcomes and achievement [26]. Similar media have also been developed in colloidal materials. The developed media can significantly improve the learning outcomes and learning independence of high school students [27].

4. Conclusion
Chemistry learning media based autoplay media studio 8.0 on acid-base material has been successfully applied in learning in schools. There is a significant difference in learning outcomes between the experimental class and the control class. Learning using the media studio autoplay media can improve student attitudes namely cooperative attitude, discipline, responsibility, activeness and curiosity in the learning process.

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