

# Effectiveness Using Flipbook Maker to Improve Student Learning Interest in Chemistry

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## ABSTRACT

The aims of this research was to improve student learning interest in chemistry by use flipbook maker. Flipbook maker is one of the simple platform that can help us to make electronic chemistry books with an attractive appearance that the final product can be stored in video form. An attractive appearance and can be adjusted to the desires of teenage students is expected to increase student interest in chemistry. The population in this research were all students of class XI Senior High School (SHS) Darussalam Tangerang. The sample was selected by purposive sampling technique, the entire class XI MIA 1 with the number of 32 students. Based on data processing, it is known that the percentage of students' learning interest is 73.02% which can be categorized as high interest. As for the four indicators of learning interest the highest increase was in the indicators of student involvement in learning then followed by student interest. It can be concluded that the use of flipbooks in effective learning to increase student interest in chemistry.

**Keywords:** Chemistry, Flipbook Maker, Interest, Learning, Media

## 1. INTRODUCTION

One indicator of a teacher can be said to be successful is generally seen from the value or learning outcomes obtained by students through the teaching and learning process carried out (Purnami et al., 2018; Widodo, 2015, 2011). Both teachers and students must have two-way interactions and pleasant communication and standardized educational processes (Suyono and Hariyanto, 2011).

Chemistry as one of the subjects taught at the senior high school (SHS) is currently still considered a difficult and not desirable subject (Nazalin and Muhtadi, 2016; Putri and Muhtadi, 2018; Widiyaningtyas and Widiatmoko, 2014). Someone will learn better from text and image media than text media alone (Barnard and Forsyth, 2001; Unsworth, 2001). Therefore, in order for students to get better learning outcomes, students must first have an interest in the material learned. If students are not interested in the subject matter this can affect student interest in learning, students feel bored so do not like the lesson.

## 2. LITERATURE REVIEW

Effectiveness of teaching in a good learning process is the teacher's effort to help students to learn well (Imaduddin and Utomo, 2012; Kurniawati et al., 2013; Samidjo, 2017; Widodo, 2011). Criteria for

effectiveness in learning refers to (a) mastery learning, learning can be said to be complete if it has reached at least 75% of the number of students; (b) student learning outcomes show significant differences between initial understanding and understanding after learning; (c) increased student interest and motivation, that is if after learning students become more motivated to study harder and obtain better learning outcomes.

Flipbook Maker is an application that is used to make e-books, e-modules, and e-paper which in its creation can insert images, graphics, sound, links, and videos (Haryanti and Saputro, 2016; Munandar and Rizki, 2019). Flipbook is one type of classic animation made from a stack of paper resembling a thick book, on each page a process is described about something that later the process looks moving or animated (Hardiansyah, 2016; Khoirunnisa, 2019; Mulyadi et al., 2016; Putra et al., 2017).

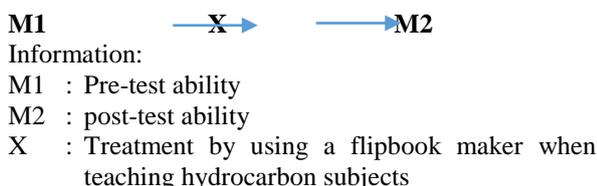
From the results of research about the development of flash flipbook media to improve students creative thinking skills in science learning in junior high schools proved to be effective in increasing students critical thinking skills (Mulyadi et al., 2016; Ridwan et al., 2016). In addition, the effectiveness of resource-based learning assisted by flip book makers in high school mathematics learning also showed a

significant increase in learning outcomes (Hardiansyah, 2016; Mulyadi et al., 2016).

Etymologically the word interest comes from the word interest in English which means liking, attention (inclination to something), desire. Interest is the attitude of a person's soul including the three functions of his soul (cognition, conation, and emotion), which are aimed at something and in that relationship the element of strong feelings (Ahmadi, 2010). Students who are interested in learning have characteristics: (a) tend to remain to pay attention and remember something that is learned continuously; (b) there is a feeling of liking and liking for something that interests him; (c) obtain something of pride and satisfaction in something of interest; (d) prefers something that is more interested in it than anything else; and (e) manifested through participation in activities and activities (Slameto, 2015).

### 3. METHOD

This research will be conducted at the Ciputat, Darusaalam SHS. The sample is taken by 32 treatment students, where the determination of the research unit and this sample uses a purposive sampling technique because the researchers determined by itself. The research method used is a quasi experimental design with the reasons that do not allow the use of the control class in research with the following design:



For each indicator represented by five statements with a Likert scale. Furthermore, an analysis of increasing students' interest in learning chemistry is done by describing the percentage of each variable.

$$P\% = \frac{\sum q}{\sum r} \times 100\%$$

The classification of student learning interest can be categorized based on the range of percentage scores obtained with the criteria according to table 1.

Table 1. Categories of Interest in Learning by Percentage

No	%	Category
1	70 - 100	High
2	30 - 70	Medium
3	< 30	low

### 4. RESULTS AND DISCUSSION

The test instrument used consisted of a non-questionnaire test instrument used to measure the increase in interest in learning chemistry of XI IPA high school students in Darussalam. The questionnaire used contained 20 statements that were valid with the criteria of each of the five statements for learning interest indicators, as in table 2.

Table 2. Test Questionnaire Grating

Indicators of learning interest	No. of question	No. Item Statement
Feeling happy	5	1 – 5
Attention	5	6 – 10
Interest	5	11 – 15
Student involvement in learning.	5	16 - 20

The initial stage conducted in this study after the instrument was validated was to provide a pre-test to find out the students' interest in learning chemistry before using a flipbook. Based on the classification of interests, it is known that the interest in learning chemistry of high school students of class XI IPA falls into the medium category with an average percentage score of 60.41 for the four indicators of.

Furthermore, in the teaching and learning process students are taught Hydrocarbon material using flipbook media. The details of the material consist of the specificity of carbon atoms in hydrocarbon compounds:

- Distinguish primary C, secondary, tertier and quaternary C atoms
- Classification of hydrocarbon compounds based on saturation of the bonds.
- Nomenclature of alkane, alkenes and alkune hydrocarbons.
- Isomerism of hydrocarbon compounds

The flipbook shape used in learning as shown in Figure 1.

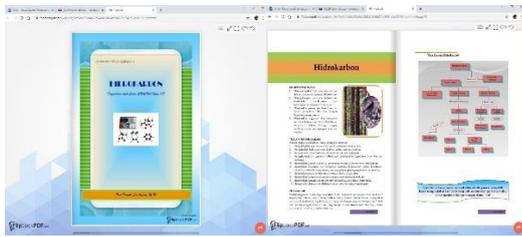


Figure 1. Flipbook Hydrocarbon

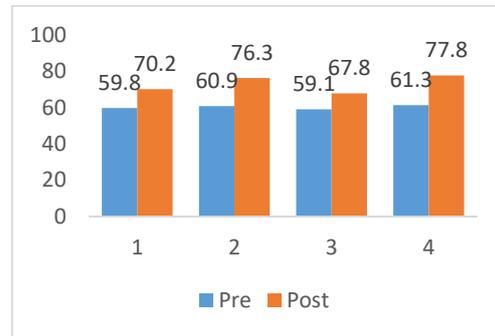
The teaching and learning process using the flipbook is still carried out by teachers who teach in SMA Darussalam, so it is hoped that changes in student interest in learning will really be influenced by the use of flipbooks as a learning medium that students can use efficiently.

After giving treatment using a flipbook, at the end of the lesson a post test is given where students fill in the test instrument in the form of a learning interest questionnaire. The results obtained an average percentage score of 73.02. This shows an increase of 12.61%. Based on the pre-non test and post-non test data obtained, the results obtained are as in table 3.

Table 3. Pre-Test and Post-Test Data for Non-Chemistry Student Interest Learning

Indicator	Pre	Category	Post	Category	Improvement
Feeling happy	59.8	medium	70.2	high	10.4
Attention	60.9	medium	76.3	high	15.4
Interest	59.1	medium	67.8	medium	8.7
Student involvement in learning.	61.3	medium	77.8	high	16.5

That's data can be illustrated with the following Figure 2.



Note:

1. Feeling happy
2. Attention
3. Interest
4. Student involvement in learning.

Figure 2. Increased Interest in Learning Chemistry High School Students in Darussalam XI Science by Using Flipbook Maker

## 5. CONCLUSIONS

Based on the results of research and discussion it can be concluded that the use of flipbooks in chemistry learning is effective in increasing students' interest in learning chemistry especially in terms of student interest in learning which increased by 15.4% and student involvement in learning by 16.5%.

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