



## Utilization of Articulate Storyline as Interactive Learning Media to Improve the Study Motivation of College Students

Gamilla Nuri Utami<sup>1\*</sup>, Heru Agung Saputra<sup>2</sup>, and Berti Yolida<sup>3</sup>

<sup>1,3</sup>Department of Mathematics and Science Education, Faculty of Teacher Training and Education, University of Lampung, Bandar Lampung, 35145, Indonesia

<sup>2</sup>Independent Scholar, Metro, 34123, Indonesia

\*Corresponding e-mail: [gamillanuri123@gmail.com](mailto:gamillanuri123@gmail.com)

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**Abstract: Utilization of Articulate Storyline as Interactive Learning Media to Improve the Study Motivation of College Students.** A teacher is required to be able to develop a learning approach that is in line with the today's student learning styles. This study was aimed at finding out the utilization of articulate storyline to increase the student motivation in the interactive learning of the history of chemistry. The research subjects were 66 college students divided into groups A and B with 33 students for each. The research method was the research interviews (a qualitative research), where the problem formulation was if (or not) use of the articulate storyline as interactive learning media can improve the student learning motivation. The instruments for the data collection were the observation sheets. 75.8, 15.2, and 9.1% of the students in group A stated that the articulate storyline improved the study motivation in very high, high, and the medium levels, respectively. Meanwhile, 33.3, 54.5, and 9.1% of group B students declared that their learning motivation improved in very high, high, and the medium levels, respectively. In addition, 3% of the students in this group revealed that the articulate storyline affected their learning motivation in the low level. Conclusively, the interactive learning media of the articulate storyline could improve the learning motivation of Chemical Education students on the history of chemistry.

**Keywords:** articulate storyline, college students, learning media, learning motivation, online learning system.

**Abstrak: Pemanfaatan Articulate Storyline Sebagai Media Pembelajaran Interaktif Untuk Meningkatkan Motivasi Belajar Mahasiswa.** Seorang guru dituntut untuk mampu mengembangkan pendekatan pembelajaran yang sesuai dengan gaya belajar siswa saat ini. Penelitian ini bertujuan untuk mengetahui pemanfaatan Articulate Storyline untuk meningkatkan motivasi mahasiswa dalam pembelajaran interaktif sejarah kimia. Subjek penelitian adalah 66 mahasiswa yang terbagi dalam kelompok A dan B dengan jumlah masing-masing 33 mahasiswa. Metode penelitian yang digunakan adalah penelitian wawancara (penelitian kualitatif), dimana rumusan masalahnya adalah apakah penggunaan media pembelajaran interaktif Articulate Storyline dapat meningkatkan motivasi belajar siswa. Instrumen pengumpulan data adalah lembar observasi. 75,8, 15,2, dan 9,1% siswa di kelompok A menyatakan bahwa Articulate Storyline meningkatkan motivasi belajar masing-masing di tingkat sangat tinggi, tinggi, dan sedang. Sementara itu, 33,3, 54,5, dan 9,1% siswa kelompok B menyatakan motivasi belajarnya meningkat pada tingkat sangat tinggi, tinggi, dan sedang. Selain itu, 3% siswa dalam kelompok ini mengungkapkan bahwa Articulate Storyline mempengaruhi motivasi belajar mereka pada tingkat rendah. Kesimpulannya, media pembelajaran interaktif Articulate Storyline dapat meningkatkan motivasi belajar siswa Pendidikan Kimia pada materi sejarah kimia.

**Kata kunci:** articulate storyline, mahasiswa, media pembelajaran, motivasi belajar, sistem pembelajaran online

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## • INTRODUCTION

In industry 4.0, education has undergone a major change and completely transformed with the introduction of new technology (Carstens, et al., 2021). Thanks to rapid development of technology, access to the learning information has become far easier. This easiness is obviously associated to the use of network and information technology (Costley, 2014). Interestingly, the network and information technology can be utilized to develop an online learning system for higher education. Advancement in the information technology enables the teachers to explore ways of teaching that are much more in accordance with the learning styles of today's students (Truong, 2016; Balakrishnan and Gan, 2016). Use of digital electronic devices such as computers, gadgets, etc. is one of the efforts to improve the learning quality. However, it requires smart devices-based applications in the implementation (Julianingsih, et al., 2021; Sofi-Karim, et al., 2022). Therefore, it is of great importance to pick out the most appropriate media which not only technically supports, but also enhances the student motivation in the online learning.

Articulate storyline is software for creating interactive courses. It is one of numerous alternative applications developed by the third parties that can be utilized as a platform in the interactive learning (Hobson, 2014). The articulate storyline is useful software for the digital-based learning modern designers such as lecturers/teachers. It is because the ease of use of this learning media, where the teachers can create self-paced courses or automatic ones. Moreover, the articulate storyline basically provides the teachers a platform to design each slide of the courses, which does not require them to possess any programming skills. In addition, it offers the teachers with various options to generate the desired output. Most importantly, the interface is quite user-friendly (Sindu, et al., 2020). Several researchers have described the articulate storyline as follows; Darmawan (2016) defines the articulate storyline as a tool supported by brainware with interactive tutorial in the form of compact disk, personal web, and word processing through templates published both online and offline. On the other hand, Pratama (2018) describes that the articulate storyline is the application employed as a presentation/communication platform. Similarly, Amiroh (2019) explains that the articulate storyline is multimedia authoring software to create the interactive learning by combining images, texts, sounds, graphics, videos, and animations. In addition, this application exhibits digitally displayed materials in an animated form which will attract the students' interest and stimulate their learning motivation (Barut Tugtekin and Dursun, 2022; Wijayanti, et al., 2022).

Chemical Education is among the Study Programs under Faculty of Teacher Training and Education (Fakultas Keguruan dan Ilmu Pendidikan, FKIP), Universitas Lampung (Unila) that has been implementing the online learning system. Nevertheless, the conventional media are still applied in certain lectures. It is limited to physical objects, where the learning materials are displayed using power point, and the learning objects are cited from the internet. Obviously, this implicates to how the teachers deliver the materials using the designed learning media. The conventional media is less integrated and less interactive in terms of its use and distribution, and therewith it is lacking the attention by the students (Maaruf and Siraj, 2013; Voutilainen, et al., 2017). In an investigation, the students showed less interest in the learning process when the conventional media is applied. Thus, an innovative learning media is required to improve the learning quality which can trigger the student learning motivation in the Chemical Education Study Program of Unila.

In this work, we studied impacts of the articulate storyline utilization towards the learning motivation improvement on the college students of Chemical Education, FKIP, Unila. The

articulate storyline was used as learning media with the research subjects of the students who are being enrolled in the history of chemistry. The poll related to the implemented articulate storyline was collected through the interviews.

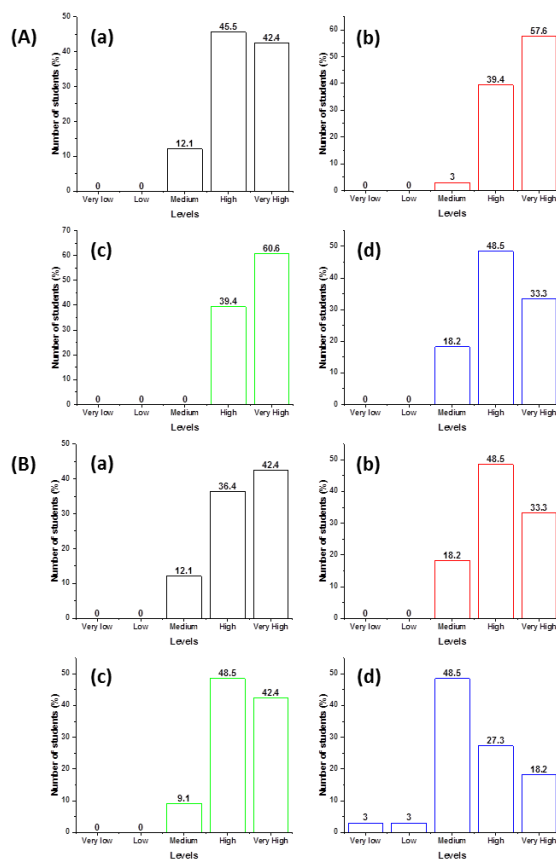
#### • **METHOD**

This research was carried out from October to November 2022 in the Chemical Education Study Program, Faculty of Teacher Training and Education (Fakultas Keguruan dan Ilmu Pendidikan, FKIP), Universitas Lampung (Unila). The research subjects were 66 students being enrolled in the history of chemistry, consisting of two cohorts (A and B) in the equal number (33 students for each). The learning media used in the study was the articulate storyline. The research method was research interviews (a qualitative research) referring to the reported literature (Hobson and Townsend, 2010), where the data were collected by an observation and interview with the student learning motivation as the main parameter.

#### • **RESULTS AND DISCUSSION**

We applied the articulate storyline in e-learning of the history of chemistry. The articulate storyline has been proved to be valid and suitable learning media in the online learning system (Khusnah, et al., 2020; Hadza, et al., 2020; Arwanda, et al., 2020). Herein, influences of the articulate storyline in terms of learning behaviors such as the enthusiasm, study motivation, etc. are under investigation.

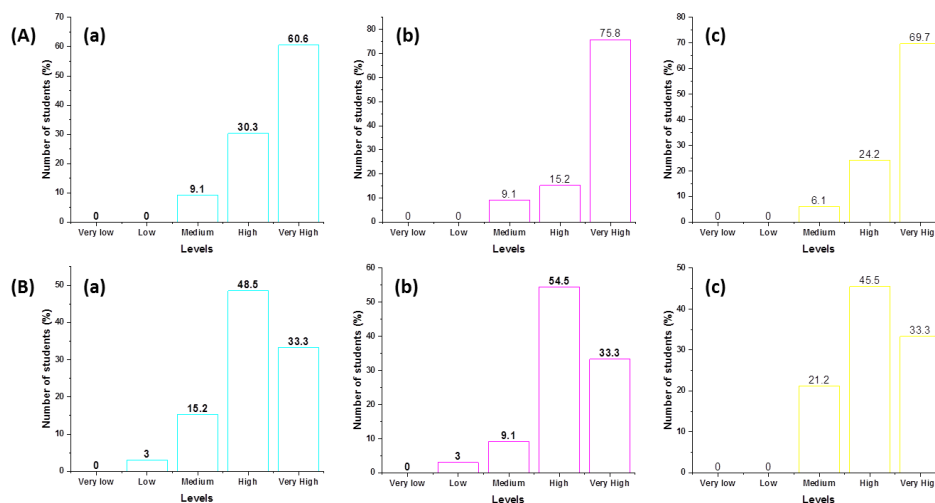
Based on the interview, most students either in group A or B commented that use of the articulate storyline in the history of chemistry helped them in understanding the materials and boosting the learning motivation. It is because the materials presented were accompanied with figures. Besides, the layout was neat and different from others (unique). Furthermore, the articulate storyline made the learning process easier because explanation of the materials can be repeated. The following highlighted comments are collected by the interviews from group A. (Student 1) "I thank to the teacher that has provided the learning media of the articulate storyline. It is very useful and helpful in understanding the materials." (Student 2) "The articulate storyline is fascinating and improving the study motivation." (Student 3) The articulate storyline assists the students in the online learning. The explanation is easy to understand." (Student 4) "I think the articulate storyline is very helpful to motivate the students in the online learning; however, some find difficulties to access it." (Student 5) "Although the learning process is online, it is like the offline learning." (Student 6) "In my point of view, the articulate storyline is very effective in this online learning." (Student 7) "The articulate storyline is very good. I can repeat the materials until I completely understand. Moreover, it is practical media which is easy to access anytime." Meanwhile, the interviews from group B are as follows. (Student 1) "The articulate storyline makes us enthusiastic due to colorful pictures. It can be repeated anytime to deeply understand." (Student 2) "As I see it, the articulate storyline is very helpful for the students in understanding the materials in depth." (Student 3) "The articulate storyline helps the students to understand the online learning." (Student 4) "Use of the articulate storyline in the online learning is effective. The understanding is higher than that of using the conventional one, but it is unfortunate that I faced the difficulties to access it on my mobile phone. In general, it is complicate for some students." (Student 5) "After using the articulate storyline, it makes me know and understand how to operate this app. This media contains the complete features including the materials and evaluation. The evaluation feature facilitates the students to memorize the materials explained during the learning process." (Student 6) "It is appealing. It makes me more focus on the materials." (Student 7) "In my opinion, the articulate storyline is more understandable, comprehensive, and creative."



**Figure 1.** Assessment indicators for groups (A) and (B): (a) accessibility easiness, (b) compatibility of type and font size, (c) compatibility of color and layout, and (d) easiness of navigation function.

The students' responses towards the application of the articulate storyline in the learning process were also collected using the observation sheets. In this case, assessment indicators, such as the accessibility easiness in the media usage, compatibility of type and font size, compatibility of color and content's layout, and easiness of navigation function (link, hyperlink, buttons, menu) are presented in histogram (Fig. 1). In terms of the accessibility easiness, compatibility of type and font size, compatibility of color and layout, mostly the students both in group A and group B responded in the high and/or very high levels. It indicates that the material presentation attracted the students' attention. In case of the easiness of navigation function, the student feedback in group A is 33.3, 48.5, and 18.2%, respectively for the categories of very high, high, and medium levels. Meanwhile, in group B it is 18.2, 27.3, and 48.5% for very high, high, and medium levels, respectively. As we can see that the students in group B relatively faced more difficulties in running the articulate storyline than that of group A. Furthermore, we collected the data in both groups (A and B) regarding response of the students related to improved understanding of the materials, increased learning motivation, and usefulness of the media in optimizing the online learning as shown in Fig. 2. Above 60% of the student feedback in group A is in the very high level for improved understanding of the materials, increased learning motivation, and usefulness of the media in optimizing the online learning, while for the same indicators most students in group B responded in the high level with the percentage of 48.5, 54.5, and 45.5%, respectively. Since the enthusiasm is believed to result in the positive learning outputs, the results in this study suggest that the students in group A were more enthusiastic in following the learning process than that of group B. Moreover, our

results are in a good agreement with the reported investigations (Alfa and Abd Karim, 2016; Dewaele and Li, 2021; Valentín *et al.*, 2022).



**Figure 2.** Assessment indicators for groups (A) and (B): (a) improved understanding of the materials, (b) increased study motivation, (c) usefulness of the media in the online learning optimization.

We also gathered the poll regarding suggestions to develop quality of the articulate storyline. The following underlined suggestions are from group A. (Student 1) “It is necessary to study how to access the articulate storyline because some students have not yet been able to do that.” (Student 2) “It requires improvement in terms of link media access. Several students do not know how to access it. Some cannot open ZIP/app, especially using handphone.” (Student 3) “The explanation is quite good. We faced the difficulties to open the learning media. It needs to improve.” (Student 4) “My suggestion is to add the animations. It will help to understand every single step of the explanations.” (Student 5) “It is quite complicate for android users. In the learning process, I have not yet finished to watch a learning video but accidentally it was closed, and then I wanted to rewatch the video, but the monitor display was blank with no sounds. Please improve the app for the easier access.” (Student 6) “It will be better if the explanation accompanied with the pictures. It is also important to show what is being explained.” (Student 7) “Please reduce the app size to make it possible being accessed via android.” Meanwhile, the suggestions from group B are as follows. (Student 1) “It is very important to provide the guidelines prior to run the articulate storyline.” (Student 2) “Some students who do not have laptop face the difficulties to access the media. Hence, it is of great importance to improve how to access the articulate storyline.” (Student 3) “It will be good if the articulate storyline not only can be accessed using the computers, but the androids as well.” (Student 4) “The link must be improved for easy access. The teachers should explain more comprehensively how to use the app to assist the students get the clear understanding.” (Student 5) “The teachers should educate the students how to access the app before using it.” (Student 6) “It is necessary to put home button in the content display.” (Student 7) “Add more learning videos to make the learning process interesting. Overall, the suggestions from group A and group B can be generalized in two points: (1) the technical matters such as media access and operation, and (2) the content matters including the material’s presentation and explanation. The students’ opinion directed to the interactive learning process of the history of chemistry which employed the articulate storyline might be useful to improve the teaching quality.

Although utilization of the articulate storyline has several weakness points, it mostly comes from the users. In some way, the articulate storyline is worth for use in the online learning system as an interactive leaning media to support the student learning motivation.

#### • CONCLUSIONS

Herein, we studied positive impacts of the articulate storyline in enhancement of the student motivation in the interactive learning of the history of chemistry. Most of the students (>90%) claimed that the articulate storyline provides numerous advantages including accessibility easiness, compatibility of type and font size, compatibility of color and layout, and easiness of navigation function. The implementation of the articulate storyline was observed resulting in the positive learning behavior of enthusiasm, which in turn eased understanding of the learning materials and improved the student learning motivation. It was also seen as a useful platform to optimize the online learning. Convincingly, the interactive learning media of the articulate storyline was successfully able to increase the study motivation of Chemical Education students. In future, the articulate storyline can be one of the suggested alternatives to be implemented in other subjects.

#### Conflicts of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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