

Development of E-Module for Automation of Public Relations and Protocol Management using Articulate Storyline 3

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Abstract

Education is a learning process that produces intelligent and educated individuals. The learning process is supported by lesson plans, media, and teaching materials. The development of teaching materials for E-Modules based on Articulate Storyline 3 is motivated by the limited ability of students to comprehend learning materials used in the form of printed books in Public Relations and Protocol subjects in class XII automation of office administration at state vocational high school 2 Buduran Sidoarjo, so that development is needed to support the learning process and make it easier for students to understand the material. This study aims to determine the feasibility of e-module teaching materials based on Articulate Storyline 3. It can be applied as teaching materials for class XII students in Public Relations and Protocol subjects. This development research uses the ADDIE development model, but is modified into Four (4) stages, namely: 1) Analysis, 2) Design, 3) Development, and (4) Implementation. Based on the results of the material expert validation, the Articulate Storyline 3-based Public Relations e-module obtained a score of 67 which was included in the "Appropriate" criteria. The results of linguist validation obtained a score 62, which was included in the "Appropriate" criteria. The results of the graphic expert validation obtained a score of 84 which is included in the "Very Appropriate" criteria. The results of student responses obtained a score of 94 including the criteria "Very Appropriate". Based on the results of expert validation and student responses, the Public Relations and Protocol e-module based on Articulate Storyline 3 is declared suitable for use as teaching material.

Keywords: Teaching materials; ADDIE; Articulate Storyline 3; Public Relations and Protocol

INTRODUCTION

Education is a conscious and planned effort to develop students' potential in terms of spiritual strength, religion, self-control, personality, intelligence, morals and skills needed by themselves, society, nation and state (Wahyu, 2013). The main purpose of education is to educate and produce qualified and highly intellectual human resources to help advance the country's development. Carrying out the educational process, not only required concentration from students but the conditions and abilities of a teaching staff are need to help create a pleasant and uninteresting learning atmosphere so that the knowledge transmitted can be conveyed properly (Yumini, 2015). The process of transmitting knowledge is part of a learning process in which the process contains several supporting aspects such as infrastructure, teaching media, teaching materials, and other learning tools.

Some of teachers' skills and conditions are needed to make the process enjoyable and not boring (Rahman, 2020). One of these several aspects is teaching materials, teaching materials are a collection of materials that are systematically arranged into a device that can be used by students in supporting independent learning activities (Prastowo, 2011). Learning independently requires a pleasant condition for students so that students can be enthusiastic about learning (Pratama, 2018). Teaching materials have many types such as printed and non-printed teaching materials, non-printed teaching materials have the highest level of interest compared to printed teaching materials. This is proven by an analysis conducted by (Sukardi, 2021) that as many as 64.7% of students are more interested in reading electronic books than printed books. This shows that the use of technology in education has

an influence on students' ability to learn. The process of implementing technology in education can be shown through the application of modern teaching and learning such as multimedia teaching or internet teaching (Xu et al., 2023). Technology has developed quite rapidly in the world of education, this is reflected by several schools that have used the benefits of technology, such as research conducted by (Sutarsih & Hasyati, 2018) which states that as many as 16.22% of 4,014 schools spread across 34 provinces have used information technology to manage school management. This proves that education in Indonesia has followed the development of existing technology. In addition to school management, some educators have utilized technology as a learning medium for students. For example, the use of some software such as Microsoft PowerPoint as a student learning media that can present text and images in the media.

State Vocational High School 2 Buduran Sidoarjo is located in Sidoarjo City which is currently accredited A with 6 concentrations of expertise, one of which is the Office Management Automation department. With this expertise programme, it is expected to produce a generation that is trained, skilled and professional in the field of office work.

Based on the results of preliminary studies conducted at State Vocational High School 2 Buduran Sidoarjo, the teaching materials used are printed books lent by the school library. The printed books used by students contain material and are equipped with pictures in each chapter, but the disadvantage of the teaching materials used by students at school is that there are no practical examples given in each sense in the material. This makes it difficult for students to understand the meaning of each material. This is used as the basis for conducting research on the development of interactive teaching materials in the form of electronic media by the Articulate Storyline 3 application. In addition, this is also supported by the facilities provided by State Vocational High School 2 Buduran Sidoarjo in the form of a computer lab that has been connected to the internet network that makes it easy to access the e-modules developed. This interactive e-module will be used online through hardware devices such as computers, tablets, smartphones, etc. The subjects that will be used in this interactive e-module are Public Relations and Protocol subjects in the class XII Office Management Automation expertise program his is because these subjects are mandatory subjects and these subjects aim to enable students to have the expertise in communication and compile a protocol that is in accordance with activities in the sphere of government.

This research aims to find out the process of designing e-modules based on Articulate Storyline 3, the feasibility of e-modules, and student responses to the development of interactive e-modules based on Articulate Storyline 3 in Public Relations and Protocol class XII at State Vocational High School 2 Buduran Sidoarjo.

E-module is an electronic-based teaching material source (Rokhmania & Kustijono, 2017). The existence of e-modules is a new teaching resource as a student facility in improving concepts and learning outcomes with an adaptive and attractive impression (Inanna et al., 2021). According to (Triyono, 2021) Electronic Module is a set of teaching materials that are made systematically according to the current curriculum and used with the help of electronic devices such as computers. By having an e-module, it can be more practical and easy to carry anywhere, besides that it is also equipped with audio and video that can make students interested in using it (Rahmatika et al., 2020)

The development of teaching materials in the form of e-modules is used to assist students in learning Public Relations and Protocol material independently because it has been equipped with examples in the form of videos so that students can more readily define according to the meaning in the material. This is supported by research done by (Nurwahidah et al., 2021) which examines the level of student motivation in video-based learning and the results of the study mention that there is a significant development in the achievement index of 51.82% which shows that students are motivated by the video-based learning.

LITERATURE REVIEW

Learning and Studying

Learning is a process of repeated and changing stages to gain knowledge by using reason and mind (Hurit et al., 2021). Basically, humans have a natural instinct to learn because humans are blessed with high curiosity. This instinct is encouraged through learning in the right way in order to gain useful knowledge (Syam et al., 2022). Based on this definition, learning can be interpreted as an individual activities or processes that are carried out repeatedly and change in order to seek knowledge and experiences that change individual behaviour to deal with situations that arise in each individual.

Learning is a type of educational activity that combines several components such as, humans which include teachers and students, material equipment such as classrooms and equipment, and learning procedures such as schedules, lesson plans, and so on with the intention of achieving learning objectives (Darman, 2020). According to (Hurit et al., 2021) defines learning as a way of changing human behaviour because of the network between students, educators, learning materials and the learning atmosphere that educators create.

The definition of learning above can be concluded that learning is an activity carried out in a structured manner in the classroom that involves teachers and students in order to achieve the desired learning objectives.

Learning and studying have related meanings, learning is a natural activity carried out by humans throughout their lives and studying is a learning activity carried out by humans as a form of effort to become individuals who behave well educated.

Teaching Material

Teaching material is something that is used by teachers and students in order to facilitate a learning process so that learning objectives are achieved. Teaching materials have several forms, such as printed books, modules, LKPD, and broadcast materials. Teaching materials can be in any form that adds insight to students and helps the learning process (Kosasih, 2021). In addition to playing an important role as an independent learning resource, teaching materials also have an important role in improving students' critical thinking skills (Siahaan et al., 2021). According to (Depdiknas, 2007) teaching material means a unit of systematically structured material in written or verbal form that can foster a good learning experience for students. Teaching materials can also be interpreted as something that can be in the form of writing or images and various other sources of information that are systematically designed in accordance with the applicable curriculum (Al-Rizal & Trisnawati, 2020).

From the above statement, it can be concluded that teaching material is an important component in learning to achieve the learning objectives to be achieved. Therefore, in the preparation process it is necessary to adjust to the needs of students in order to support the level of students' understanding of the material being studied.

E-Module

Module is a set of learning that is assembled and arranged systematically including a series of learning experiences so that it can be used to study independently and can achieve learning objectives (Muntoro & Puspasari, 2017). With the module, it can make it easier for students to learn independently outside the classroom, as well as materials for student evaluation exercises. According to (Zulhaini et al., 2016) modules are teaching materials that make it easy for students to learn independently made by educators. Along with the development of time, technology is increasingly developing which changes everything to be all digital.

Technological developments make changes to the learning process of students, with this digitalisation making changes to the form of teaching materials to be all-electronic such as electronic books,

electronic modules, electronic LKPD, and other electronic teaching materials. Electronic module is a teaching material that does not only contain text, but is supported by audio and video where students can interact with it (Arianti & Nugraha, 2019).

Depending on the definition above, an electronic module or e-module is a digital teaching material that contains all the material that is systematically arranged in accordance with the applicable curriculum to facilitate students in learning independently in the classroom or beyond.

Articulate Storyline 3

Articulate Storyline 3 is a software originating from North America that was founded in 2002 by Adam Schwartz, this software is powered by simple intelligent brainware that formats CDs, personal webs, and word processors through templates published offline and online (Sindu et al., 2021). Articulate Storyline 3 is software that is almost the same as Microsoft PowerPoint, however, the difference is that Articulate Storyline 3 has more features in it such as characters, quizzes, which produce a project that is more interactive and more interesting (Fatia & Ariani, 2020).

Articulate Storyline 3 software can be used to deliver information with the aim that the information can be delivered properly (Pratama, 2018). The use of Articulate Storyline 3 software can support as learning media because it has been presented in various other formats including text, images, videos, animations, and other formats, the presentation of material will be interesting and understandable.

Articulate Storyline 3 has advantages in its application that requires hardware such as computers, smartphones, tablets, and others. In addition, to create a project from Articulate Storyline 3 does not require special skills in the IT field because the appearance of the application is almost the same as Microsoft PowerPoint software that is already familiar to the public (Rahayu & Ulumiyah, 2021). However, the disadvantages of Articulate Storyline 3 software are that the easiest format to use is only the online form, if using the offline form it will take up quite a lot of internal memory and not all hardware supports accessing offline publication results.

Articulate Storyline 3 is a software application that is used as a distributor of information and is packaged interactively and can be used on compatible hardware. Articulate Storyline 3 publication results can be offline or online media. In this development research will use online media form with HTML5 format in the shape of a web browser converted into a commercial link, so a stable internet connection is the main support for accessing the results of this e-module development. However, if the online e-module is difficult to access or becomes a teacher's concern because students can browse internet sites during class hours, an alternative that can be done is to use apk-shaped publication results that can be used offline which can be downloaded first through hardware. However, the disadvantages of publication results in the form of this application are the need for large storage space and not compatible on all hardware can only be run on the latest android devices with a minimum capacity of 32GB and computers with a minimum capacity of 4GB.

Based on the above understanding, it can be concluded that Articulate Storyline 3 is a software that has a use to deliver information coherently and interactively because it combines writing, images, characters, and sound in order to attract attention and make the information delivered more understandable.

Public Relations and Protocol Subject

Public Relations and Protocol is a topic in the Office Management Automation department in the 2013 curriculum. Where the subject learns about relationships between people or groups of people who have common interests. According to the British Institute of Public Relations (BIPR) public relations is a series of planned and sustainable efforts in building and maintaining trust between organisations. The main function of public relations activities is to foster good relations between families, audiences, public opinion, and participate in government activities (Kharima & Wulandari, 2020).

The Public Relations and Protocol Management Automation lesson is a skill that aims to enable students to have the ability to establish good relations with the community and organizations organizations, besides that, students are also invited to understand protocol regulations at the State level and private companies or related to organisations in order to understand the processions and regulations in these activities (Permana & Puspasari, 2020).

Based on the above definition, the subject of Public Relations and Protocol is a subject that studies how to establish a relationship between the community and the organisation by studying the rules and processes in a protocol activity to build a good image for the company in the public image.

METHOD

This research uses the research development type (R&D). Development research is a type of research that aims to create a product and test the effectiveness of the product (Sugiyono, 2016).

This development research uses the ADDIE development model was developed in 1990 by Reiser and Mollenda. According to (Rayanto & Sugianti, 2020) is a methodology that emphasises analysis that produces goodness, this development model has 5 stages, namely the Analysis, Design, Development, Implementation, Evaluation. This development research only uses 4 stages and stops at the Implementation stage, this is because this research only tests appropriateness and student responses to the development of teaching materials developed. According to (Branch, 2009) the first stage, namely analysis, aims to identify problems and needs of students. The second stage is the design process of designing the appearance and content by composing the material according to the curriculum and student needs. The third stage is development, the design that has been designed is then developed to become an E-Module and tested on validation experts to determine its eligibility and individually or in small groups to students. The fourth stage is implementation by testing the product in a large group to determine student responses.

The ADDIE development model in this research can be seen in the figure below:

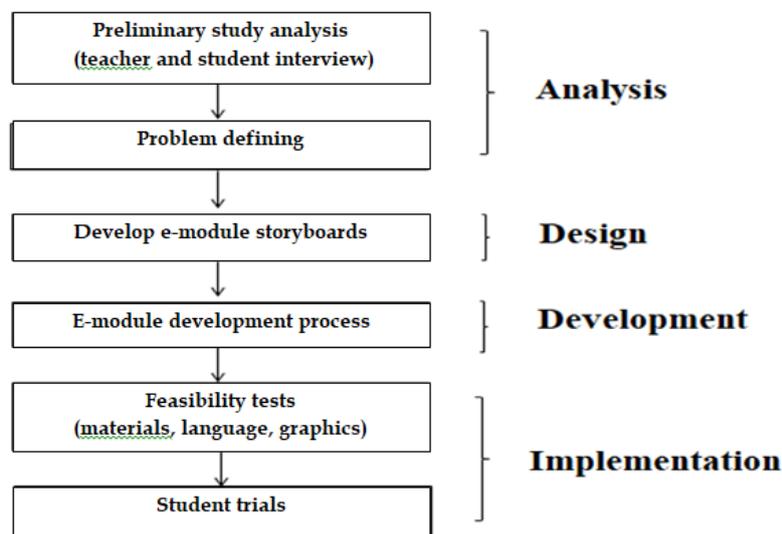


Figure 1. E-MODULE DEVELOPMENT MODEL

Source: Adapted from (Rayanto & Sugianti, 2020)

RESULT AND DISCUSSION

The result of this development research is an Electronic Module (E-Module) based on Articulate Storyline 3 in the subject of Public Relations and Protocol class XII in the odd semester. This research uses the type of R&D (Research and Development) research, which has the characteristics to make a new product or enhance and improve a product that has been made before. The development model in this study uses the ADDIE model.

The ADDIE development model consists of 5 stages, the first stage is Analysis which is carried out at this stage, namely the process of identifying problems and needs in students. At this stage, it is done to find the source of the problem as well as find solutions by adjusting what is needed by students. Based on the analysis conducted, it was found that students still did not understand the material on Meeting Preparation in Public Relations and Protocol subjects in the package book loaned by the school library which was used as the main source of teaching materials in the classroom. This is because the student package book has not been supplemented with examples of real phenomena in each sense described. Therefore, students find it difficult to describe the Meeting Preparation material.

The next stage is Design, this stage is carried out designing the appearance and content of the product from defining the problems that exist at the analysis stage. This design starts from developing material that is adjusted to the 2013 curriculum syllabus and the needs of students. After that, create a storyboard design that can be used as a reference material for creating e-modules in Articulate Storyline 3.



Figure 2. E-MODULE HOME PAGE AND MAIN MENU DISPLAY

Source: Researcher's documentation (2023)

The third stage is Development, which is the stage of making e-modules on the Articulate Storyline 3 application. At this stage, the process of making e-modules is carried out by combining material with various interactive components in the Articulate Storyline 3 application. After the e-module creation process is complete, the next step is to test the appropriateness of the material, language, and graphic validation experts. Then continued with individual trials, this was done to find out the disadvantages in the application of the e-module so that it could be applied properly in the real test. The results of the material expert validation in the aspects of eligibility of material content, presentation and language get an average score of "67" and can be categorised as "Eligible" according to the criteria

according to (Riduwan, 2010). In the aspect of content eligibility, the indicators with aspects of the accuracy of terms and the ability to create questions scored lower than the indicators of other aspects. This is material for improvement and evaluation for e-modules so that they can be used properly. In addition, improvements needed in this e-module are adding bibliography sources in thfre form of theoretical and empirical studies. This is used to train students to think more critically. Based on this, it is concluded that in the material aspect, the Articulate Storyline 3-based e-module is declared eligible and can be applied to classroom learning with some revisions. The results of expert validation on the linguistic aspect received a score of "62" and can be categorised as " Eligible". The aspect indicators of the ability to encourage teachers to think creatively, and the rigidity of terms received a lower score than other aspect indicators. This is due to the use of excessive and ineffective words in the sentence "Pertemuan/ Rapat" in the basic competency section. Based on this, it can be concluded that in terms of language, the Articulate Storyline 3 e-module can be considered feasible and can be applied to learning with some revisions. The results of the validation of the graphic expert in terms of the graphic aspect obtained an average score of "86" and categorised as "Very Eligible". In the overall results obtained from the results of the validation of the graphic expert, it shows that the design has advantages because it has an attractive and interactive design, but there are several aspects that are still considered insufficient such as the layout of symbols, characters, and the use of resolutions that need to be improved so that the e-module can be used properly. So it can be said that graphically, the Articulate Storyline 3 e-module can be declared feasible and can be applied for learning activities with the need for some revisions. The recapitulation of expert validation results can be seen in the table below:

Table 1. Expert Validation Results Recapitulation

Validation	Score	Criteria
Material Expert	67	Eligible
Linguist	62	Eligible
Graphics experts	86	Very Eligible
Total Average	72	Eligible

The fourth stage is Implementation, which is the actual trial stage. At the previous stage, it can be seen that the results of the development of e-modules based on Articulate Storyline 3 are declared eligible to be applied to the learning process with several revisions that need to be corrected so that the Public Relations and Protocol e-modules can be used properly by students. The trial was conducted with 30 students and from the results of the trial received a positive response from students, as evidenced by the average score of "94" which can be categorised as " Eligible". Some students also gave positive comments regarding the results of the development of this Public Relations and Protocol e-module because it was considered interesting and fun to use in the learning process. As for some suggestions and comments for improving this Public Relations and Protocol e-module, namely making e-modules in offline form without having to use the internet network so that they can be used if the internet network is unstable. This can be used as improvement material for further research.

This development research was conducted to test the appropriateness of E-Modules of Public Relations and Protocol, in addition to utilizing computer technology that the school has as a form of supporting students' ability to operate computers and from the entire series of trial stages starting from teacher and student analysis to expert validation and student trials, this Articulate Storyline 3-based E-Module teaching material can be stated as "Appropriate" to be used for learning Public Relations and Protocol. This is the same as research conducted by (Fatikhah & Anggaryani, 2022) who developed Articulate Stoyrline 3 as a learning media for high school students and obtained a validity test value of 90.17% which is categorised as valid and feasible to be applied to learning and received a positive response by students as evidenced by the learning completeness of 16 students in the comprehension test conducted in the study.

The results of this study indicate that technology can be used as an interactive and innovative learning media besides that it can train the creativity of a teacher in creating interactive and fun learning for students (Yang, 2020). Through interviews with Public Relations subject teachers at State Vocational High School 2 Buduran Sidoarjo, she said that this E-Module is a good innovation in learning because it can support learning in the classroom because of its interactive and attractive form and is easy for teachers to operate to apply to other materials using Articulate Storyline 3.

Based on previous research conducted by (Wardani & Puspasari, 2022) in the study also used Articulate Storyline 3 as the development media used in learning, in this study it has been proven that the media developed is very worth applying to telephone communication learning by obtaining results from the three validators as much as 92% and getting a very good response from students on average as much as 92%. The same research was also conducted by (Nabilah et al., 2020) who developed learning media using Articulate Storyline 3 and from this research obtained an average validation result of 81.93% and was declared valid for use in learning media. In the same year, research was also conducted by (Fatia & Ariani, 2020) which obtained results from the three validators of 89.7% and student responses of 88.25% which were declared appropriate in the media developed in elementary school mathematics subjects. Research was also conducted by (Hanim et al., 2021) to determine the feasibility and effectiveness of using interactive multimedia using articulate storyline 2 in plant breeding subjects conducted at the State Vocational High School 1 Loa Janan, East Kalimantan, Indonesia. The results showed that the feasibility of the development research was categorised as very good or very feasible and the effectiveness had increased even exceeding the school's completion standard of 75. In addition, (Yumini, 2015) also conducted research on vocational students by developing interactive media in Basic Electronics Engineering subjects and obtained a rating of 87.2% and was declared feasible with a student response of 83.94%. Each of these studies used Articulate Storyline 3 as the media developed for learning activities. According to research conducted (Rizkita & Wahjudi, 2016) states that e-modules can be used as support in scientific learning activities carried out in financial reporting subjects at State Vocational High School 2 Buduran Sidoarjo.

Teaching materials in the form of Articulate Storyline 3-based E-Modules in Public Relations and Protocol subjects for class XII at State Vocational High School 2 Buduran Sidoarjo are declared Appropriate and can be applied to classroom learning. As research has been done (Wondal, 2015) that computer-based learning has an influence on student learning outcomes and students' ability to understand a material. Therefore, with the development of this teaching material, it is hoped that it can help students in utilizing computers to understand the material of the Meeting Implementation with fun so that students are able to develop knowledge to be applied in the real world.

CONCLUSION

The development of this e-module teaching material uses the ADDIE development model which is modified into 4 stages, namely in the first stage Analysis, which is the stage of defining problems and analyzing student needs to conduct development research, then in the second stage, namely Design, the stage of designing E-Module materials adapted to the syllabus and curriculum 2013, the third stage is Development, which is the stage of preparing E-Modules from start to finish using various interactive components in the Articulate Storyline 3 application, the fourth stage is Implementation, which is a feasibility trial of expert lecturer validators and student responses to determine the feasibility of E-Modules to be used in learning.

E-modules based on Articulate Storyline 3 can be declared appropriate for use as teaching materials in the classroom based on the results of the feasibility test conducted by material expert lecturers by obtaining a score of "67" with the criteria of "Feasible", linguist lecturers who gave a score of "62" with the criteria of "Feasible", and graphic expert lecturers who gave a score of "86" with the criteria of "Very Feasible". While the student response received a response of "Very Well" with an average score obtained as much as "94".

The suggestion for further research are: 1) This research is limited to one Basic Competency on Meeting Preparation material in odd semesters, for further research can develop E-Modules into two semesters, namely odd and even semesters; 2) Presentation of material that is even broader or can be applied in all subjects not only Public Relations and Protocol only; 3) This E-Module can only be accessed using the internet network, for further research can develop E-modules that can be accessed in offline.

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