Developing Entrepreneurship Digital Textbook for Grade 11 at MA Bilingual Muslimat NU Sidoarjo

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ABSTRACT

The development of science and technology increasingly encourages renewal efforts in the use of technological results in the learning process. The role of the teacher is very important considering that learning has become more challenging during the Covid-19 period. Students should study at home with an online learning system with various media or tools. MA Bilingual Muslimat NU Sidoarjo has developed digital teaching materials by empowering e-learning schools to facilitate the way students learning since 2018. This development is one of the answers to the challenges that arise from time to time. This study answers the following questions: 1) What is the process of developing a Digital Textbook for Entrepreneurship in the "Craft and Entrepreneurship" learning for class XI at MA Bilingual Muslimat NU Sidoarjo? 2) What are the success criteria for R&D which include validity, practicality, and effectiveness of using Digital Entry Textbooks in learning "Crafts and Entrepreneurship" for class XI MA Bilingual Muslimat NU Sidoarjo?

The digital teaching materials developed are equipped with text, image, animation and video content. In addition, digital teaching material products include; cover page, module identity, introduction, table of contents, glossary, user suggestions, description, learning objectives, concept map, success criteria, content loading; (a) learning objectives, (b) material description, (c) summary, (d) practice questions, (e) reference list, (f) answer key/question discussion, and competency test.

The results of the alpha test from material experts and media experts, as well as the beta test from student responses obtained an average score of 3.15 aspects (very feasible), the average score of each aspect was 3.25 (very feasible), with details as follows: the following: the content aspect is 3.08 (very feasible), the learning aspect is 3.12 (very feasible), the task aspect is 3.17 (very good), and the summary aspect is 3.14 (very feasible). B. The results of the alpha test from the two media experts obtained an overall average score of 3.22 (very feasible). The average score for each aspect is the display aspect of 3.42 (very feasible), the usage aspect of 3.08 (very feasible), and the utilization aspect of 3.17 9 (very feasible). C. The results of the beta test on beta 1 test (small group test) showed good results, namely the average overall aspect of 3.22 (very feasible). The average score for each aspect is 3.28 (very good), the display aspect is 3.17 (very good) and the programming aspect is 3.25 (very good). While the results of beta 2 test (large group test) the average score of all aspects reached 3.19 (very feasible). The average score of each aspect in the learning aspect is 3.17 (very good), the display aspect is 3.19 (very decent), and the programming aspect is 3.21 (very decent). While the score for the development of digital teaching materials got good results with expert comments on teaching materials,

namely their use was effective in their use with an average test score of 22.7, to 74.2 with a gain score of 0.71. So there is an increase in the results of the pretest to the posttest of 51.5.

Perkembangan ilmu pengetahuan dan teknologi semakin mendorong upaya pembaharuan dalam pemanfaatan hasil teknologi dalam proses pembelajaran. Peran guru sangat penting mengingat pembelajaran menjadi lebih menantang di masa Covid-19. Siswa sebaiknya belajar di rumah dengan sistem pembelajaran online dengan berbagai media atau alat. MA Bilingual Muslimat NU Sidoarjo telah mengembangkan bahan ajar digital dengan memberdayakan sekolah e-learning untuk memfasilitasi cara siswa belajar sejak 2018. Perkembangan ini merupakan salah satu jawaban atas tantangan yang muncul dari zaman ke zaman. Penelitian ini menjawab pertanyaan-pertanyaan berikut: 1) Bagaimana proses pengembangan Buku Ajar Digital Kewirausahaan dalam pembelajaran "Prakarya dan Kewirausahaan" untuk kelas XI di MA Bilingual Muslimat NU Sidoarjo? 2) Bagaimana kriteria keberhasilan R&D yang meliputi validitas, kepraktisan, keefektifan penggunaan Buku Ajar Digital Entr dalam pembelajaran "Prakarya dan Kewirausahaan" kelas XI MA Bilingual Muslimat NU Sidoarjo?

Bahan ajar digital yang dikembangkan dilengkapi dengan konten teks, gambar, animasi dan video. Selain itu, produk bahan ajar digital meliputi; halaman sampul, identitas modul, pendahuluan, daftar isi, glosarium, saran pengguna, deskripsi, tujuan pembelajaran, peta konsep, kriteria keberhasilan, pemuatan konten; (a) tujuan pembelajaran, (b) uraian materi, (c) ringkasan, (d) soal latihan, (e) daftar referensi, (f) kunci jawaban/diskusi soal, dan uji kompetensi.

Hasil uji alpha dari ahli materi dan ahli media, serta uji beta dari respon siswa diperoleh skor rata-rata keseluruhan aspek sebesar 3,15 (sangat layak), skor rata-rata tiap aspek sebesar 3,25 (sangat layak), dengan rincian sebagai berikut: aspek isi sebesar 3,08 (sangat layak), aspek pembelajaran sebesar 3,12 (sangat layak), aspek tugas sebesar 3,17 (sangat baik), dan aspek rangkuman sebesar 3,14 (sangat layak). B. Hasil uji alpha dari kedua ahli media diperoleh skor rata-rata keseluruhan aspek sebesar 3,22 (sangat layak). Skor rata-rata untuk tiap aspek yaitu aspek tampilan sebesar 3,42 (sangat layak), aspek penggunaan sebesar 3,08 (sangat layak), dan aspek pemanfaatan sebesar 3,17 9 (sangat layak). C. Hasil uji beta pada uji beta 1 (uji kelompok kecil) menunjukkan hasil yang baik yaitu rata-rata keseluruhan aspek sebesar 3,22 (sangat layak). Skor rata-rata tiap aspek diperoleh hasil sebesar 3,28 (sangat baik), aspek tampilan sebesar 3,17 (sangat baik) dan aspek pemrograman sebesar 3,25 (sangat baik). Sedangkan hasil uji beta 2 (uji kelompok besar) skor rata-rata keseluruhan aspek mencapai 3,19 (sangat layak). Skor rata-rata tiap aspek pada aspek pembelajaran sebesar 3,17 (sangat baik), aspek tampilan sebesar 3,19 (sangat layak), dan aspek pemrograman sebesar 3,21 (sangat layak). Sementara nilai untuk pengembangan bahan ajar digital mendapat hasil baik dengan komentar ahli bahan ajaryaitu penggunaannya efektif dalam penggunaannya dengan perolehan rata-rata ujian dari

22,7, menjadi 74,2 dengan gain score 0,71. Jadi terjadi peningkatan hasil pretest ke posttest sebesar 51.5.

INTRODUCTION

National Education has a vision of the realization of the education system as a strong and authoritative social institution to empower all Indonesian citizens to develop from qualified human beings so that they are able and proactively respond to changing times, especially deal with technology roles. The teacher is the spearhead and the central point to realize the progress of education in schools. The role of the teacher is very important considering learning becomes more challenging in the Covid-19 period. Students should study at home with an online learning system with a variety of media or tools. The development of teaching materials is needed because it will become one of the learning resources needed by students before and after the pandemic. The reason digital teaching materials can be one of the solutions in this situation.

The reasons why the digital text book should be developed are first, it includes methods, limits and one form of evaluation designed in a systematic and attractive. Second, it is more effective. The reasons for the need for digital teaching materials on entrepreneurship materials are as follows:1) The implementation of Learning and Entrepreneurship materials using e-learning is less interesting and boring for students, therefore a development of digital teaching materials is needed so that learning is formed that attracts the attention of students through e-learning media, 2) The teaching materials used at MA Bilingual Muslimat NU are limited to the KTSP 2013 teacher and student curriculum books provided by the government.

Peter F. Drucker in Suryana, the essence of entrepreneurship is the ability to create something new and different through creative thinking and innovative actions for the creation of opportunities. Based on the above understandings, it can be concluded that Prakarya dan Kewirausahaan are dynamic processes of ability, and behavior of someone in facing life's challenges with the ability to create something new and different through creative thinking and innovative actions and creative abilities.

The objectives of PKWU (Prakarya dan Kewirausahaan) learning in 2013 Curriculum Implementation Module Teacher Training are as follows: 1. Facilitating students' creative expression through ergonomic, technological and economic creative engineering skills. 2. Practicing skills to create works based on aesthetics, artistic, ecosystem and technology. 3. Practicing utilizing media, art work materials and technology through the principles of creative, ergonomic, hygienic, right-fixed-fast, and environmentally sound. 4. Producing works that are ready to be used in life, are knowledgeable and foundation for development based on local wisdom technology and renewable technology. 5. Growing the entrepreneurial spirit through training and managing the creation of works (production), packaging, and selling based on economic, ergonomic, and environmentally sound principles.

In compiling a module it needs to be seen in terms of designing based on existing systematics. Learning modules as one of the learning resources that are packaged in the form of Electronic (digital) modules must meet the module writing systematic. Mudlofir states the module framework must contain 1) cover pages, 2) Francis pages, 3) foreword, 4) Table of Contents, 5) Map of Module position, 6) Glossary. Whereas the systematic module in the form of (a)introduction which consists of descriptions, prerequisites, instructions for using the module, final objectives, competencies, and ability checks, (b) learning, consisting of: learning objectives, material description, summary, assignments, formative tests, answer keys and (c) evaluation.

The development of interactive teaching materials in this study was designed with attention to the following instructions. The instructions for designing text book display are:

ASPECTS	DESIGN INSTRUCTIONS
CONSISTENCY	The use of font or letter
	Space
	Layout
FORMAT	Use single or multi format
	Use vertical or horizontal paper format
	Use easy icons to be understood
ORGANIZATION	Display the images that illustrate the scope of material in modul.
	Sort and arrange the contents of the material in a systematic sequence
	Place interesting scripts and illustrations
	Between chapters, between units, and between paragraphs with composition and plotwhich are easy to understand.
ATTRACTIVENESS	Combine matching colors, images, illustrations, shapes and font sizes.
	Placing the stimuli in the form of images, illustrations, bold, italic, underline, or color printing.
	Tasks and exercises are packaged in such a way.

Based on the seven principles of multimedia according to Mayer it will be used in the development of good learning modules especially those related to multimedia content.

Learning technology is a theory and practice in the design, development, utilization, management and evaluation of learning processes and resources for learning needs. In this case, it will be needed a media to support the success of the learning.

The word media comes from the Latin which literally means middle, intermediary, or introduction. But more specifically, the notion of media in the learning process is defined as graphic, photographic, or electronic tools for capturing, processing, and rearranging visual or verbal information. The characteristics about the learning media are: 1. Media education has a physical understanding that today is known as hardware heard or touched with the senses. 2. Educational media has a non-physical meaning known as hardware software which is the content that is to be conveyed to students.

In the process of learning, students need digital text book, e-learning to support the learning activities at home and at school, media as pictures and videos. These teaching materials or textbook can be combined with Information and Communication Technology which utilizes internet facilities so that they can become digital textbook which are new innovations in the world of education so that they can display unique information media.

E-learning is an educational concept that utilizes Information and Communication Technology in the teaching and learning process. While developing digital textbook is a development of textbook for teaching materials by using digital learning or based on web.

METHOD

This research uses a research and development model, which was developed by Borg & gall. Research and development (R&D) is a series of processes or steps in order to develop a new product or improve existing products so that they can be accounted for. The purpose of this research development method is used to produce certain products in testing the effectiveness of these products, then research is needed to test the effectiveness of these products. Type of research uses a qualitative research or descriptive qualitative with select informants as data sources, collect data, assess data quality, analyse data, interpret data and make conclusions on its findings. This research uses a procedural model. The procedural model is a descriptive model, showing the steps that must be followed to produce a product.

The type of data obtained from the results of this study is qualitative data in the form of product attractiveness and feasibility data, then converted into quantitative data in the form of numerical data from the score of the attractiveness and product worthiness.

The design is aimed at designing learning devices so that a prototype. In this stage, there are four design activities, namely the preparation of benchmark reference tests, media selection, and the selection of formats and initial design of tutorial tools. Benchmark tests are compiled based on students' learning objectives and analysis specifications, then subsequently compiled a learning achievement test grid. Media selection is carried out to identify learning media that are relevant to the characteristics of the material. The initial design in question is the design of all learning tools that must be done before the trial is carried out.

Research procedure is conducted with planning in accordance with the procedure. The details of each stage of this research are as follows: a. Observations is made on the learning process before and during learning at home, MA Bilingual Muslimat NU Sidoarjo, to determine the problems that

occur for students. b. Prepare devices / tools and materials. c. Prepare the teaching materials and questions with C3, C4, C5, C6 based on Bloom Taksonomy. The procedures of this research include: a) preliminary study phase to obtain responses from users, b) the stage of the study of media development into an initial product (prototype) and prototype development into learning media and guidebooks, c) the evaluation stage, namely the effectiveness and feasibility of learning media and the resulting manuals. In detail, the stages in the development procedure are explained as follows: 1. Stages of the preliminary study. 2. Development study phase with Initial Product Design (prototype), Design Corrections from Experts, Design Revision, Trial I (Initial), Product Revision I, Trial II, Product Revision II, Evaluation stage.

Data collection techniques are used to get the data needed in this study which is then analyzed. The techniques used in data collection are Data Sources with Literature sources, Primary Data Sources. Next data use Questionnaire, Observation Techniques, Interview techniques, Discussion with experts, Competency tests, Documentation techniques, Research Instruments.

The instrument referred to here is an instrument used to assess the effectiveness and feasibility of media and their modules. To test the feasibility of digital teaching materials and modules using an evaluation instrument totaling 13 questions for expert test material, including: 1) the feasibility of the content / material, 2) the suitability of the media with teaching devices (lesson plan, syllabus and curriculum), 3) the suitability of the concept of learning with material, 4) completeness of material on learning through e-learning.

To test the feasibility of digital teaching materials media using evaluations totaling 16 questions including: 1) color elements and the use of letters, 2) the composition and design of products, 3) the use of media in accordance with the concept of material, 3) the use of media based on media principles and media functions for learning. To test the feasibility of the module using an evaluation of 10 questions including: 1) the display and presentation of the book, 2) the suitability of the manual with digital teaching materials, 3) the procedures and language.

Data analysis was carried out qualitatively and quantitatively. Analysis of the data is explained by using Analysis of qualitative data. Analysis of the data used in this study is an interactive qualitative analysis model technique, which consists of three components, namely; 1) data reduction, 2) data display, and 3) conclusions or verification. Quantitative data analysis using t-test statistics to test the comparison of the results of the pretest and post test before and after using digital teaching materials.

The documentation is also taken for each learning outcome of the learning is recorded properly and is carried out at each meeting until several sheets are collected. The documentation also takes the form of a lessonplan made by the homeroom teacher.

RESULT

E-Learning as a support for learning and application of video media and digital teksbook. The use of E-learning is specifically intended to realize one of the learning targets in madrasas, namely

ASTEAM. Madrasa e-learning can be accessed through the official website: https://elearning.mabilingualmuslimat.sch.id.

The sitemap of e-learning

Chart 4.1. Sitemap of e-learning features

This e-learning application is made in a website-based Programming Language, so it can be more *multiplatform* when compared to mobile applications (Android/iOS). The programming structure is divided into two, namely programming on the *backend* and programming on the *frontend.* In the *backend* section, the technology used is to use the PHP programming language version 7 which is packaged in *the* CodeIgniter version 3 *framework* as a bridge between the database and the *frontend* programming section , and MySQL as a container for managing data in the database. In addition, the JavaScript Programming Language which is packaged in *the* jQuery *framework is* also used to handle *Asynchronous* data exchange processes or better known as *AJAX (Asynchronous JavaScript and XML).*

In the design section or the *frontend* of this application, CSS (*Cascading Style Sheet*) is used which is packaged in *the* Bootstrap *framework* version 4 to support *responsive* features in the application, so that it still looks *user-friendly* when accessed from *devices* with any screen size. In addition, this application also uses the PHP language writing model in HTML. So the writing of the code is slightly different from most used by other programmers.

This application is made in the form of a *compact* application or *plug and play*, so that it can be used or installed easily by others. In addition, the writing structure has also been adjusted so that you can easily add other features in the form of plugins.

E-learning works with digital text book and media of video learning. The media and digital text book have some stages to be passed to create a better product and also can be used more by other schools. It should pass several steps to complete.

Those stages are; Development Stage which consists of 1) Planning Phase (*Planning*) with Define the Scope Identify Learner Characteristics, Produce a Planning Document, Determine and Collect Resources, Conduct Initial Brainstorming. 2) Design Stage (*Design*). *3)* Develop Initial Content Ideas. 4) Conduct Task and Concept Analysis. 5) Prepare Create Flowchart and Storyboard. 6) Development Phase (*Development)* with Initial design / prototype, Initial design preparation stage, Validity/correction, Initial design correction results, Trial (initial), Design revision, Trial Results with alpha and betha test.

The results are the teaching materials has the highest average of 3.5 which is categorized as very feasible. Based on the data of content aspect, it shows that of the 6 items, the material content item has the highest average of 3.5. For learning aspect, the validation results matter experts on aspects of learning shows very feasible with an average score of 3.5. Based on the results of the assessment of the two material experts on the training aspect, an overall average score of 3.14 was obtained which qualitatively was categorized as very feasible. The results of the assessment of two material experts on the five aspects obtained an average score of 3.15 which was qualitatively categorized as Very Appropriate.

On the media experts validation results, based on the data obtained from two media experts on the display aspect, it shows that interactive teaching materials are very feasible to use. Experts the media gave a very decent rating with an average score of 4.0. Based on the results of the validation of two media experts on the aspect of use which consists of six items including the product ease of use indicator items, an average score of 3.0.

The results of the validation of two media experts on the aspect of utilization of interactive teaching materials components with module systematics obtained an average score of 3.5 with a very decent category. The result of assessment of two media experts shows 3.22, means very eligible.

Based on the results of beta test 1 assessment on the learning aspect, it shows that the overall average score is 3.28 in the "very feasible" category. The results of the small group test on the programming aspect in table 25 obtained an overall score of 117 of the six items with an overall average score of 3.25 which was categorized as "very feasible". From the learning aspect, data shows average score 3,22, it's viable. Based on beta test 2, data shows that appearance has average score 3,42; the use get average score 3,08; and utilization has average score 3,17. The total average score is 3.22.

The result of pretest and posttest on beta test 2 are 22,65 for the average score of pretest and 74,23 for the average score of posttest.

Revision of interactive teaching material products was about the questions given, digital text book and video as media are given the animation, and it made by one package with covering the three materials, namely the position of points, lines, and planes, determining distances in space, and angles in space.

The revisions made to the interactive teaching material product were about the source of the video must be stated, the developer needed to be changed the mistakes in making the content. The revision is about; (a)Appearance Before Revision (b) Display After Revision.

The results of interviews with students obtained that the student needs a material resource that requires a picture that is interesting and animated.

CONCLUSION

Digital text book and media video learning are in one packaged using a *Flash Disk (FD)* and equipped with physical books that can be used as learning resources to support learning Entrepreneurship. The resulting interactive teaching materials are equipped with text, image, animation and video content. In addition, the product of interactive teaching materials consists of components which include; cover page, module identity, introduction, table of contents, glossary, user suggestions, description, learning objectives, concept map, success criteria, content loading; (a) learning objectives, (b) material description, (c) summary, (d) practice questions, (e) reference list, (f) answer key/question discussion), and competency test. The practice questions presented in each learning activity are in the form of multiple choice questions, which aim to measure students' understanding of the material that has been studied.

The suggestions for the use of interactive teaching material products to be more effective in the learning by explaining about the product and its use with the aim of teaching materials, conveying the learning objectives so that students can have an overview of the material before learning, re-explaining the material or practice questions contained in it, for students can discuss with teachers and peers if there are difficulties in understanding the material or running interactive teaching material products, can study well the instructions in operating interactive teaching material products, and both teachers and students are able to operate interactive teaching material products.

Dissemination and Further Product Development for interactive teaching material products can be used as additional learning resources for students. This product can be distributed in SMA/MA schools via *Flashdisk* by anyone who needs it. The development of digital text book as teaching materials can further add reading formats for *smartphones* so that students are more flexible in learning, add *worksheet* features to make them more interactive and further video development can be narrated to make it easier for students to learn.

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