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e-HISTORY MOBILE APPS FOR SPM CANDIDATES: A FRAMEWORK

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ABSTRACT

Technologies and software are used to design, deliver, and support learning activities. With the advancement of technology in the world, individuals utilize technology in every aspect of their lives. E-learning is the use of electronic technologies to deliver educational content and activities. E-learning frequently has connections with education since it is another way of conveying knowledge more conveniently. In the Malaysian context, the History subject is one of the subjects studied by Malaysian students for Sijil Pelajaran Malaysia (SPM). SPM history covers a wide range of topics and elements of Malaysian and global history. This subject must be passed to earn SPM certificate, as it a requirement set by the Malaysian government. Manual learning materials which may be uninteresting lead to the development of the e-History Mobile Apps to help SPM candidates to get more interested in learning this subject. Questionnaires, studies, and interviews were done to SPM History teachers and candidates from SMK Seri Samudera and feedbacks were obtained.

Keywords: e-learning, history, mobile apps

Introduction

E-learning is the use of electronic technologies to deliver educational content and activities. E-learning is frequently used to refer to a variety of different forms of digital learning, including online and virtual education (Alebeisat et al., 2022). E-learning is considered as the acquisition of knowledge in an electronic form using personal computers, smartphones, tablets (Bakanova & Javorcikova, 2020). Learners can gain numerous benefits from elearning, including customization, flexibility, simplicity, accessibility, and interaction. hand."

Considering the letter "e" stands for "electronics", technology is particularly crucial in e-learning. Technologies and software are used to design, deliver, and support the learning activities. Mobile devices are one example that are commonly used in daily life, whether at home, school, or work. Mobile learning, adaptive learning, gamification, and AI are all possible with technology. A growing

number of people are using mobile devices in their daily lives because of the development of increasingly advanced technologies.

E-learning frequently has connections with education since it is another way of conveying knowledge more conveniently. In Malaysia, the History subject is one of the subjects is a compulsory subject in secondary school and this subject must be passed to earn SPM certificate. SPM history covers a wide range of topics and elements of Malaysian and global history. The aims of learning history subject is to educate future generations about what has occurred, what an important figure or an association is fighting for to achieve something precious. It is meticulously documented to keep track of important events and avoid unpleasant incidents. Furthermore, learn history may extend perspective, knowledge and teach valuable skills such as critical thinking.

The current practice of learning history subject is using textbooks provided by the Malaysian government, which is the standard procedure. One of the greatest advantages of using textbooks is that they are psychologically necessary for students because their growth and accomplishment can be tracked concretely when they are being used (Hycroft, 1998). However, textbooks can be challenging to understand, especially for those who are not enthusiastic readers. Besides that, it is lengthy and the explanations in the textbook make history tedious, leading to disinterest among students. The shortage of time forces the teachers to speed up the lesson in class, leaving little room for in-depth explanation or student engagement.

Therefore, e-History Mobile Application for SPM candidates will be developed to provide great possibilities and opportunities for students to be interested in the subject of History. It also has the potential to boost student enthusiasm and participation by providing more alternatives, diversity, and interactivity in the learning process.

Project Scope

The project's scope is divided into three major components: the project's target user, the documentation of the syllabus used and the equipment that will be used to construct the eLearning application. Users are primarily students, particularly those preparing for the SPM form 4 and form 5 examination. The project would not be possible without them. Therefore, they are an integral part of the project. Because these SPM candidates are of two different ages, their syllabuses are likewise diverse. The topics chosen are those selected by students in forms 4 and 5 via questionnaires. The students received a question that required they had to provide an answer to a difficult-to-understand topic, and after conducting research and analysis on their responses, it was discovered that there were three topics.

Figure 1 shows the syllabus for form 4 and form 5 History subject. In this project, form 4 students will focus on chapter 2, "The Importance of Nationalism," as their main topic. Because these are students who will be sitting the SPM soon, form 5 will focus on two different chapters. As a result, they require extra attention. The topics that receive more attention are chapter 8: Building National Prosperity and chapter 9: Malaysia's Foreign Policy.

Figure 1: The topics in History SPM books

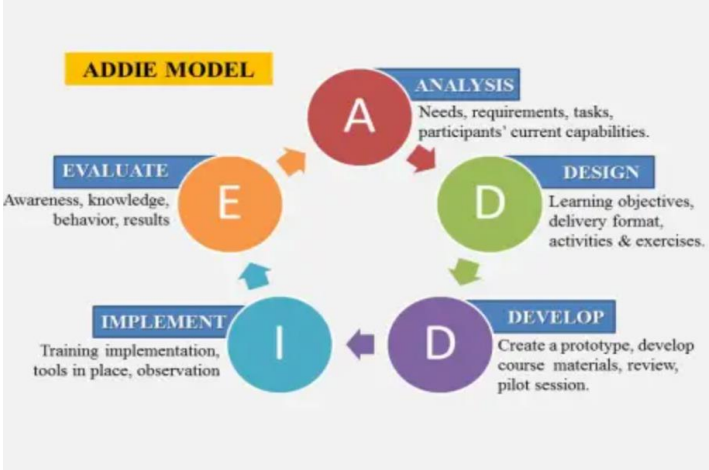
Finally, the implementation of the appropriate tools can aid in the creation of a well-organized application. EdApp, Adobe Animate or Android Studio are tools for developing applications. This software will be helpful in the development of applications that will be built soon.

Methodology

A well-defined and appropriate methodology will guide how the project is executed and reduce the chance of failure. The ADDIE Model and Cognitive Learning Theory was chosen as the technique.

ADDIE Model

According to Holden (2015), one of the models that establishes a generic, systematic, dynamic, and adaptable instructional design approach that is commonly used in instructional design for effective learning is ADDIE. Figure 2 shows the steps in ADDIE Model.



(Source: https://hortmonvera.wordpress.com/2015/03/06/addie-instructional-model/)

Figure 2: Steps in ADDIE Model

Analysis

The main objective is to assess the requirement for developing teaching purposes. Define the setting in the learning environment, as well as the educational requirements and objectives of the target audience. According to Adesfiana, Asturi and Enawaty (2022) there are two specific levels which is content needs analysis based on the syllabus (curriculum) and software requirements analysis (software).

Design

The objective is based on research, to create a blueprint or storyboard for the course or instructional materials. Providing content, structure, and methods of instruction are all part of the steps.

Development

The objective is based on the design strategy, creating actual learning resources. A reference study is carried out as a reference in preparing material on the learning media to be developed. (Sumarwati et al., 2020). This was the step in which the parts chosen during the design phase were prepared.

Implementation

The objective is to provide the course or training programme to the learners. By providing the learning environment that attracts individuals, the learning solution is completed. When a lesson has been established and set up, it is required to be pilot tested.

Evaluation

Evaluation is the process for determining the probability the system is learning to develop effectively, according to with development expectations prefix. According to Dick, Carey, and Carey (2015), there are two types of evaluation to evaluate the design of instruction: formative evaluation and summative evaluation. Formative evaluation focused at creating rapid improvements while summative evaluation

carried out the conclusion of a programme, project or instructional design to evaluate it is entire efficacy and success.

Cognitive Learning Theory

Cognitive theory is the study of the information processing of the mind. It is a theory for explaining how the cognitive load placed on our working memory influences learning and information processing. According to Brayadi et al., (2021), learning will be successful if it is in accordance with the stages and provisions that exist in each character of cognitive learning patterns in students. Table 1.2 shows description of cognitive load theory principles.

Table 1.2: The description of Cognitive Load Theory Principles

Principle	Description
Chunking Information	Chunking is the process of breaking down large amounts of information into smaller, more manageable pieces. This minimizes cognitive strain and allows learners to process information more efficiently.
Reduce Extraneous Load	Extraneous load is the cognitive load resulting from irrelevant or unneeded factors in the learning environment. Reducing insignificant load frees up memory resources for processing critical information
Utilize Visuals Effectively	Illustrations may represent information more effectively than text alone, lowering cognitive load by shifting processing from the verbal to the visual channel.
Manage Intrinsic Load	Intrinsic load is the intrinsic complexity of the material being given. Effective instructional design requires balancing the level of intrinsic load to the learner's abilities and past knowledge
Utilize Multimedia Principles	Multimedia learning concepts emphasize the use of several sensory modalities to improve learning outcomes while reducing cognitive load
Provide Clear Navigation	Clear navigation pathways guide learners through the learning material in a logical and sequential order, minimizing the mental effort involved with knowledge retrieval and orientation

Conclusion

E-learning projects can be implemented as learning resources. Since e-learning is a hybrid and online system, it enables students to receive high-quality education at any distance and anytime with condition; must have internet connection. Learning history subject is crucial as it is a compulsary subject in secondary school and students need to pass the subject to obtain Sijil Pelajaran Malaysia (SPM) certificate. Therefore, the development of e-History Mobile Application for SPM candidates with great possibilities and opportunities for students to be interested in the subject of History. It also has the potential to boost student enthusiasm and participation by providing more alternatives, diversity, and interactivity in the learning process. Students, for example, can select from a variety of topics that match their passions, demand, and preferences, as well as interact with other students from various backgrounds, cultures, and race.

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