PERSUASIVE E-LEARNING PORTAL FOR ARABIC LANGUAGE: ArabKafa3

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ABSTRACT

The Al-Quran and Fardu Ain Class Program (KAFA) has been in place since 1990 with the goal of strengthening the foundations of Islamic education for children aged 7 to 12. The approach stresses reading the Al-Quran with tajwid and strengthening Fardu Ain's principles among his students, including knowledge of Arabic and writing Jawi. If students are not fluent in Jawi, they will have difficulty reading and understanding Arabic. In the context of teaching and learning Arabic, students are found to be less interested in learning and mastering the language. In this pandemic era, learning portals are quickly becoming one of the most popular learning tools. Technology was designed to help students learn, but there are times when the technology highlighted is not focused on achieving an objective and is not specifically designed, causing students to become disoriented. Students nowadays frequently face attitudinal issues such as difficulty focusing in purely online situations, boredom, isolation, and a lack of self-regulation. Recognizing the problem and the positive impact of persuasive technology in education, an Arabic language e-learning portal (ArabKafa3) will be developed through the adaptation of persuasive technology involving the principles of tunneling, liking, self-monitoring and cooperation. The ArabKafa3 scope focuses on several topics related to the Arabic language syllabus for third-year KAFA students. The ADDIE Model methodology is used to develop ArabKafa3, and the interface design of the ArabKafa3 based on persuasive technology principles is discussed in this study.

Keywords: Persuasive Technology, KAFA, Arabic, ADDIE Model, interface design

Introduction

The Al-Quran and Fardu Ain Class Program (KAFA) has been in place since 1990 with the goal of strengthening the foundations of Islamic education for children aged 7 to 12. The approach stresses reading the Al-Quran with tajwid and instilling Fardu Ain's principles in his students, such as Arabic knowledge and writing Jawi. KAFA Primary School is the first medium for developing a generation of Arabic language masters. However, learning in KAFA schools differs significantly from learning in government-aided daily primary schools due to insufficient infrastructure, a short period of time, and some of the teachers being graduates of modest academic education (Ros et al. 2022). The factor of student understanding at the KAFA level is determined by the teacher's instruction and the measures taught. The process of learning Arabic for students begins with understanding the Arabic words, and

then the teacher translates those words into Malay so that the students can easily understand the wishes or instructions of the training questions. The success of the teacher is determined by the learning process of the students' reactions as well as their interaction in the lesson. Students who are not fluent in Jawi will struggle to read and understand Arabic.

According to a previous study, students believe they have low self-confidence and motivation, and they are also skeptical of their ability to master Arabic because Arabic is a difficult language (Kassim et al. 2017). One of the major issues in teaching and learning Arabic is students' passive attitude (Lubis et al. 2014). As a result, in order to achieve a high level of language proficiency, students should adopt an attitude consistent with their interests, such as reading Arabic language materials, listening to Arabic conversations, searching for information in Arabic via internet resources, and not missing out on communicating with those who can speak Arabic in class, outside of class, and so on (Mustafa & Mohamad 2014).

According to current events, the world has been shocked by the emergence of the dangerous covid-19 virus, which has killed many people from all over the world and is still prevalent. This has resulted in the paralysis of various systems such as the economy, security, and education. Because students from various primary, secondary, and higher levels are unable to continue learning face-to-face, the education system is severely impacted. Through the online learning system, technology plays an important role in empowering the use of technology. Learning portals are quickly becoming one of the most popular learning tools in this pandemic era. Technology was created to assist students in learning, but there are times when the technology highlighted is not focused on achieving a specific goal and is not specifically designed, causing students to become disoriented. Nowadays, students frequently experience attitudinal issues such as difficulty focusing in purely online situations, boredom, isolation, and a lack of self-regulation.

Technology can be used as persuasive tools to persuade students to learn in an enjoyable manner. Persuasive technology (PT) refers to technologies that aim to change an individual's behaviour through persuasion and social influence (Caraben et al. 2014). Persuasive technology can be defined as technology that is designed to change the attitudes or behavior of users in a predetermined way. Aside from motivation and persuasion, strategy is the most important component of PT architecture (Oinas-Kukkonen 2013; Oinas-Kukkonen & Harjumaa 2018). To design a system based on PT architecture, the persuasive technique or strategy to motivate behavioral changes should be carefully considered. According to the findings of Nor Aziah et al. (2017), the Persuasive System Design (PSD) designed by Oinas-Kukkonen & Harjumaa (2018) is a comprehensive framework for planning and evaluating the PT. Despite this, Nor Aziah et al. (2017) discovered that the majority of Malaysian researchers did not use the PSD as a reference or guide to adapt the persuasive principles in their research. As a result, researchers must investigate and scrutinise the PSD.

The PSD model proposed by Oinas-Kukkonen (2018) consists of four design principles that should be considered when developing a prototype or application. The four categories are primary task support, dialogue support, system credibility support, and social support. The primary tasks support focusing on what the primary tasks should be. Dialogue support refers to computer-human dialogue that aids in the achievement of goals. The system credibility support category discusses how to design a system so that it is more realistic and persuasive. The social support category describes how to design the system so that it motivates users by leveraging social influence.

There is a total of 28 principles of PSD as explained by Oinas-Kukkonen & Harjumaa (2018). Not all PSD principles will be applied in this research domain. Recognizing the problem and the positive impact of persuasive technology in education, an Arabic language e-learning portal (ArabKafa3) will be developed through the adaptation of persuasive technology involving the principles of tunneling from primary task support category, liking and self-monitoring from dialogue support category as well as cooperation from social support category as shown in Table1.

Table 1: Persuasive Technology Principles Adapted in ArabKafa3

Requirement	Description	Category	Persuasive Technology Principles
An e-learning portal should guide students in the process of changing their attitudes by favourably impact for action that bring them closer to the desired behaviour.	Using the ArabKafa3 to guide students through a process or experience provides opportunities to persuade along the way.	Primary Task Support	Tunneling
An e-learning portal should have a look and feel that appeals to students.	ArabKafa3 is visually attractive for students is likely to be more persuasive	Dialogue Support	Liking
An e-learning portal should provide means for students to track their performance or status.	ArabKafa3 monitors one's own performance or status and assists the student in reaching goals.	Dialogue Support	Self-monitoring
An e-learning should provide means for cooperation.	ArabKafa3 can persuade students to adopt a desired attitude or behaviour by leveraging people's natural desire to cooperate.	Social Support	Cooperation

ArabKafa3 can help students learn Arabic because the characters appear with colours, text, images, sounds, animations and movies. In addition, the inclusion of Wordwall, a web application with interesting educational and interactive quiz-based games, will increase children's interest in ArabKafa3. ArabKafa3 is developed using the ADDIE Model methodology, and the interface design of ArabKafa3 based on persuasive technology principles is discussed in this study.

Methodology

ArabKafa3's development is based on the ADDIE model. The method is used to define the progress required to complete the project by modifying the ADDIE model's five phases. The phases are as follows: analysis, design, development, implementation, and finally development. These five stages demonstrate dynamic, adaptable instruction in the development of effective training and performance support tools. This study focuses on the design phase, which involves interface design. In this phase, the adaptation of persuasive principles is used to describe how content material is navigated page by page, as well as the multimedia elements required on each page.

Figure 1 depicts the first page of ArabKafa3. To proceed to the next page, the user must click the "Start" button. On this page, animation and large-size text are used to draw the user's attention, and the features are related to the liking principle.

Figure 1: The First Page of ArabKafa3

Figure 2 depicts the ArabKafa3 main menu, which is divided into three selected topics: "My Beautiful Clothes", "Colors", and "Weekdays". The tunnelling and cooperation principles were used in this interface design. The adaptation of the tunnelling principle that specializes in learning topic by topic improves students' ability to focus learning on a topic without becoming disoriented. When students are at ease, they are more likely to cooperate, which can persuade them to learn in a more enjoyable manner.

Figure 2: ArabKafa3 Main Menu

Figure 3 depicts the "My Beautiful Clothes" page, which includes Note, Video, Quiz, and Game buttons that correspond to their respective pages. The home button navigates to the homepage, while the "X" button exits the portal. Users chose the icon to reduce memory capacity. The principles of liking and tunnelling apply to this interface design.
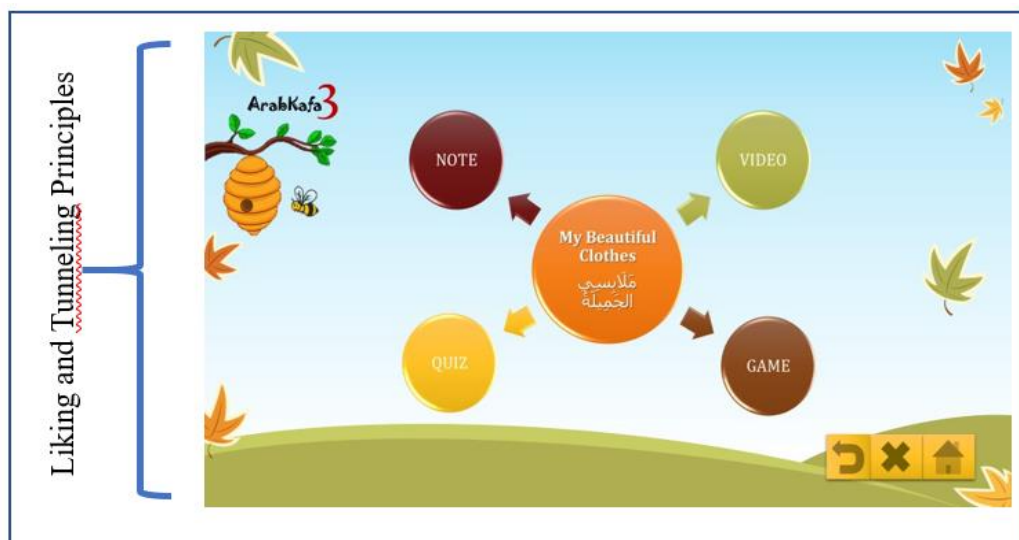

Figure 3: My Beautiful Clothes Page

Figure 4 depicts the Notes page for "My Beautiful Clothes" topic which will include text, images, sound, animation, and video. Students like the idea of simple notes with visual elements that can help them understand better. This scenario demonstrates the application of the liking principle. The button ">" takes users to the next alphabet number, while the button "<" does the opposite. The arrow icons indicate whether the user wants to move on to the next note or return to the previous one.

Figure 4: Note Page: My Beautiful Clothes

Figure 5 depicts the Video page for "My Beautiful Clothes" topic. There will be a description box for the students to understand what they are watching. Video is a combination of the most dynamic and realistic multimedia elements that can influence student motivation towards the process of accepting a learning process in an enjoyable manner. In this case, the principle of liking is used to acknowledge students' preferred learning method.

Figure 5: Video Page: My Beautiful Clothes

There will be an exercise in the form of multiple-choice question (MCQ) and match question in the Quiz Page. English-Arabic is being used as a medium to answer the exercise. The score obtained from quiz activities allows students to self-assess their level of mastery for each topic. In this case, the interface design incorporates the self-monitoring principle. Figure 6 depicts one of the quiz page's self-monitoring activities for "My Beautiful Clothes" topic.

Figure 6: Quiz Page: My Beautiful Clothes

Games are used to help students enjoy using ArabKafa3. Figure 7 depicts anagram activity, which is available on the Game page for "My Beautiful Clothes" topic. Students must arrange the letters to form the correct word. This user interface design incorporates the principles of liking and cooperation to raise the bar for learning each topic's core concepts and ideas.
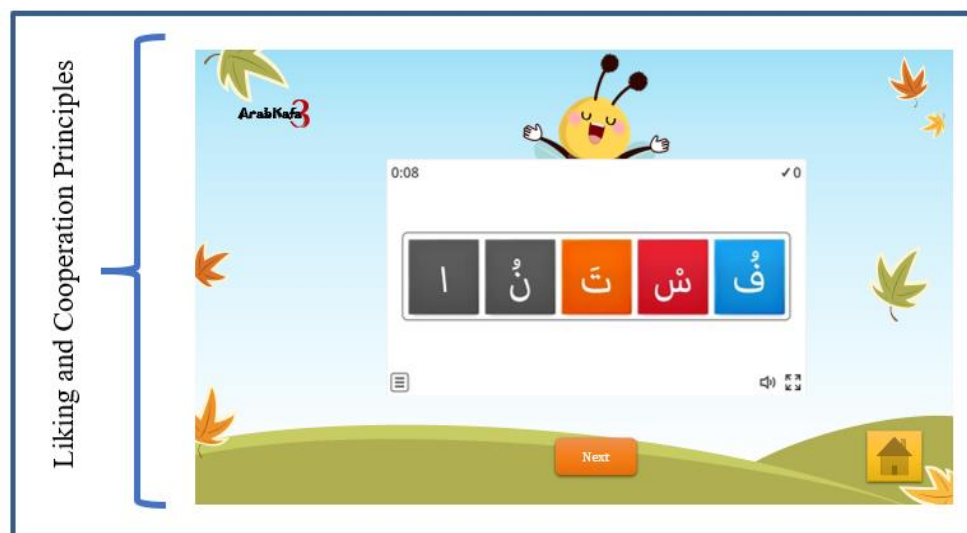

Figure 7: Game Page: My Beautiful Clothe

Conclusion

Adapting persuasive technology in the development of ArabKafa3 E-Learning portal is very helpful because students' emotional levels vary depending on course, age, and maturity. The development of ArabKafa3 is one of the stepping stones to incorporating persuasive technology as one of the important

elements in today's educational environment. ArabicKafa3 E-Learning portal adapted tunnelling, liking, self-monitoring, and cooperation principles can have a positive impact on developing students' KAFA discipline towards Arabic class session.

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