Learning Arabic Through Virtual Classroom (LAVC) for Year Six Students

Muhammad Ajwadi Asnari[1], Zazaleena Zakariah [2*], Norulhidayah Isa[3], and Nazatul Azleen Zainal Abidin[4]

[1,3]College of Computing, Informatics and Mathematics, Universiti Teknologi MARA Cawangan Terengganu Kampus Kuala Terengganu, 21080 Kuala Terengganu, Terengganu, Malaysia
[2,4]Centre of Foundation Studies, Universiti Teknologi MARA, Cawangan Selangor Kampus Dengkil, 43800 Dengkil, Selangor, Malaysia

Corresponding author: zazaleena@uitm.edu.my

Abstract

Arabic education in Malaysian schools has taken a systematic turn to keep up with the need to comprehend the fundamental sources of Islam: the Quran, prophetic sayings, and other Islamic Sciences. Today, the Jawi, Quran, Arabic, and Fardhu Ain (JQAF) Program has substantially contributed to Malaysia's consolidation of Arabic education. From being an optional subject, it was later declared a mandatory subject for all Malaysian students in national primary schools to secondary school. The proposed virtual classroom is aimed at addressing the challenges faced by teachers in teaching the Arabic language as there is no one standardized platform for sharing teaching and learning Arabic materials. As the first step in this study Year Six students from Sekolah Kebangsaan Dato' Yahya Subban, Perak have been selected to participate. The preliminary study highlights the need for a standardized approach to sharing teaching materials, the impact of e-learning, and the dispersed nature of digital teaching materials. The study proposed the use of Universal Design for Learning (UDL) theory and the Adapted System Development Life Cycle (SDLC) method which consists of six phases which are Planning, Analysis, Design, Development, Implementation, and Reporting. Data requirements involved interviews with eleven teachers and a survey of nineteen students. The virtual classroom was then evaluated through a collaborative effort involving two IT experts, an Arabic specialist, and thirty students. The evaluation results showed that the virtual classroom developed meets the requirements and provides a positive learning experience for students. Overall, the study highlights the importance of using established theories and models in developing educational technology and the positive impact it can have on student learning.

Keywords: Islamic Courseware, Multimedia Courseware, Arabic Language, Islamic Class

INTRODUCTION

Arabic education in Malaysian schools has taken a systematic turn to keep up with the need to comprehend the fundamental sources of Islam: the Quran, prophetic sayings, and other Islamic Sciences. Today, the Jawi, Quran, Arabic, and Fardhu Ain (JQAF) Program has substantially contributed to Malaysia's consolidation of Arabic education. From being an optional subject taught in the classroom, it was later declared a mandatory subject for all Muslim Malaysian students in national primary schools to secondary school. In the early observation stage of the classroom learning process, due to the large number of students in a school, managing and sharing the Arabic language materials is challenging [1], [3], [7] and the challenge arises when there is no comprehensive platform that acts as a repository that can be used to store learning materials, activities, assessments, and others.

Researches identified several key challenges, such as a lack of motivation, limited exposure to Arabic outside of school, and difficulties with the Arabic script [1], [3], [5], [7], [8]. One of the potential solutions includes using technology to make Arabic learning more engaging, providing more opportunities for Arabic language immersion, and improving the quality of Arabic language teaching [5]. Currently, teachers and students solely refer to textbooks and activity books as references. Issues arise when students do not have books or missed out on classes. The problem becomes more challenging during the pandemic of Covid-19 when teachers and students need to conduct online teaching and learning [9], [10]. Hence, this study is conducted in response to the issue. As a start for this study, the focus has been set on managing Arabic learning materials that focus on Year Six students.

In this study, researchers proposed to develop a virtual classroom that will be an online repository and classroom focused on Arabic language aimed at Year Six students. As for the data collection process and as system testing groups, Year Six students from Sekolah Kebangsaan Dato' Yahya Subban, Perak has been chosen to participate. A preliminary study (semi-structured interviews with teachers and students) conducted in the early stage of the study highlights the need for one dedicated platform that will be used to share teaching materials, activities, assessments, and others materials.

The study proposed the use of Universal Design for Learning (UDL) theory and the Adapted System Development Life Cycle (SDLC) method. UDL has been chosen as it is comprised of three theory components which are engagement, representation, action, and expressions [1], [6], [9]. The phases in the adapted SDLC are Planning, Analysis, Design, Development, Evaluation, and Reporting. Data requirements involved interviews with eleven teachers and a survey of nineteen students. The virtual classroom was evaluated through a collaborative effort involving two IT experts, an Arabic specialist, and thirty respondents. The evaluation results showed that the virtual classroom developed meets the requirements and provides a positive learning experience for students.

TEACHING ARABIC LANGUAGE

Arabic is the official language of the twenty-two Arab League member countries. In addition, there are more than 300 million Arabic speakers around the globe, albeit the vast majority of them reside in the Middle East and North Africa. It is also one of the six official United Nations (UN) languages. It is referred to in the West and among linguists as Classical Arabic or Standard Arabic. This standard language is understood by all Arabic speakers regardless of country. It is studied and recognized worldwide [3].

There are more than 447 million native speakers of the Arabic language and its several dialects. Arabic is a semantic language that originated between the 1st and 4th centuries. Modern Standard Arabic (MSA), colloquial or dialectal Arabic, and Classical Arabic are its three sublanguages. Modern Standard Arabic is the official language used in the workplace, government, media, and publications. In addition, it is commonly taught in schools, universities, and institutions. The colloquial Arabic language differs throughout Arabic nations and geographical locations, although the classical Arabic language is preserved in religious texts and ancient Arabic poetry [10].

In Malaysia, the Primary School Standard Curriculum (KSSR) is implemented to replace the New Primary School Curriculum (KBSR). KSSR is a transformation carried out by the Ministry of Education to ensure the system of national education standing global standards. The syllabus of the Arabic language subject for Year Six has seven main topics. For Arabic, it consists of three levels: Basic, Intermediate, and Advanced. By the conclusion of this subject, students should be able to read and understand texts on exciting topics and communicate effectively in daily situations. The elementary level is designed for students with little or no previous Arabic experience. Students will learn to read and write using the Arabic alphabet and develop the ability to have rudimentary discussions about everyday requirements.

Before the pandemic, students learned the Arabic language through the traditional face-to-face instructional method. Face-to-face learning is an effective way to learn knowledge and skills because it often combines different ways of learning, including writing, reading, discussion, presentations, projects, group work, film clips, demonstrations, and practice. Online learning is seen to be less interactive than face-to-face learning. This is mainly the result of a lack of social presence, engagement, and student pleasure [11]. However, online learning has been marketed as more cost-effective and convenient than conventional educational settings, giving more options for students to complete their education [2], [4]. Due to that, the usage of online learning through virtual classrooms is widely applied throughout the world.

APPLYING UDL FOR LEARNING ARABIC THROUGH VIRTUAL CLASSROOM (LAVC)

This study applied the UDL theory to ensure project success. UDL consists of three principles: engagement, representation, action, and expression. These ideas are based on the three fundamental brain networks [1], [9]. Multiple modes of engagement are the first UDL concept based on the brain's dynamic network [6]. According to this notion, students should be provided with various learning environment engagement possibilities [6]. Learners will be driven by this idea, stimulating their interest in learning. These three (3) principles will be implemented appropriately in the development process for this study to ensure that the research goals are accomplished. Based on the three principles of UDL, eight LAVC criteria have been identified. All criteria are believed to be able to improve the proposed virtual classroom in terms of its functionality and usability. Table 1 shows table the mapping of UDL principles with LAVC criteria.

Table 1. Mapping of UDL Principles with LAVC Criteria

UDL PRINCIPLES	LAVC CRITERIA
ENGAGEMENT	1. Make sure that students have the opportunity to engage in the activity. 2. Provide students with opportunities to do activities.
REPRESENTATION	1. Different types of content, including notes, videos, and slides will be offered to accommodate various learners. 2. Offer a wide variety of different activities. 3. Entertaining activities such as quizzes and crossword puzzles.
ACTION AND EXPRESSIONS	1. Provide self-assessment for students to self-evaluate. 2. Make it possible for students to provide feedback on their teachers through an online questionnaire. This would help the teachers improve. 3. Allow students to voice their opinions about the content of the course.

RESEARCH DESIGN

In a theoretical study, the literature review shows the research questions' assumptions, the researcher's knowledge of the field, that the proposed study will fill a gap in previous research, and refrains and reframes the research questions by placing them in the context of more significant empirical traditions. This study's literature review was based on books and articles published regarding the study's subject. Following that, related papers were discovered, their reference lists were examined, and additional relevant articles were discovered. Due to the dearth of an empirical study on this issue, particularly in Malaysia, exploratory research is considered the most appropriate method in empirical research. Therefore, preliminary knowledge of virtual classrooms, UDL, and Arabic language for Year Six deficits is synthesized from the literature to give a starting research method. For this study, three main objectives have been set up. All three objectives have their approach and method to ensure each objective is accomplished. The methodology adopted in this study is illustrated schematically in Table 2.

Table 2. A Schematic Overview of the Methodology Adopted in this study

RESEARCH OBJECTIVE	To identify the problem in learning the Arabic language for primary school users	To design and develop the LAVC for primary school users to perform their knowledge.	To evaluate the functionality of the proposed system
RESEARCH APPROACH	• Empirical Study • Theoretical Study • Project development		• Functionality testing

continued

RESEARCH METHOD	• Literature • Semi-structured interview with eleven teachers • Survey questions to nineteen students • SPSS is used for data analysis	• One supervisor • Two IT experts • One Arabic specialist • Thirty students

DEVELOPMENT OF LEARNING ARABIC THROUGH VIRTUAL CLASSROOM (LAVC)

For this study, the adapted SDLC model was used, focusing on an initial, simplified implementation that gains complexity and functionality until the final stage of the virtual classroom is completed. It is a thorough strategy that explains how to create, maintain, replace, upgrade, and enhance a specific system. The life cycle describes a strategy for improving virtual classroom quality and the entire development procedure. It comprises planning, analysis, design, development, evaluation, and reporting phases. The development process is summarized in Table 3.

Table 3. The Project Development Methodology

PHASE	ACTIVITY	OUTCOME
PLANNING	• Research a suitable proposed title for the project. • Identifying the problem statement.	• The title of the project is "Learning Arabic through Virtual Classroom (LAVC) for Year Six" based on UDL model. • Problem statement
ANALYSIS	• Find the appropriate project material. • Researching and literature review • Identify functional and non-functional requirement.	• The requirement of content in the project • Literature review • Functional and non-functional requirement
DESIGN	• Design site map • Develop Context Diagram (CD), Data Flow Diagram (DFD), Entity Relational Diagram (ERD) • Create interface design.	• Site Map • Context Diagram (CD), Data Flow Diagram (DFD), Entity Relational Diagram (ERD) • Interface design
DEVELOPMENT	• Develop the system	• Fully functional System
EVALUATION	• Testing the functionality	• Functionality test result
REPORTING	• Report writing	• Report

For LAVC, the system's code is being developed in PHP and HTML using VS Code. In addition, the XAMPP Control Panel creates a connection between the system's database and the Google Chrome browser, providing students with easy access to the content. Wordwall is being utilized to construct quizzes and exercises that motivate students to participate in their learning actively. In addition, using quizzes and exercises is believed to be able to help in testing student comprehension and offer performance feedback. Figure 1, Figure 2, Figure 3 and Figure 4 show the sample interfaces of LAVC.
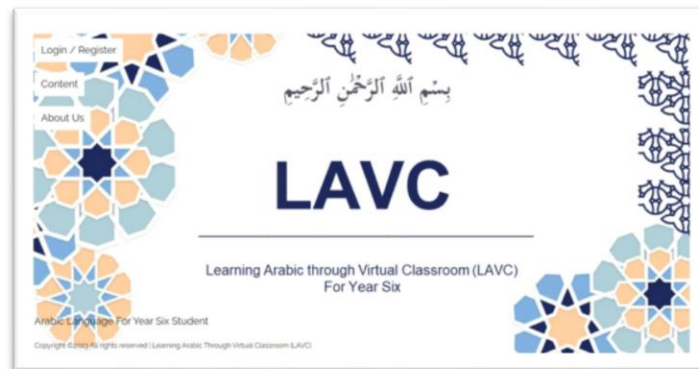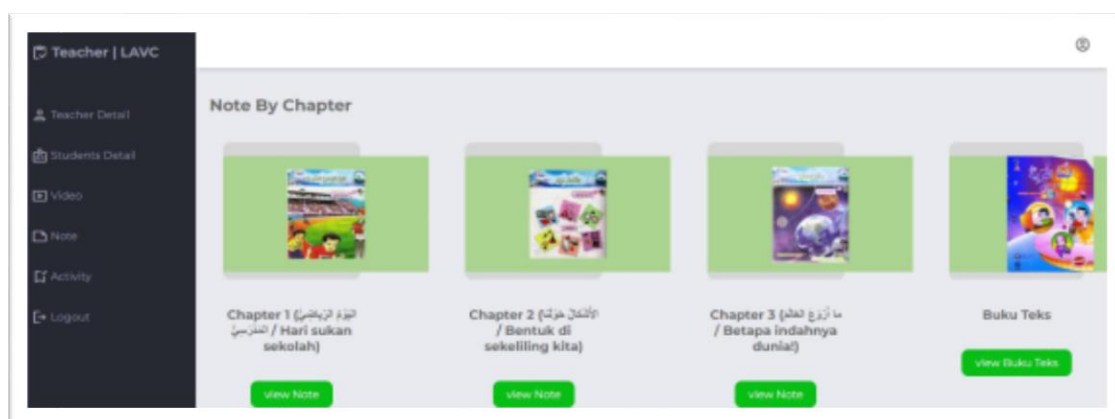
Figure 1. LAVC Main Page
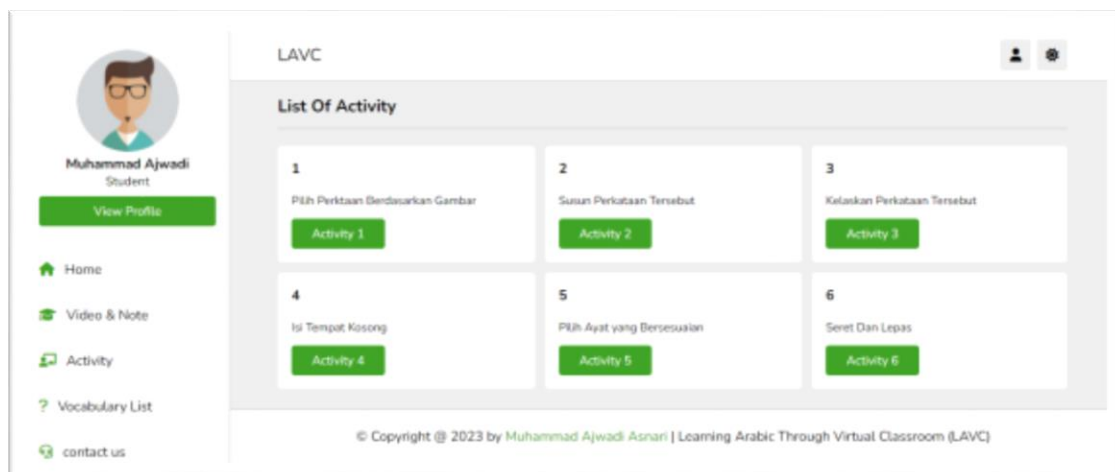

Figure 2. Learning Materials Page

Figure 3. Learning Materials Page

Figure 4. Learning Materials Page

TESTING AND EVALUATION OF LEARNING ARABIC THROUGH VIRTUAL CLASSROOM (LAVC)

The virtual classroom was evaluated through a collaborative effort involving a supervisor (one (1) person), IT experts (two (2) persons), an Arabic specialist (one (1) person), and users (thirty (30) students). Table 4 shows summarized results of the testing and evaluation of LAVC that have been conducted.

Table 4. Testing and Evaluation of LAVC

TESTER	FACTOR				
	User Interfaces	Functionality	Content	User Friendliness	Reliability
SUPERVISOR	80%	85%	90%	80%	80%
IT EXPERTS	85%	85%	80%	80%	85%
ARABIC SPECIALIST	85%	80%	75%	85%	75%
USER	78%	80%	85%	80%	80%

During testing and evaluation, testers are required to rate the performance of LAVC based on five main criteria. Each factor is divided into sub-factors. The percentage represents agreement of the importance and functionality of each factor. The percentage for each factor shows a result of more than 75% for each group of testers. Hence it can be concluded that the testing and evaluation results showed that the virtual classroom developed for this study meets the requirements and provides a positive learning experience for students.

CONCLUSION

The LAVC is a valuable tool for primary school students who are in Year Six and anyone who wants to improve their understanding of the Arabic language. In a traditional classroom setting, teachers often cannot provide individual attention to each student, particularly those who may be struggling with the material. The virtual classroom provides an alternative learning environment where students can receive personalized attention and work at their own pace. This study contributes to education in several ways. The first is in personalized learning where the virtual classroom provides a customized learning experience for each student, allowing them to focus on areas in which they need improvement. Second, improved accessibility where the virtual classroom provides educational resources for students who may not have access to a traditional classroom setting. This makes education more accessible and inclusive. Next, the LAVC

increases engagement where it provides a dynamic and interactive learning environment, making it easier for students to stay engaged and motivated. Finally, it produces better outcomes by providing a personalized and engaging learning experience where students are more likely to achieve better outcomes and improve their understanding of the Arabic language. Overall, the LAVC has the potential to revolutionize the way Arabic is taught to primary school students, providing them with a more effective and engaging learning experience.

REFERENCES

[1]   Al-Azawei, A., Serenelli, F., & Lundqvist, K. (2016). Universal Design for Learning (UDL): A Content Analysis of Peer Reviewed Journals from 2012 to 2015. Journal of the Scholarship of Teaching and Learning, 16(3), 39-56. https://doi.org/10.14434/josotl.v16i3.19295

[2]   Alshammari, S. (2021). Determining the factors that affect the use of virtual classrooms: A modification of the UTAUT model. Journal of Information Technology Education. Research, 20, 117.

[3]   Al Shlowiy, A. S. (2019). Language, religion, and communication: The case of Islam and Arabic in the Asia-Pacific. Journal of Asian Pacific Communication.

[4]   Bali, S., & Liu, M. C. (2018). Students' perceptions toward online learning and face-to-face learning courses. In Journal of Physics: Conference Series (Vol. 1108, No. 1, p. 012094). IOP Publishing.

[5]   Bukhari, N. I. A., Mat, M. N., & Amin, N. S. M. (2021). Challenges in Learning Arabic Language among Primary School Students in Malaysia: A Study in Selangor and Kuala Lumpur. Journal of Language and Linguistic Studies, 17(1), 139-152. DOI: 10.17263/jlls.933306.

[6]   CAST (2020). Universal Design for Learning Guidelines version 2.2. Retrieved from http://udlguidelines.cast.org

[7]   Hussien, A. M. (2018). Culture of Traits in Arabic Language Education: Students' Perception of the Communicative Traits Model. International Journal of Instruction, 11(4), 467-484.

[8]   Ibrahim, M. H., & Rahman, A. K. A. (2018). Teaching of Arabic in Malaysia. Intellectual Discourse, 26(1), 189-206.

[9]   Lee, A., & Griffin, C. C. (2021). Exploring online learning modules for teaching universal design for learning (UDL): Preservice teachers' lesson plan development and implementation. Journal of Education for Teaching, 47(3), 411-425.

[10]   Muaad, A. Y., Jayappa, H., Al-antari, M. A., & Lee, S. (2021). ArCAR: A Novel Deep Learning Computer-Aided Recognition for Character-Level Arabic Text Representation and Recognition. Algorithms, 14(7), 216.

[11]   Subramaniam, S. R., & Muniandy, B. (2019). The effect of flipped classroom on students' engagement. Technology, Knowledge and Learning, 24(3), 355-372.