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Developing *'Mumtaz Al-Lughah Al-Arabiyyah'*: QR Code Innovation for Arabic Learning

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Abstract

This study aims to develop a QR Code-based Arabic learning module to improve student motivation and learning outcomes in vocational high schools. Arabic language education at this level currently lacks sufficient technological integration, which diminishes student engagement. Employing the Research and Development (R&D) approach guided by the ADDIE model, the study involved 32 twelfth-grade students from SMK N 1 Talangpadang. Validation of the module indicated high feasibility, with material expert approval at 85.5% and media expert approval at 98.2%. The Wilcoxon test demonstrated statistically significant improvement in students' performance, as all participants achieved higher post-test scores compared to pre-test scores (Asymp. Sig. (2-tailed) = 0.000). These findings confirm that incorporating QR Codes linked to instructional videos effectively enhances students' comprehension and engagement. This research contributes innovatively to Arabic language education by integrating printed materials with interactive digital content to meet contemporary learning demands. Future studies may investigate the applicability of QR Code-based modules across various educational levels and subject areas.

Keywords: Arabic Language Learning; Educational Technology; Digital Learning Modules; Self-Directed Learning; QR Code Integration.

Introduction

Teachers play an important role in facilitating students in teaching and learning activities.[1] The role of teachers as facilitators greatly affects student learning outcomes.[2] Through the Zone of Proximal Development (ZPD) concept, Vygotsky stated that teachers play the role of mediators or facilitators who provide assistance or scaffolding so that students can reach their learning potential.[3] One of the teacher's roles as a facilitator is to deliver instructional materials that align with students' learning needs.[4] Where teaching materials are one of the most important aspects of the learning process,[5] the existence of teaching materials will make it easier for students to learn sequentially and systematically, so that students can understand the competition in its entirety.[6]

One effective form of instructional material is the module.[7] A module is a printed learning device designed comprehensively and systematically[8] to assist students in mastering specific content.[9] As an external factor,[10] the module is

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[1] Mega Rahmawati and Edi Suryadi, "Guru sebagai fasilitator dan efektivitas belajar siswa," *Jurnal Pendidikan Manajemen Perkantoran* 4, no. 1 (January 14, 2019): 49, https://doi.org/10.17509/jpm.v4i1.14954.

[2] Endang Purwaningsih, "Peranan Guru Sebagai Fasilitator Dan Motivator Dalam Meningkatkan Hasil Belajar Di Kelas Xi Smk," 2016, https://dx.doi.org/10.26418/jppk.v5i10.17132.

[3] Vygotsky L. S, *, . (1978). Mind in Society: The Development of Higher Psychological Processes.* (Cambridge, MA: Harvard University Press., 1978), 87.

[4] Kasina Ahmad and Ika Lestari, "Pengembangan Bahan Ajar Perkembangan Anak Usia SD Sebagai Sarana Belajar Mandiri Mahasiswa," *Perspektif Ilmu Pendidikan* 22, no. XIII (October 29, 2010): 183–93, https://doi.org/10.21009/PIP.222.10.

[5] Muhammad Ainun Niam and Mohammad Asikin, "Pentingnya Aspek STEM dalam Bahan Ajar terhadap Pembelajaran Matematika," *PRISMA, Prosiding Seminar Nasional Matematika* 4 (2021), https://journal.unnes.ac.id/sju/prisma/article/view/44975/18385.

[6] Marlina Eliyanti, "Pengelolaan Pembelajaran Dan Pengembangan Bahan Ajar," *Pedagogi Jurnal Penelitian Pendidikan* 03, no. 02 (November 2016): 207=2013, https://doi.org/10.25134/pedagogi.v3i2.1179.

[7] Nurdyansyah and Nahdliyah Mutala'liah, "Pengembangan Bahan Ajar Modul Ilmu Pengetahuan Alambagi Siswa Kelas Iv Sekolah Dasar," *Fakultas Agama Islam Universitas Muhammadiyah Sidoarjo*, 2018, http://eprints.umsida.ac.id/id/eprint/1607.

[8] Oni Arlitasari and Rini Budiharti, "Pengembangan Bahan Ajar IPA Terpadu Bebasis Salingtemas dengan Tema Biomassa Sumber Energi Alternatif Terbarukan," *Jurnal Pendidikan Fisika* 1, no. 1 (2013): 81–89.

[9] Daryanto, *Menyusun Modul* (Yogyakarta: Gava Media, 2013).

[10] Koderi Koderi, Muhammad Aridan, and Ahmad Bukhari Muslim, "Pengembangan Mobile Learning Untuk Penguasaan Mufrodat Siswa MTs," *Arabiyatuna : Jurnal Bahasa Arab* 4, no. 2 (November 17, 2020): 265, https://doi.org/10.29240/jba.v4i2.1769.

flexible as it can be used independently, equipped with learning instructions,[11] and has the potential to enhance students' independence and motivation to learn.[12] Therefore, the use of modules serves as a strategic approach to support learning, especially in addressing students' individual learning needs.[13]

Arabic is a language used in the Qur'an,[14] in the implementation of prayers, worship, and in the study of Islam, so it cannot be separated from the religious life of Muslims. According to Al-Ghalayain, Arabic is defined as sentences used by Arabs to express their goals, whether thoughts or feelings.[15] Meanwhile, learning Arabic is the process of conveying knowledge and understanding to students, both related to linguistic aspects and skills in using Arabic.[16] According to Mahmud Yunus, as cited by Umi Hijriyah, one of the goals of learning Arabic is to develop proficiency in speaking and writing, as well as the ability to engage with literary texts from various historical periods.[17] Based on this, it can be seen that the purpose of learning Arabic is to educate and provide basic skills for students to be able to master Arabic so that it can be a provision to learn various fields of science. The purpose of teaching Arabic must be achieved by every student. In practice, therefore, teachers must identify appropriate instructional materials that effectively support students in reaching the objectives of Arabic language learning. One alternative that can be used is to make modules as teaching materials that can help students achieve Arabic learning goals. Where the module is indeed designed specifically for students.

Based on observations conducted at SMK Negeri 1 Talangpadang, it was found that there is no specific module available as independent learning material, particularly for the Arabic language subject. Based on an interview with Dini Kusherawati, a student at SMK N 1 Talangpadang, she expressed that Arabic is a particularly challenging and unengaging subject. She explained that lessons typically involve passive listening to the teacher's explanations, which limits student participation. Additionally, learners are not provided with textbooks or supplementary materials to support their Arabic language studies. This was

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[11] Suleha, "Pengembangan Modul Pembelajaran Mata Pelajaran Produktif Dalam Rangka Peningkatan Kompetensi Siswa Usaha Perjalanan Wisata Di SMK Negeri 1," *Jurnal : LPMP Kalimantan Timur* XIII, no. 2 (2019), http://repositori.kemdikbud.go.id/id/eprint/25199.

[12] Assel Tukhtabayeva et al., "Applying Augmented Reality (QR-Code) in English Language Classroom," *Procedia Computer Science* 251 (2024): 573–78, https://doi.org/10.1016/j.procs.2024.11.151.

[13] Rudy Gunawab, *Modul Pelatihan Pengembangan Bahan Ajar/Modul Pembelajaran*, 1 (Bandung, Jawa Barat: CV. Feniks Muda Sejahtera, 2022).

[14] Moh Aman, "Bahasa Arab dan Bahasa Al-Qur'an," *Jurnal Kajian Islam dan Pendidikan Tadarus Tarbawy* 3, no. 1 (March 30, 2021), https://doi.org/10.31000/jkip.v3i1.4256.

[15] Ulin Nuha, *Ragam Metodologi & Media Pembelajaran Bahasa Arab* (Yogyakarta: Diva Press, 2016).

[16] Noza Aflisia and Hazuar Hazuar, "Pengembangan Bahan Ajar Bahasa Arab Berbasis Pendekatan Komunikatif," *Arabiyatuna : Jurnal Bahasa Arab* 4, no. 1 (May 8, 2020): 111, https://doi.org/10.29240/jba.v4i1.1380.

[17] Zulhanan, *Teknik Pembelajaran Bahasa Arab Interaktif* (Jakarta: Rajawali Pres, 2004).

reinforced by an interview with Mr. Deki Juansyah, S.Pd.I, an Arabic teacher at SMK N 1 Talangpadang, who stated that Arabic language learning in vocational high schools has never used modules but relies solely on other teaching materials such as *Baina Yadaik* and the *Tamyiz Method*. He also emphasized that a well-designed module, especially one integrated with instructional videos, could significantly increase students' interest in learning Arabic.[18] This has a direct impact on students' learning outcomes, as shown in the following table:

Table 1. Student Learning Outcomes in Arabic Language

No	Score Range	Number of Students	Remarks
1.	0 - 50	6	Not Passed
2.	51 - 76	16	Not Passed
3.	77 - 86	4	Passed
4.	86 - 100	6	Passed

The data shows that of the total 32 students, 22 students (68.75%) have not yet achieved the Minimum Completion Criteria (KKM) in Arabic language learning. The high number of students failing to meet the KKM (Minimum Competency Criteria) indicates a significant problem in the learning process. A key contributing factor is the lack of independent learning resources, such as modules, which are essential for supporting students' learning beyond the classroom. Students rely on the conventional lecture method from the teacher without additional learning resources, resulting in passivity, a lack of motivation, and difficulty in deeply understanding the material. The absence of interactive learning media has led to low student engagement in the learning process, which directly impacts poor learning outcomes. This is further supported by interviews with students who expressed that Arabic language lessons feel monotonous and difficult to comprehend.

In the current digital era, educational practices are increasingly required to adapt to students' growing familiarity with technology. However, technology-integrated Arabic language learning materials are still scarce, especially at the vocational high school level. Consequently, students often view Arabic as more difficult and less engaging than other subjects that are supported by modern and interactive learning resources. This social phenomenon highlights the urgent need for the development of innovative Arabic teaching materials that align with contemporary educational demands.[19]

Based on these problems, a module is needed to facilitate the learning process, but the module must be able to be learned easily both independently and

[18] Deki Juansyah, Wawancara Guru Bahasa Arab Kelas XII SMK N 1 Talangpadang, 2022.

[19] Ana Maritsa et al., "Pengaruh Teknologi Dalam Dunia Pendidikan," *Al-Mutharahah: Jurnal Penelitian dan Kajian Sosial Keagamaan* 18, no. 2 (December 26, 2021): 91–100, https://doi.org/10.46781/al-mutharahah.v18i2.303.

in the classroom.[20] To ensure the module is effective and suitable for limited instructional time, it should be supplemented with videos to help maintain student engagement and prevent boredom during independent study.[21] To compile these modules, of course, we must use technology, because the rapid development of the times cannot be separated from technological developments.[22] This makes it easier for us to do many things, of course, including in the world of education.[23]

QR Code is one form of technological innovation that can be utilized in the field of education.[24] The use of QR Codes enables students to quickly and easily access supplementary video materials. This supports their understanding of concepts, increases engagement in learning, and encourages independent study. This is consistent with the explanation by Suwandy et al. that QR Codes function by storing digital information, such as links to learning videos, which students can easily access by scanning them using a smartphone camera or other compatible devices.[25] QR Code is very easy to use for educational purposes, simply by scanning it with a mobile phone camera to access the stored information.[26] A QR Code itself is a collection of black bars on a white background and represents a unique code for each character.[27] In addition, the appearance of a QR Code is smaller compared to a barcode.[28] This facilitates the placement of the QR Code in the developed module. When the printed QR Code in the module is scanned,

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[20] Friska Oktavia Rosa, "Pengembangan Modul Pembelajaran IPA SMP Pada Materi Tekanan Berbasis Keterampilan Proses Sains," *Jurnal Pendidikan Fisika* 3, no. 1 (March 31, 2015), https://doi.org/10.24127/jpf.v3i1.21.

[21] Syarifah Hafizah, "Penggunaan dan Pengembangan Video dalam Pembelajaran Fisika," *Jurnal Pendidikan Fisika* 8, no. 2 (September 30, 2020): 225, https://doi.org/10.24127/jpf.v8i2.2656.

[22] Darwin Effendi, "Pemanfaatan Teknologi Dalam Proses Pembelajaran Menuju Pembelajaran Abad 21," *Prosiding Seminar Nasional Pendidikan Program Pascasarjana Universitas PGRI Palembang*, 2019, https://jurnal.univpgri-palembang.ac.id/index.php/Prosidingpps/article/view/2977.

[23] Maritsa et al., "Pengaruh Teknologi Dalam Dunia Pendidikan."

[24] Ismi Aryanti Khusnul Khatimah et al., "Pembuatan Sistem Informasi Inventarisasi Tanaman Berbasis Qr-Code dalam Pembelajaran IPA," *SELAPARANG: Jurnal Pengabdian Masyarakat Berkemajuan* 7, no. 2 (June 15, 2023): 1070, https://doi.org/10.31764/jpmb.v7i2.15152.

[25] Suwandy Sumbogo, Syaiful Rahman, and Izmy Alwiah Musdar, "Pengembangan system Pendataan Tamu Undangan Berbasis Android QR Code pada Event Organizer," *Jurnal Ilmu Komputer*, 2019, https://jurnal.kharisma.ac.id/kharismatech/article/download/21/20.

[26] Sherly Purwati et al., "History Students' Readiness in Using QR Code Based E-Job Sheet," *International Journal On Informatics Visualization* 7, no. 4 (2023): 2469–73.

[27] Anton Zulkarnain Sianipar, Saprudin Saprudin, and Zulhalim Zulhalim, "Pengembangan Modul Statistika Berbasis QR Code Untuk Melatih High Order Thingking Skills (Hots) Mahasiswa," *Journal of Information System, Applied, Management, Accounting and Research* 5, no. 1 (February 21, 2021): 271, https://doi.org/10.52362/jisamar.v5i1.337.

[28] Sumbogo, Rahman, and Musdar, "Pengembangan system Pendataan Tamu Undangan Berbasis Android QR Code pada Event Organizer."

students are directly directed to digital content such as learning videos, web pages, or other supporting documents relevant to the material being studied.

The integration of QR Codes in education continues to evolve, enabling educators to enhance student engagement and knowledge retention.[29] The integration of QR Codes into learning modules bridges the gap between conventional and digital learning methods,[30] by linking supplementary resources such as videos, web pages, or documents to textbooks, worksheets, and multimedia content,[31] and information[32] which allows students to have a more interactive and engaging learning experience, preventing them from feeling bored during independent study.[33] Integrated learning videos allow students to access material explanations both visually and auditorily, which can significantly improve their comprehension, particularly in the practical and communicative aspects of learning the Arabic language. Furthermore, independent access to supplementary materials via QR Code can also strengthen students' learning independence and increase their motivation.[34] The placement of QR Codes in the module is also quite flexible due to its small size, allowing it to be incorporated into various sections of the module according to the needs. Thus, the QR Code serves not only as a technical tool but also as a pedagogical medium that enriches the learning process and expands students' access to learning resources.

The following are some studies related to the development of Arabic language modules that are feasible and effective in learning, the first is a research conducted by Fauzan Abdullah, with the research title "Development of Arabic Language Modules for Students of Al-Qur'an Education Park (TPA) At-Taqwa Balapan Mosque Yogyakarta", The results of this research show that the modules

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[29] Yetty Auliaty, Vina Iasha, and Yulia Elfrida Yanty Siregar, "Development of QR Code-Based Learning Multimedia to Improve Literature of Elementary School Students," *International Journal of Multicultural and Multireligious Understanding* 8, no. 11 (2021): 359–69, http://dx.doi.org/10.18415/ijmmu.v8i11.3160.

[30] Gurhan Durak, Emrah Emre Ozkeskin, and Murat Ataizi, "QR Codes In Education And Communication," *Turkish Online Journal of Distance Education* 0, no. 0 (April 1, 2016), https://doi.org/10.17718/tojde.89156.

[31] M V Stupina, K V Anistratenko, and L O Pazina, "Using the QR Code as a Means of Automating the Process of Accounting for Attendance at Educational Classes," *Journal of Physics: Conference Series* 2131, no. 2 (December 1, 2021): 022077, https://doi.org/10.1088/1742-6596/2131/2/022077.

[32] Datta A et al., "Implementation of Quick Response (QR) Code as a Teaching-Learning Tool-An Interventional Study," *J Indian Acad Forensic Med* 46, no. 1 (2024): 158–62, https://doi.org/10.48165/jiafm.2024.46.1(Suppl).13.

[33] Syarifah Hafizah, "Penggunaan dan Pengembangan Video dalam Pembelajaran Fisika," *Jurnal Pendidikan Fisika* 8, no. 2 (September 30, 2020): 225, https://doi.org/10.24127/jpf.v8i2.2656.

[34] Masoumeh Moghimi Firozabad, Zahra Sadat Hashemi, and Saba Samadi, "The Impact of Using Quick Response (QR) Codes on Improving Learning and Retention of Science among Sixth-Grade Female Students in District 19 of Tehran," *International Journal of Education and Cognitive Sciences* 5, no. 3 (2024): 16–23, https://doi.org/10.61838/kman.ijeas.5.3.3.

developed by researchers are suitable for use in the learning process.[35] Furthermore, research conducted by Ahmad Syaifullah, with the research title "Development of Arabic Language Learning Modules Based on Local Wisdom in the Lampung Region for Grade VIII Students at Madrasah Ibtidaiyah", the results of this research are modules in katakana that are suitable for use.[36] Furthermore, the research conducted by Rizka Irma Saputri, with the research title "Development of Arabic Language Learning Module Based on Wonosobo Local Wisdom for Class XI MA", with the results of the study stating that the product is effective in using the results of student assessments through observation showing a t count of 30.33.[37] Furthermore, the research conducted by Rohman Abdul Aziz, with the research title "Module Development in Arabic Language Learning at SDI Al Azhar 31 Yogyakarta", with the results of the module research, is suitable for use.[38]

The research on QR Code-based modules conducted by Anton Zulkarnain et al.with the research title "Development of QR Code-Based Statistics Modules to Train High Order Thinking Skills (HOTS) Students", with the results of the feasibility study for the development of QR Code-based statistics modules categorized as good and higher order thinking skills (HOTS) of students, has increased.[39] Furthermore, the research conducted by Rahma Yani with the research title "Development of Mathematics Modules Based on a Contemporary Approach Accompanied by QR Codes on Logarithmic Materials", with the research results declared feasible and practical to use.[40] The difference between this study and previous research lies in its focus on developing modules aimed at improving students' Arabic learning outcomes, designed with QR Codes.

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[35] Fauzan Abdullah, "Pengembangan Modul Bahasa Arab Bagi Santri Taman Pendidikan Al-Qur'an (TPA) Masjid At-Taqwa Balapan Yogyakarta" (UIN Sunan Kalijaga Yogyakarta, 2022), https://digilib.uin-suka.ac.id/id/eprint/54770/.

[36] Ahmad Syaifullah, "Pengembangan Modul Pembelajaran Bahasa Arab Berbasis Kearifan Lokal Di Wilayah Lampung Pada Siswa Kelas VIII Di Madrasah Ibtidaiyah" (UIN Raden Intan Lampung, 2022).

[37] Rizka Irma Saputri, "Pengembangan Modul Pembelajaran Bahasa Arab Berbasis Kearifan Lokal Wonosobo Untuk Kelas XI MA" (Universitas Negeri Semarang, 2017), https://lib.unnes.ac.id/31762/1/2303412050.pdf.

[38] Rohman Abdul Aziz, "Pengembangan Modul Dalam Pembelajaran Bahasa Arab Di SDI Al Azhar 31 Yogyakarta" (UIN Sunan Kalijaga Yogyakarta, 2012), https://digilib.uin-suka.ac.id/id/eprint/9956/1/BAB%20I,%20IV,%20DAFTAR%20PUSTAKA.pdf.

[39] Sianipar, Saprudin, and Zulhalim, "Pengembangan Modul Statistika Berbasis QR Code Untuk Melatih High Order Thingking Skills (Hots) Mahasiswa."

[40] Rahmayani Rahmayani, Rahmad Bustanul Anwar, and Ira Vahlia, "Pengembangan Modul Matematika Berbasis Pendekatan Kontekstual Disertai QR Code Pada Materi Logaritma," *AKSIOMA: Jurnal Program Studi Pendidikan Matematika* 11, no. 1 (March 31, 2022): 224, https://doi.org/10.24127/ajpm.v11i1.4703.

The QR Code contains a URL linking to learning videos that students can access. Additionally, this study was conducted at SMK Negeri 1 Talangpadang.

Although several studies have been conducted on the development of Arabic language modules, previous research has not specifically developed a QR Code-based module integrated with instructional videos for vocational high school students. The study conducted by Fauzan Abdullah and Ahmad Syaifullah focused more on developing modules based on local wisdom without utilizing modern technology such as QR Codes.[41] Additionally, other studies, such as those by Rizka Irma Saputri and Rohman Abdul Aziz, also developed Arabic language modules, but they did not integrate interactive technology-based features.[42]

On the other hand, research by Anton Zulkarnain and Rahma Yani has applied QR Codes in other subjects such as Mathematics and Statistics.[43] However, there has been no research exploring the use of QR Codes in Arabic language modules to improve the language proficiency of vocational school students. Therefore, this study aims to develop an Arabic language module based on QR Code technology that allows students to directly access learning videos, thereby improving their comprehension and engagement in the learning process.

This study fills the gap by developing a QR Code-based Arabic language module as both a printed instructional material and an interactive learning media. The subject of this research is SMK Negeri 1 Talangpadang. Based on this, the study is titled "Developing *'Mumtaz Al-Lughah Al-Arabiyyah'*: QR Code Innovation for Arabic learning".

The 'Mumtaz Al-Lughah Al-'Arabiyyah' module is an innovative instructional material developed specifically to enhance vocational school students' Arabic language learning outcomes through a QR Code-based technological approach. This module differs from previous modules, which were primarily in the form of traditional printed text without multimedia integration. In terms of content, the *'Mumtaz Al-Lughah Al-'Arabiyyah'* module not only includes theoretical Arabic language material but also covers the development of all language skills (*maharah*), namely *Maharah Istima'* (listening skill), *Maharah Kalam* (speaking skill), *Maharah Qira'ah* (reading skill), *Tarkib* (language structure), and *mufradat* (vocabulary mastery). With this broad approach, students are encouraged

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[41] Syaifullah, "Pengembangan Modul Pembelajaran Bahasa Arab Berbasis Kearifan Lokal Di Wilayah Lampung Pada Siswa Kelas VIII Di Madrasah Ibtidaiyah."

[42] Aziz, "Pengembangan Modul Dalam Pembelajaran Bahasa Arab Di SDI Al Azhar 31 Yogyakarta."

[43] Rahmayani, Anwar, and Vahlia, "Pengembangan Modul Matematika Berbasis Pendekatan Kontekstual Disertai QR Code Pada Materi Logaritma."

to understand and master the Arabic language in multiple dimensions, encompassing both theoretical knowledge and practical application.

From a design standpoint, the key strength of this module is its incorporation of QR Codes that connect students to interactive learning videos. These videos provide material explanations, conversation models, listening activities, and visual aids that help clarify Arabic grammar concepts. This feature sets the module apart from others that depend exclusively on text and static images without the enhancement of interactive media. In addition, the 'Mumtaz Al-Lughah Al-'Arabiyyah' module is designed with a modern appearance, paying attention to the principles of educational layout: the use of eye-friendly colors, visual icons to support understanding, and a systematic and engaging module structure to enhance student motivation. This module is also designed for flexibility in use, both in the classroom and for independent learning. With this innovation, it is expected that the module will not only serve as an additional learning resource but also as a primary, interactive, adaptive, and relevant learning medium that meets the needs of today's digital generation.

Thus, the development of the QR Code-based 'Mumtaz Al-Lughah Al-'Arabiyyah' module aims directly to improve the Arabic language learning outcomes of students at SMK Negeri 1 Talangpadang by bridging the gaps present in traditional learning through technology-based innovation.

The research method used in this study is research and development (R&D). Research and development (R&D) methods aim to produce a specific product and test its effectiveness.[44] From a design perspective, the module's primary strength lies in its use of QR Codes that direct learners to interactive instructional videos. These videos offer clear explanations of the content, sample dialogues, listening tasks, and visual representations that aid in understanding Arabic grammar. This interactive approach distinguishes the module from others that rely solely on textual content and static visuals, lacking multimedia engagement.[45] The model used in this study is a model developed by Dick and Carry (1996) to design a learning system.[46] The Research and Development (R&D) method is used in this study because it aims to develop QR Code-based modules that are innovative and follow the needs of students. R&D is relevant because this method not only produces the product but also ensures that the

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[44] Luthfi Anisatin, Sunarto Sunarto, and Moh. Fery Fauzi, "Development of mE-Book Based Practical Arabic Syntax," *LISANIA: Journal of Arabic Education and Literature* 5, no. 2 (December 3, 2021): 187–203, https://doi.org/10.18326/lisania.v5i2.187-203.

[45] Amir Hamzah, *Metode Penelitian Dan Pengembangan* (Malang: CV. Literasi Nusantara Abadi, 2019).

[46] Endang Mulyatiningsih, *Metode Penelitian Terapan Bidang Pendidikan* (Alfabeta, 2013).

product goes through a series of evaluations and revisions based on feedback from users.

The ADDIE model consists of five development stages. First, in the Analysis stage, the researcher conducts a needs assessment by interviewing teachers and students to identify the types of modules required. This is followed by a field survey, which includes observing Arabic classes and examining the students' learning environment. The researcher also analyzes the characteristics of teaching materials to determine what content is most needed by students. Second, in the Design stage, the researcher collects relevant references and identifies the tools needed for module development. This stage includes planning the content structure and layout, resulting in a complete design from the module cover to its internal components. Third, in the Development stage, the researcher begins creating the module based on the approved design. This involves drafting the content, developing assessment instruments, and preparing test items. The draft is then evaluated by media and subject matter experts to determine its quality and feasibility. Fourth, during the Implementation stage, the module is tested in two phases: a small group trial with nine students and a larger group trial involving 32 twelfth-grade students at State Vocational High School 1 Talangpadang. Fifth, in the Evaluation stage, the researcher assesses the module's effectiveness by analyzing pretest and posttest results. Based on this evaluation, the impact on student learning outcomes is determined, and necessary revisions are made at each stage of the development process.[47]

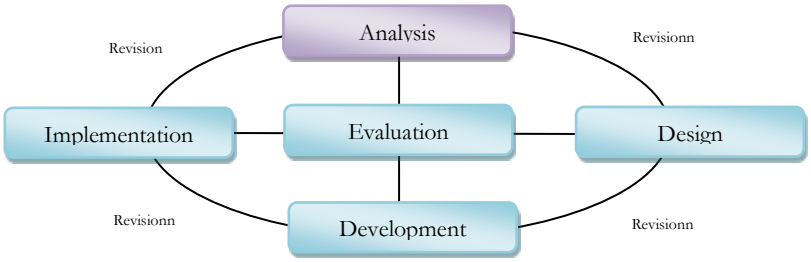

Figure 1. Modified Steps of ADDIE Development

In this study, the sampling technique used is the Non-Probability Sampling technique with the type of Purposive sampling method. Purposive sampling is a technique for selecting samples based on certain considerations. This technique involves subjectively selecting a sample from the population according to criteria relevant to the research topic.[48] The data collected is in the form of facts, either qualitative or quantitative form.[49] Data were collected through various techniques, including observation, interviews, questionnaires,

[47] Hamzah.

[48] Andi Asari et al., *Pengantar Statistika*, 1st ed. (Sumatra Barat: PT Mafy Media Literasi Indonesia, 2023).

[49] Gunawab, *Modul Pelatihan Pengembangan Bahan Ajar/Modul Pembelajaran*.

tests, and documentation. The data analysis comprised: (1) qualitative descriptive analysis to interpret data obtained from observations, interviews, and documentation, and (2) descriptive statistical analysis using a Likert scale and percentage-based frequency distribution to assess validity test results and participant responses. Furthermore, the Wilcoxon test was employed using SPSS 26 to analyze pretest and posttest data. This non-parametric test was chosen due to the non-normal distribution of the data, making it a more suitable alternative to the paired t-test. The Wilcoxon test also offers greater flexibility in analyzing ordinal or interval data that do not fulfill the assumptions required for parametric testing.

Findings and Discussion

Based on the research conducted on the development of QR Code-based Arabic language modules at State Vocational High School 1 Talangpadang, the following findings were obtained.

Development of QR Code-Based Arabic Language Module

The process of developing a QR Code-based Arabic module consists of several stages. The research began with the analysis phase, which involved a needs assessment through interviews with teachers and twelfth-grade students at State Vocational High School 1 Talangpadang. The results show that students' final evaluations tend to be low, based on test and semester scores, as well as the need for Arabic language learning modules. Currently, learning resources are limited to teachers' handbooks without independent learning experience or alternative resources. Students also need engaging learning with videos to make it easier to access Arabic language learning.

Second, field analysis is carried out by observing the school environment and the learning process. The results show that the school uses the 2013 Curriculum with direct learning and singing methods. The media used is limited to the blackboard, and Arabic lessons are only once a week. Third, the analysis of teaching materials, carried out by collecting documentation in the form of textbooks used for learning Arabic, such as *Baina Yadaik* volume 1 (not covering all materials), *Tamyiz* smart translated the *Qur'an*, and the yellow book. The textbooks were subsequently reviewed to identify content that aligns with the curriculum and meets student needs. These findings highlight the significance of developing QR Code-based Arabic language modules as a means to enhance the learning outcomes of twelfth-grade vocational high school students.

The next stage is to make a design of the material to be developed. to develop this module, several materials must be designed by the class XII learning syllabus of the Vocational High School used in the school. The material that will

be packaged in the module contains five chapters, namely 1) *Ad-dirasah* (learning), 2) *At-tasawwuq* (shopping), 3) *Al-hayatul Yaumiyyah* (daily life), 4) *At-Tha'am wa Syarab* (food and drinks) 5) *As-shalat* (prayer). In each chapter, there are sub-headings about *mufradat, istima', hiwar, qira'ah, tarkib*, and various kinds of exercises and evaluations.

During the development phase of the QR Code-based Arabic language module, the researcher utilized several applications: Canva for designing the front and back covers, Background Eraser to remove image backgrounds, QR Code Scan to generate QR Codes linking to the instructional videos, and InShot to produce the learning videos. As well as the Microsoft Word application (for composing the content of the module). The following is a view of the development of a QR Code-based Arabic module.

Front cover and back cover of the *Mumtaz Al-Lughah Al-Arabiyah* module

On the front cover, there is the title "Module Mumtaz اللغة العربية"; there is also writing for class XII and even semesters, which indicates that this module is intended for even semester class XII students. The front cover features images such as maps of Arab countries, technological icons, and Arabic calligraphy, symbolizing the close association of the Arabic language module with Arab culture and script. However, it still uses technology as proof that this module keeps up with the times. On the back cover, there is a verse of the Qur'an that is related to the primacy of the Arabic language. In addition, there is also a logo and the name of the university. As for the elements and other images, adjust the front cover.

Figure 2. Module Front and Back Covers

Title page, preface, table of contents, module usage instructions, and learning competencies

The title page presents the book's identity, including the title, author's name, material expert, and media expert. The preface follows the conventional format, featuring expressions of gratitude, acknowledgments, apologies, and suggestions related to the book, authored by the writer. The table of contents page contains a series of sub-materials in the book along with page numbers, making it easier for students to find the material they want to learn. The module instruction page contains various instructions that can be understood to make it easier for both students and teachers to understand the module. Learning competencies include core competencies, basic competencies, and objectives that must be achieved in the module.

Inner cover and module material

The inner cover appears at the beginning of each chapter, serving as a consistent introductory page before the material. It displays the chapter title along with the sequence of subtopics to be covered. On the module material page, of course, it contains materials in the form of *mufradat, istima' material, hiwar, qira'ah text, tarkib*, and *tadribats* related to the sub-material. In each of these materials, a QR Code contains the URL address to the learning videos that are by the material being studied (*Mumtaz Al-Lughah Al-Arabiyah Module*).[50]

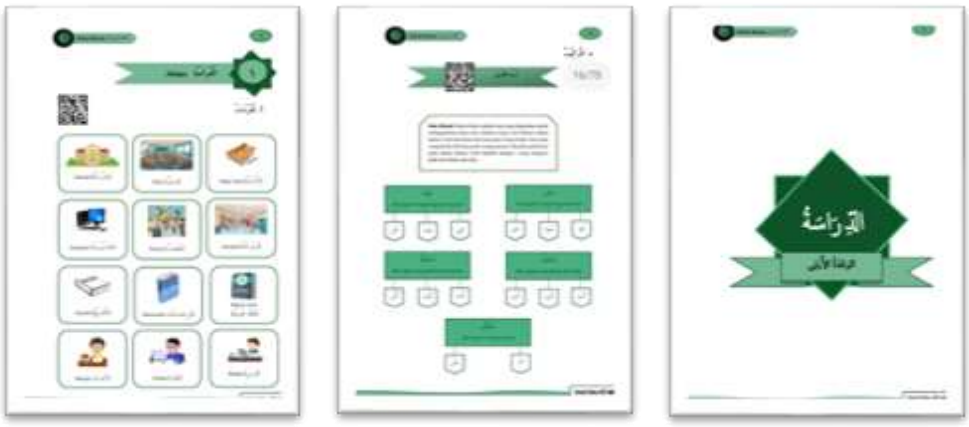

Figure 3. Mufradat, Tarkib, and Inner Cover Materials

[50] "Modul Mumtaz Al-Lughah Al-Arabiyah.Pdf," n.d.

QR Code Creation and Learning Video Display

According to Bruner's constructivist theory, meaningful learning takes place when students actively construct their own knowledge.[51] In this regard, QR code-based modules enable learners to independently access instructional content and deepen their understanding through the integrated educational videos. Access to the video provides an opportunity for students to repeat the material as needed, so they can build a deeper understanding based on their own browsing and learning experiences. The learning videos embedded in the QR Code have been adjusted to the material in the module, so students only need to scan the QR Code in the module to access videos that are relevant to learning. Using QR Codes in learning, integrated with learning videos, can make it easier for students to utilize technology. This is supported by research conducted by Anggraini and Erwin, which states that the use of QR Codes connected to learning video content provides opportunities for students to hone their digital skills while expanding their understanding more richly and interactively.[52] Here's how to make a QR Code using the QR Code Scan application, which can be easily applied on a mobile phone:

Figure 4. QR Code Creation and Learning Video Display

[51] Jerome Brunner, *Toward a Theory of Instruction* (Cambridge, MA: harvard University Press, 1996), 72.

[52] Ana Anggi Anggraini and Erwin Rahayu Saputra, "Implementasi Pengembangan Infografis Terintegrasi sebagai Media dan Suplemen Pembelajaran Bahasa Inggris di Sekolah Dasar," *Jurnal Didaktika Pendidikan Dasar* 7, no. 2 (July 30, 2023): 617–38, https://doi.org/10.26811/didaktika.v7i2.920.

Feasibility of QR Code-Based Mumtaz Al-Lughah Al-Arabiyah Module

To determine the feasibility of the QR Code-Based Mumtaz Al-Lughah Al-Arabiyah Module, material validation and media validation are carried out. Validation was carried out by 2 material experts and 2 media experts. Material expert validation is conducted by researchers to assess the suitability of the content in the QR Code-based Mumtaz Al-Lughah Al-Arabiyah Module, which is designed to enhance the learning outcomes of grade XII vocational school students. The material validation experts in this development research are Mr. Dr. Zulhannan, M.A., and Mrs. Zughrofiyatun Najah, S, Pd.I., M.Pd. lecturers at the Faculty of Tarbiyah and Teacher Training UIN Raden Intan Lampung.

There are 3 aspects that are assessed in the validation of the material. First, the content aspect, which consists of 1) The suitability of the material with the syllabus used, 2) Ease of presentation of the material, 3) The suitability of illustrations with related mufradat/texts, 4) The suitability of the module material with the video, 5) The suitability of the assignment with the material and, 6. Suitability of the material with the QR Code. The two linguistic aspects consist of 1) Readability, 2) The use of language by language rules, 3) The language used is simple, straightforward, and easy to understand, and 4) Language is by the level of development and ability of students. The three aspects of presentation consist of 1) Systematic preparation of modules, 2) Images or graphics are presented, attractively, and colorfully, and 3) having a table of contents and instructions for using the module. Each of these items is given a score between 1 to 4. The following are the results of the validation of material experts.

Table 2. Material Expert Validation Result

Validator	Maximum Score	Assessment Results	Percentage
1	52	47	90.3%
2	52	42	80.7%
Sum	104	89	85.5%

From the table of material expert validation results above, a result score of 89 out of a maximum score of 104 was obtained. According to product feasibility criteria, a module is considered feasible if it achieves a validity percentage between 60% and 100%. Therefore, the material validation for this module was deemed feasible, as it obtained an overall score of 85.5%, falling within the "very valid/feasible (attractive)" category.

Media expert validation is an effort made by researchers to determine the feasibility of the QR Code-based Mumtaz Al-Lughah Al-Arabiyah Module to improve the learning outcomes of grade XII vocational school students. The

media validation experts in this development research are Mr. Ahmad Nur Mizan, S.Hum, M.A., and Mr. Ahmad Iqbal, H.S., M.A., lecturers at the Faculty of Tarbiyah and Teacher Training UIN Raden Intan Lampung. There are 4 aspects that are assessed in media validation.

First, the appearance aspect, which consists of 1) the quality of the color of the writing and the background (background), 2) the layout (title, author, images, etc.) is balanced and rhythmic, 3) the clarity of each title, chapter, and sub-chapter, 4) the attractiveness of the design and, 5) the illustration can describe the content/teaching material. The two aspects of ease of use consist of 1) Ease of use of QR Code, 2) Ease of operation, and 3) Systematics of presentation. The three aspects of consistency consist of 1) consistency in using size and typeface, 2) consistency in layout placement, and 3) consistency in using words, sentences, and terms. And the four aspects of graphics consist of 1) the use of harmonious colors and clarifying the content, 2) the use of attractive and easy-to-read letters, and 3) the use of illustrations in the material. Each of these items is given a score between 1 to 4. The following are the results of the validation of media experts.

Table 3. Media Expert Validation Results

Validator	Maximum Score	Assessment Results	Percentage
1	56	55	98.2%
2	56	55	98.2%
Sum	112	110	98.2%

From the table of the results of the validation, the media experts got a score of 110 out of a maximum score of 112. According to the product feasibility criteria, a module is considered feasible if it achieves a validity percentage between 60% and 100%. Based on this standard, the media validation of the developed module is deemed feasible, as it achieved an overall score of 98.2%, categorized as "very valid/feasible (attractive)". Furthermore, to find out the response of students, a trial was carried out. There are two trials carried out, namely small group trials and large group trials. This trial is in the form of students' responses to the QR Code-Based Mumtaz Al-Lughah *Al-Arabiyah module* that was developed.

Table 4. Small Group Trials and Large Group Trials

Trial	Maximum Score	Assessment Results	Percentage
Small Group Trial	504	438	86.9%
Large Group Trial	1792	1636	91.2%

From the table above, it can be seen that the results of the small group trial got a score of 438 with a maximum score of 504, so a percentage of 86.9% was obtained. While the results of the large group trial obtained a score of 1636 with a maximum score of 1792, a percentage of 91.2% was obtained. Based on the percentage scores obtained from both the small group and large group trials, the module can be classified as "very valid/feasible (attractive)".

Effectiveness of the QR Code-Based *Mumtaz Al-Lughah Al-Arabiyah* Module

To determine the effectiveness of the QR Code-based Mumtaz Al-Lughah Al-Arabiyah Module, a Wilcoxon test was carried out. The Wilcoxon test is a nonparametric test where the Wilcoxon test is used to determine whether the paired data has increased or not. It can be concluded that the Negative Ranks value is 0, which means that there is no reduction in the score between the pretest and the posttest, where the pretest score is lower than the posttest score. Based on the table above, it is known that the Positive Rank or positive difference between Arabic learning outcomes for pretest and posttest has 32 positive (N) data, which means that 32 students experienced an increase in Arabic learning outcomes from pretest and posttest. From the table above, the mean rank has increased by 16.50, while the number of positive rankings is 528.00. Ties are the value equation between pretest and posttest. Based on the table above, it is known that the tie value is 0, so it can be concluded that there is no similarity in the students' pretest and posttest scores.

The output of the Statistics Test, the significance value or Asymp. Sig. (2-tailed) is 0.000, which is less than 0.005. Therefore, it can be concluded that "the hypothesis is accepted", indicating a significant difference between the Arabic pretest and posttest scores. From the above results, it can be concluded that there is an effect of the use of the QR Code-*based Mumtaz Al-Lughah Al-Arabiyah* Module in Arabic subjects in grade XII SMK on student learning outcomes. Thus, the modules developed by the researcher are effectively used in learning. This is in line with the research of Sianipar et al., which states that QR Code-based modules are effectively used in learning.[53] The other research has also shown that the use of QR codes in education significantly improves student performance compared to students who do not utilize them. In addition, the results also show that students do not experience technical obstacles in utilizing QR codes to support their learning process.[54]

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[53] Sianipar, Saprudin, and Zulhalim, "Pengembangan Modul Statistika Berbasis QR Code Untuk Melatih High Order Thingking Skills (Hots) Mahasiswa."

[54] Sameer Mosa AlNajdi, "The Effectiveness of Using Augmented Reality (AR) to Enhance Student Performance: Using Quick Response (QR) Codes in Student Textbooks in the

Conclusion

This study developed a QR Code-based Arabic language module using the ADDIE model, which was tested for feasibility and effectiveness. The findings confirm that the module is highly feasible for learning, as validated by material and media experts, and has proven effective in improving student learning outcomes. The incorporation of QR Codes allows students to easily access instructional videos, which improves their engagement and understanding in learning Arabic. In addition to its direct effects, this study advances Arabic language education by integrating digital technology, thereby making the learning process more accessible and interactive. The results suggest that QR Code-based modules can be widely applied in various educational contexts, particularly in facilitating self-directed learning for students with limited instructional time. Future research could explore the long-term impact of QR Code-based modules across different educational levels and subject areas. Additionally, further studies can investigate how interactive digital modules influence student motivation and engagement in language learning. Educational institutions are encouraged to adopt QR Code-integrated learning materials to enhance digital literacy and promote more engaging and effective teaching strategies.

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