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Relevance of the A-Tutor LMS for the Four Arabic Language Skills in the Digital Era: A Narrative Literature Review

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ABSTRACT

Learning Management Systems (LMS) are widely used in Arabic language education, but the open-source ATutor platform has received little attention in this field and its maintenance status has changed over time. This narrative literature review examined whether ATutor remains relevant for teaching the four Arabic language skills: istimā' (listening), kalām (speaking), qirā'ah (reading), and kitābah (writing). Official ATutor documentation, technical records, and peer-reviewed studies on ATutor and on LMS-supported Arabic learning were retrieved through web searches in November 2026 and analysed thematically. ATutor documents solid support for structured content, quizzes, forums, and assignment submission, which suits reading and writing tasks. Evidence for listening and speaking support is limited, and no study of ATutor's effectiveness for the four skills was found. Its last reported stable release dates from 2018, and a critical vulnerability is recorded. ATutor's relevance is therefore conditional and best suited to text-centred use combined with external tools.

Keyword ATutor; Learning Management System; Arabic Language Learning; Language Skills; Digital Learning

مستخلص البحث

تُستخدم أنظمة إدارة التعلم على نطاق واسع في تعليم اللغة العربية، غير أن نظام أ-تيوتور مفتوح المصدر لم ينل اهتمامًا كافيًا في هذا المجال، كما تغيّرت حالة صيانته مع مرور الوقت. تهدف هذه المقالة، وهي مراجعة سردية للأدبيات، إلى تقييم مدى ملاءمة النظام لتعليم المهارات اللغوية الأربع: الاستماع والكلام والقراءة والكتابة. جُمعت الوثائق الرسمية للنظام والسجلات التقنية والدراسات المحكّمة المتعلقة به وبتعليم العربية القائم على أنظمة إدارة التعلم عبر البحث في الشبكة في نوفمبر ٢٠٢٦، ثم حُلّلت موضوعيًا. تبيّن أن النظام يوفّر دعمًا جيدًا للمحتوى المنظّم والاختبارات والمنتديات وتسليم الواجبات، وهو ما يلائم القراءة والكتابة، بينما تبقى الأدلة على دعم الاستماع والكلام محدودة، ولم يُعثر على دراسة تجريبية لفاعليته في المهارات الأربع. وآخر إصدار مستقر ذُكر له يعود إلى عام ٢٠١٨ مع ثغرة أمنية حرجة مسجّلة. وعليه فإن ملاءمته

مشروطة، وتناسب الاستخدام القائم على النصوص مع أدوات خارجية.

كلمات أساسية	**: أ-تيوتور؛ نظام إدارة التعلم؛ تعليم اللغة العربية؛ المهارات اللغوية؛ التعلم الرقمي**

Introduction (المقدمة)

1.1 General Background and Urgency of the Study

Digital technology has made the Learning Management System (LMS) a standard component of institutional online instruction. An LMS is web-based software used to create and deliver educational content in a controlled and measurable way (Hameed & Hasan, 2021), and research on how people accept and use these systems has grown into a large field dominated by technology acceptance models (Al-Nuaimi & Al-Emran, 2021). Arabic language education has followed this trend. In a study of non-native learners at Universitas Darussalam Gontor, a purpose-built LMS was associated with statistically significant gains in listening, speaking, reading, and writing, with larger gains in the experimental group (Ismail et al., 2023). A study in an Arabic language education program reported higher examination scores and forum participation after an LMS was introduced (Fathuddin et al., 2025), although that system was built on a website platform rather than an established LMS, and the score increase is expressed against an unreported baseline.

These benefits are not automatic. A systematic review of 20 studies on Moodle and Google Classroom in Arabic instruction found gains in accessibility, interactivity, and engagement, but also uneven teacher digital competence, unequal access to technology, and limited opportunities for authentic muhādatsah (conversation) practice (Izzan JM et al., 2025). Platform features therefore matter, and they matter differently for each language skill.

ATutor is an open-source, web-based LMS designed with accessibility as a guiding principle (ATutor, n.d.-a; Gay et al., 2009). A 2025 conference article recommended it as a lightweight, free, and inclusive platform for online learning and described its use in an Arabic grammar (qawāʿid) course (Assiddiqi et al., 2025). At the same time, the project's code repository carries a notice that the software is no longer supported at user level (ATutor, n.d.-b), its latest stable release is reported to be version 2.2.4 from June 2018 (Open Source For You, n.d.), and a critical vulnerability affecting versions up to 2.2.4 is recorded in the U.S. National Vulnerability Database (National Institute of Standards and Technology [NIST], 2019). Whether ATutor is still a sensible choice for Arabic language teaching, and for which skills, is therefore an open question that calls for an evidence-based answer.

1.2 Previous Research

Research on ATutor falls into three groups. The first concerns accessibility engineering. Gay et al. (2009) described the first implementation of the ISO FDIS 24751 and IMS AccessForAll specifications in ATutor, including learner preference settings for how content is displayed and which forms of content are delivered. Mirri et al. (2011) analysed the implementation of two accessibility standards in ATutor and the adjustments needed to make them work together. Both are design-oriented studies of the platform itself and do not address language teaching. The second group consists of course-level reports. Syntixakis and Kalouta (2014) described an online music course hosted on A-Tutor, built with slide presentations, quizzes, and tests and packaged as SCORM 1.2, with audio-based content a central design concern. In the portion examined, the report describes design and implementation; no learning-outcome data were identified, and the subject is not Arabic.

The third group is the 2025 INCALA article by Assiddiqi et al. It used a qualitative descriptive approach that combined library research with observation, argued that ATutor aligns with constructivist and collaborative learning theories, and listed three limitations: a simple interface, a small user community, and the absence of advanced learning analytics. Its qawāʿid example mentions PDF modules, short videos, quizzes, and forum discussion, and reports "improved retention," but the article gives no sample size, instrument, or numerical results, and its references to Moodle.org (2023) and A-Tutor.org (2024) lack URLs or other retrieval details. It also describes Moodle as a proprietary platform, whereas other Arabic LMS studies describe Moodle as open source (Syarifah et al., 2026).

Most Arabic-language LMS studies concern other platforms, mainly Moodle. Sya'bani and Anwar (2023) developed a Moodle LMS for a listening-comprehension course (fahmul masmūʿ) in an Arabic Language Education program and reported an effectiveness level of 82.64%. Zakiyah and Idris (2023) examined a Moodle-based institutional platform (My Klass) in an oral-expression course as a case study. For writing, Fahmi et al. (2022) assessed the content validity of a Moodle-based academic writing model, and Ismail et al. (2025) analysed decoding errors in writing assessments on the Alikhtibar LMS. Syarifah et al. (2026) built a customised Moodle platform for Arabic grammar. Ismail et al. (2023) and Fathuddin et al. (2025) used experimental–control comparisons across general Arabic skills. Compared with the ATutor studies, these works target specific skills, describe empirical procedures, and in several cases measure outcomes.

1.3 Research Gap

Three gaps follow from this comparison. First, the only study located that places ATutor within Arabic language education (Assiddiqi et al., 2025) is general in scope: it does not analyse the platform skill by skill, and the empirical basis of its effectiveness claim is not reported. Second, the Arabic LMS literature that does

examine specific skills centres on Moodle-type platforms (Fahmi et al., 2022; Sya'bani & Anwar, 2023; Zakiyah & Idris, 2023), so it says little about whether ATutor's feature set can support the same skill-specific tasks. Third, none of the sources reviewed connects ATutor's maintenance status and security record to the decision to use it for Arabic teaching, even though Arabic-specific requirements such as right-to-left (RTL) display and localization are recognised quality concerns for LMS (Omar, 2021).

This article does not claim that no other ATutor study exists; it states that the searches described in the Methods section did not retrieve one. Its difference from earlier work lies in its object (the four Arabic skills), in separating documented availability, technical capability, and pedagogical effectiveness, and in treating sustainability as a criterion of relevance.

1.4 Research Objectives and Contributions

The review pursued four objectives: (1) to identify the characteristics and main features of ATutor relevant to online learning; (2) to analyse its potential and limitations for istimā', kalām, qirā'ah, and kitābah; (3) to evaluate its relevance to the pedagogical needs of Arabic learning in the digital era; and (4) to formulate recommendations for development and optimization. The theoretical contribution is an evidence-level framework for judging an LMS against language-skill needs without treating feature availability as effectiveness. The practical contribution is guidance for teachers, lecturers, media developers, and institutions deciding whether to keep, adapt, or replace ATutor.

1.5 Organization of the Article

The article continues with the theoretical framework, the review method, results and discussion organized around the four research questions, and the conclusions.

Methods (منهجية البحث)

This study was library research with a narrative literature review design. A narrative review was chosen because the evidence was heterogeneous (official documentation, technical records, empirical articles, and conference papers) and too thin on ATutor for pooled or quantitative synthesis; the aim was interpretive evaluation, not an exhaustive count. It was not a systematic literature review, and the PRISMA procedure was not applied.

Searches were run in November 2026 through a general web search engine, and each record was opened on the publisher, journal, repository, or project page where it is hosted (for example journal platforms, ACM, Springer, DOAJ, Garuda, SourceForge, the ATutor documentation site, and the National Vulnerability Database). Search terms in English and Indonesian included "ATutor learning management system," "ATutor features," "ATutor accessibility," "ATutor Arabic language learning," "Arabic language learning LMS," "Moodle Arabic speaking listening," "maharah kitabah LMS online," and "ATutor e-learning bahasa Arab." The

review used open web searches rather than direct queries in subscription or curated indexes such as Scopus, Web of Science, ERIC, or ScienceDirect. Therefore, the search coverage is partial and the corpus should be interpreted as an illustrative, non-exhaustive evidence base rather than a complete census of ATutor-related research.

Primary sources for ATutor's features and status were the official feature documentation (ATutor, n.d.-a), the project repository description (ATutor, n.d.-b), the W3C WCAG 2.0 implementation report for ATutor (World Wide Web Consortium [W3C], n.d.), and the vulnerability record (NIST, 2019). Secondary sources were peer-reviewed or proceedings articles on ATutor and on LMS-supported Arabic learning.

Sources were included if they (a) described ATutor, or examined LMS-supported Arabic language learning with attention to one or more of the four skills, and (b) had bibliographic details that could be confirmed on the source page. Recent sources (2019–2026) were preferred for LMS-supported Arabic learning. Older sources (2009–2014) were retained only for ATutor design, accessibility, and course examples, because no more recent peer-reviewed description of those aspects was found. Sources were excluded if their metadata could not be verified, if they were commercial software-review or blog pages (these were not used as evidence for any claim), or if they concerned media development without an LMS.

Retrieved items were screened by title and abstract and then opened to confirm authors, year, venue, and DOI where available. Because searching was iterative and was not logged to systematic-review standards, the number of records initially retrieved is not reported. The final corpus comprised 21 sources: 10 on ATutor (four official or technical records, two descriptive web sources, and four academic papers, including Assiddiqi et al., 2025) and 11 on LMS-supported learning or LMS quality.

For each feature in the official documentation, the function described, whether it was presented as a standard feature or an add-on module, and any mention of external services were recorded. Features were mapped to the pedagogical needs of each skill and classified as documented and directly relevant, documented but partly relevant, dependent on add-ons or external tools, or not documented in the sources reviewed. Evidence for each skill was kept at three levels: documented availability of a feature (Level 1), technical capability to carry out the pedagogical task (Level 2), and empirical evidence of learning effectiveness (Level 3).

Findings were compared across sources by theme (the four skills and six evaluation aspects) and interpreted narratively. The relevance rating in Table 1 (High, Moderate, Limited, or Undetermined) is the author's judgement of the fit between documented features and pedagogical needs and of the strength of Level 3 evidence; it is not a statistical result.

Metadata were verified on source pages. Statements taken from documentation were kept separate from interpretation, and a missing feature was reported as “not documented” rather than as proof of absence. The one ATutor–Arabic study was read in full and appraised critically, and status claims were cross-checked across the repository description, a trade article, and the vulnerability record. Limitations are a single reviewer, no hands-on testing of an ATutor installation, and incomplete index coverage.

Results & Discussion (نتائج البحث ومناقشاتها)

3.1 Characteristics and Features of ATutor (RQ1)

The official documentation describes ATutor as an open-source web-based LMS for developing and delivering online courses in an accessible, adaptive, and social learning environment (ATutor, n.d.-a). For learners it lists inbox messaging, work groups with their own forums and blogs, file storage with optional version control, a test manager, a glossary, a links database, a content tracker, and preference settings for display, content, navigation, and tools. For instructors it lists a content editor (HTML or plain text) with a visual editor, a file manager, a test manager with several question types, forums, an assignment drop box built on file storage in which comments can be added to each submission, a reading list, polls, FAQs, content-usage statistics, a backup manager, SCORM 1.2 run-time support, and import and export of IMS content packages, QTI tests, and Common Cartridges. Administrators can manage modules, themes (which require only HTML and CSS knowledge), and language packs. The language manager states that all languages are available in UTF-8 and that courses can display several languages at the same time. Add-on modules named in the documentation include EWiki, Open Meeting, and Adobe Connect (ATutor, n.d.-a). These are documented features; they were not tested on a live installation in this review.

Two characteristics distinguish ATutor from a generic LMS. The first is accessibility. ATutor was created to fill a need for an accessible network-based LMS (Gay et al., 2009), implemented AccessForAll so that learners can set preferences for how content is delivered (Gay et al., 2009; Mirri et al., 2011), and integrates an accessibility checker for authors (ATutor, n.d.-a). A WCAG 2.0 implementation report submitted for ATutor claims Level AA conformance for the default theme, with content authored in the system excluded from the scope (W3C, n.d.). This is a self-declared claim about the default theme under an older standard. It is consistent with Assiddiqi et al.’s (2025) description of ATutor as accessibility-oriented, but it does not show that Arabic course content or a customised theme is accessible. The second characteristic is standards-based interoperability (SCORM, IMS, QTI), which matters for the migration question in Section 3.7. The remaining tools are conventional LMS functions found in most platforms.

3.2 Relevance of ATutor to Istimā‘ (Listening) (RQ2)

Documented support. The content editor and the forum, blog, and test tools all allow multimedia objects to be added (ATutor, n.d.-a), so audio or video can be embedded in reading pages, discussion prompts, and test questions. Learners can set preferences for the forms of content they want, and content packages can carry adapted versions of content (ATutor, n.d.-a; Gay et al., 2009), a mechanism that could in principle deliver a transcript or alternative-format version of the same recording. Matching, ordering, multiple-choice, and true/false items are marked automatically and can give instant feedback (ATutor, n.d.-a), which fits comprehension checks after listening. The technical feasibility of audio-centred content on A-Tutor is shown by an online music course that combined slides, quizzes, and SCORM 1.2 packaging (Syntixakis & Kalouta, 2014).

Limits. The documentation reviewed does not describe listening-specific functions such as limiting replays, controlling playback speed, synchronising transcripts, or dictation items, and Assiddiqi et al. (2025) mention audio and video only in general terms. Effectiveness evidence comes from other platforms: a Moodle-based LMS for a listening-comprehension course was judged effective at 82.64% (Sya'bani & Anwar, 2023), which shows that an LMS can host such a course but says nothing about ATutor. Relevance is rated Moderate: technically plausible through embedded media and auto-marked tests, with no direct empirical evidence.

3.3 Relevance of ATutor to Kalām (Speaking) (RQ2)

Documented support. The communication tools are text based: forums, chat rooms, inbox messages, group blogs, and a "users online" tool (ATutor, n.d.-a). They allow discussion, written role-play, and preparation of speaking tasks. The documentation also lists Open Meeting and Adobe Connect among add-on modules, but the sources reviewed did not examine how these are configured or what external services they need, so their usefulness for speaking practice is undetermined.

Limits. The feature list does not describe audio recording, pronunciation feedback, or speech assessment. Forum and blog posts can contain multimedia objects (ATutor, n.d.-a), so learners could post recordings made with external tools, but this is a workaround rather than a documented speaking function. The wider literature shows the same weakness: LMS-supported Arabic instruction offers limited authentic muhādatsah practice (Izzan JM et al., 2025), and the studies that address oral skills in an LMS are case studies on other platforms (Zakiyah & Idris, 2023). Relevance is rated Limited for direct speaking practice, although ATutor can serve as a coordination and submission space when paired with external recording or conferencing tools.

3.4 Relevance of ATutor to Qirā'ah (Reading) (RQ2)

Documented support. The content editor creates HTML or plain-text pages, glossary terms can be embedded in content pages, and a reading list and links database are available. Tests can be attached to content or set as prerequisites, and

the Test Manager offers multiple-choice, matching, ordering, drag-and-drop, and open-ended items (ATutor, n.d.-a). This matches the usual qirā'ah sequence of reading a text, consulting vocabulary support, and answering comprehension questions. The qawā'id example in Assiddiqi et al. (2025) used PDF modules, videos, and quizzes in a similar way, but without reported data. The language manager's statement about UTF-8 (ATutor, n.d.-a) suggests that Unicode text can be handled, which Arabic script requires.

Limits. RTL layout and diacritics (tashkīl) display in the content editor, tests, forums, and themes are not documented in the sources reviewed, and no test of an Arabic-language ATutor installation was found. This matters because Arabic localization quality is a known weak point of LMS interfaces (Omar, 2021). Relevance is rated Moderate to High, conditional on an RTL and typography check.

3.5 Relevance of ATutor to Kitābah (Writing) (RQ2)

Documented support. The assignment drop box lets instructors collect submissions from individuals or groups, download them together, and comment on each submission for the submitter. File storage can keep version control to track drafts and changes, work groups can author documents together, and group blogs and forums support peer writing and feedback; content creators can also use the visual editor to format text and paste Word content (ATutor, n.d.-a). Together these support a process-writing cycle of drafting, feedback, and revision. Moodle-based studies illustrate related uses: validating an academic-writing model (Fahmi et al., 2022) and analysing writing errors inside an LMS-based test (Ismail et al., 2025).

Limits. The documentation states that multiple-choice, multiple-answer, ordering, matching, and true/false items are marked automatically, which, as far as it shows, leaves open-ended answers such as written responses to instructor marking. No automated writing evaluation, error tagging, or Arabic-specific correction is documented, and RTL behaviour in the editors is undocumented. Relevance is rated Moderate: the submission-and-feedback workflow is sound, but feedback quality depends on instructor time.

3.6 Evaluation of Strengths and Limitations (RQ2)

Table 1 synthesises the analysis for the four skills. Across them, the documented strengths are structured content, varied assessment items, and collaboration tools. Assiddiqi et al. (2025) argue that these fit constructivist and collaborative learning, but this is a theoretical alignment, not evidence of effect: no Level 3 evidence for any of the four skills on ATutor was found. The evaluation by aspect is as follows.

Table 1. Synthesis of ATutor relevance to the four Arabic language skills

Maharah	Pedagogical need	Relevant ATutor features (documented)	Potential use	Limitations	Relevance (author's rating)	Optimization recommendation
Istimā' (listening)	Clear audio or audiovisual input, replay, vocabulary and transcript support, comprehension checks.	Multimedia objects in content, forums, and tests; learner content preferences and adapted content; auto-marked matching, ordering, multiple-choice, and true/false items; SCORM 1.2 packages (ATutor, n.d.-a; Gay et al., 2009).	Embedded audio or video followed by auto-marked comprehension items with instant feedback.	No documented replay limits, playback-speed control, synchronised transcripts, or dictation items; no ATutor-specific effectiveness evidence.	Moderate	Host audio externally; offer a transcript version through adapted content; pilot-test playback behaviour.
Kalām (speaking)	Interaction, pronunciation practice, spoken production, feedback.	Forums, chat rooms, inbox, work groups, group blogs; multimedia objects in posts; add-on modules Open Meeting and Adobe Connect (not examined) (ATutor, n.d.-a).	Preparation, written role-play, and coordination; posting audio recorded with external tools; synchronous meetings	No documented audio recording, pronunciation feedback, or speech assessment; LMS-based Arabic instruction shows limited authentic	Limited	Link external recording and conferencing tools from course pages; test add-ons before adoption; use rubric-based instructor feedback.

			via add-ons.	conversation practice (Izzan JM et al., 2025).		
Qirā'ah (reading)	Readable Arabic text, vocabulary support, graded reading, comprehension questions.	HTML or plain-text content editor; glossary terms in content pages; reading list; links database; content tracker; Test Manager with prerequisite tests; UTF-8 language support (ATutor, n.d.-a).	Structured reading units with embedded glossary and auto-marked comprehension tests.	RTL layout and diacritics display not documented; Arabic localization is a known concern (Omar, 2021); no ATutor-specific outcome evidence.	Moderate to High (conditional)	Run an RTL and typography test; prepare an RTL theme stylesheet; use the glossary for vocabulary support.
Kitābah (writing)	Drafting, feedback, revision, rubric-based assessment.	Assignment drop box with comments on submissions; file storage with version control; work groups; forums and blogs; visual editor for content creators; open-	Draft–feedback–revision cycles, peer review, and a submission archive.	Open-ended work needs manual marking; no documented automated evaluatio	Moderate	Combine drop box comments with version control; adopt an error-category checklist (cf. Ismail et al., 2025); test RTL in editors.

		ended test items (ATutor, n.d.-a).		n or Arabic error tagging; RTL in editors undocumented.		

Note. Synthesis by the author from ATutor (n.d.-a), Gay et al. (2009), Izzan JM et al. (2025), Omar (2021), Sya'bani and Anwar (2023), Fahmi et al. (2022), and Ismail et al. (2025). "Not documented" means not mentioned in the sources reviewed, not proven absent. Relevance ratings are the author's judgement.

Pedagogical. Documented tools match reading and writing tasks well, and oral–aural tasks poorly. Technical. ATutor is modular, standards-based, and built on PHP and MySQL, but the repository notice and the vulnerability record raise maintenance and security concerns (ATutor, n.d.-b; NIST, 2019). Interactivity. Asynchronous text tools are documented; synchronous or oral interaction depends on add-ons. Accessibility. This is the strongest aspect (Gay et al., 2009; Mirri et al., 2011; W3C, n.d.), but the evidence is dated and covers the default theme. Interface and user experience. Assiddiqi et al. (2025) describe the interface as simple and possibly outdated; the documentation lists a theme manager, so appearance can be changed with HTML and CSS skills, but behaviour on current mobile devices was not verified. Sustainability. The project is unsupported at user level, the last stable release reported is from 2018, and the community is described as small (Assiddiqi et al., 2025; ATutor, n.d.-b; Open Source For You, n.d.).

The limitations differ in kind. Inherent limitations cannot be solved by teachers or by adding tools: the maintenance status, the exposure to unpatched code unless an institution maintains its own fork, and the absence of documented native audio recording, speech assessment, and analytics. Limitations that integration can address include the interface (through custom themes), oral practice (through external recording and conferencing tools linked from course pages), and possibly RTL display (through a custom stylesheet), although the last requires developer skills and testing, which this review did not carry out.

3.7 Relevance in the Digital Era and Recommendations (RQ3 and RQ4)

Relevance (RQ3). The evidence supports a conditional and unequal answer. On pedagogical fit, ATutor is Moderate for reading and writing and Limited for oral–aural skills. On accessibility it is strong in documentation, though dated. On sustainability it is weak. The evidence neither supports calling ATutor obsolete because of its appearance or age nor supports recommending it for new programs

that need balanced four-skill coverage. Assiddiqi et al.'s (2025) conclusion that ATutor is a viable and effective option is partly supported. Its accessibility orientation and zero-cost, open-source nature are documented, but the article does not report participant data, instruments, statistical results, or a comparison group; therefore, its effectiveness claim cannot be independently verified from the information provided.

Three situations can be distinguished. For an existing ATutor installation, continued use is defensible only with a security review, isolated hosting, regular backups, and a migration plan. For programs centred on reading, grammar exercises, and written submissions, with accessibility requirements, ATutor can still be relevant. For new adoption in a balanced four-skill program, an actively maintained platform is the safer choice; the validated designs in the Arabic LMS literature reviewed here are mostly on Moodle-type platforms (Fahmi et al., 2022; Sya'bani & Anwar, 2023; Syarifah et al., 2026; Zakiyah & Idris, 2023), which gives more reusable examples, though this reflects the research base and is not proof that those platforms teach better.

Recommendations (RQ4). Each recommendation answers a limitation identified above.

1. Verify security and maintenance first. Before any deployment, check the patch status of the vulnerability recorded for versions up to 2.2.4 (NIST, 2019) against the repository, and plan for who will maintain the installation (ATutor, n.d.-b).

2. Run an Arabic-readiness audit. Test UTF-8 input, RTL display, and diacritics in the content editor, forums, tests, and the chosen theme, since none is documented (ATutor, n.d.-a; Omar, 2021). Because themes need only HTML and CSS skills, an RTL stylesheet may be feasible, but it must be tested.

3. Cover the oral–aural gap with external tools. Embed externally hosted audio and video, provide transcripts through adapted content, and link external recording or conferencing tools from course pages, with rubric-based instructor feedback (ATutor, n.d.-a; Gay et al., 2009; Izzan JM et al., 2025).

4. Strengthen the writing workflow. Combine the drop box comments with version control and an error-category checklist, following the error-analysis approach of Ismail et al. (2025).

5. Keep content portable. Export courses and tests as SCORM, IMS, or QTI packages (ATutor, n.d.-a) so that migration to another LMS stays possible.

6. Build the evidence. Run a small pilot with pre- and post-tests and report the sample, instrument, and results, as the Gontor and Pekalongan studies did (Fathuddin et al., 2025; Ismail et al., 2023).

Conclusions (الخاتمة)

This review asked whether ATutor remains relevant for the four Arabic language skills. On the first question, ATutor is an open-source, accessibility-oriented LMS with conventional course tools, standards-based content exchange, and a module system; its documentation, however, describes capabilities as designed, and its project status is now unsupported at user level. On the second, the documented tools suit *qirā'ah* and *kitābah* (structured content, auto-marked tests, assignment submission with comments, and version control), while *istimā'* is technically plausible through embedded media and *kalām* is limited by the absence of documented audio recording or speech assessment. No empirical study of ATutor's effectiveness for any of the four skills was found.

On the third question, relevance is conditional: Moderate for reading and writing, Moderate for listening, and Limited for speaking, with a weak sustainability position because of the repository notice, the 2018 last stable release, and the recorded critical vulnerability. On the fourth, the recommendations are to verify security and maintenance, audit RTL and Arabic typography, cover oral–aural needs with external tools, strengthen the writing workflow, keep content portable, and generate empirical evidence.

The implication is that feature availability, technical capability, and pedagogical effectiveness should be judged separately when choosing an LMS for Arabic teaching, and that an LMS's maintenance status belongs among the criteria. The limitations of this review are its single reviewer, partial coverage of scholarly indexes, the absence of hands-on testing, reliance on a trade article and repository metadata for status information, and the author-assigned relevance ratings. In particular, the absence of a hands-on test means that claims concerning Arabic right-to-left display, diacritic rendering, audio playback, and mobile usability remain hypotheses requiring verification rather than established findings. Future research should audit a live ATutor installation for Arabic display and audio handling, test ATutor-based Arabic courses with pre- and post-test designs, collect teacher and learner perceptions, and compare ATutor with actively maintained platforms on the same four-skill tasks.

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