

Systematic Literature Review: System User Experience Analysis E-Learning Using the System Usability Scale (SUS) Method

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ABSTRACT

The use of *e-learning* systems in universities still faces crucial obstacles related to the aspects of user *experience* and the quality of system *usability*. Some of the obstacles that are often complained about by the academic community include confusing navigation schemes, difficulty tracking class or course menus, and less intuitive task interface visualization. This problem directly reduces the effectiveness of knowledge transfer and the satisfaction of digital academic interactions. This study aims to present a comprehensive analysis of the urgency of user *experience evaluation* on online learning platforms and test the effectiveness of the *System Usability Scale* (SUS) method as the main measurement instrument. The approach used is *Systematic Literature Review* (SLR) with reference to structured methodological standards. Based on tracking on the academic databases Google Scholar and Semantic Scholar in the last ten years (2016–2026), 33 relevant scientific articles were obtained for in-depth analysis and synthesis. The results of the literature review show that the SUS method has proven to be consistent as a very effective, reliable, and efficient evaluation tool because it is able to produce objective quantitative data visualization based on direct user perception. Empirical findings from dozens of studies confirm the presence of interface functionality and aesthetic gaps on various *Learning Management System* (LMS) platforms. The literature synthesis concludes that the implementation of *regular user experience* evaluations is crucial to ensure the sustainability, efficiency, and convenience of the online learning system. The results of this study provide theoretical contributions as well as practical recommendations in the form of technical roadmaps for the development of interface design and navigation structures in the *E-Learning System* of UIN Suska Riau to become more adaptive, modern, and *user-friendly*.

Keywords: User Experience, Usability, E-Learning, System Usability Scale (SUS), Systematic Literature Review.

INTRODUCTION

The use of e-learning systems in universities today has become a major pillar in supporting the transformation of digital education. The implementation of e-learning is one of the government's strategic efforts to expand access to higher education in Indonesia. This online learning system allows the entire academic community to carry out teaching and learning activities anytime and anywhere with a more affordable cost and optimal time flexibility. However, in the reality of its implementation, the use of e-learning platforms still often faces crucial obstacles, especially related to aspects of user experience and system usability.

According to Ma'ruf Amin (2020) in the State Secretariat of the Republic of Indonesia, the implementation of e-learning is one of the government's efforts to expand access to higher education in Indonesia. He said that the online learning system allows people to learn anytime and anywhere with a more affordable cost and more flexible learning time. However, in its implementation, the use of e-learning still faces various obstacles, such as users who experience confusion when using the e-learning feature in searching for class menus, courses, and the display of the same task. These conditions can affect the effectiveness of the learning process and the level

of user satisfaction with the e-learning system used, so it is necessary to evaluate the user experience and usability of the system to determine the level of ease and comfort of users in using the e-learning platform.

Users often experience confusion when interacting with e-learning features, such as difficulty tracking class menus, searching for courses, and visualizing assignment interfaces that are less intuitive. This condition directly affects the effectiveness of the learning process and reduces the level of user satisfaction with the e-learning ecosystem provided. Therefore, a comprehensive evaluation of user experience and usability is absolutely necessary to measure the extent of user convenience, convenience, and efficiency in utilizing the digital platform.

Within the State Islamic University (UIN) Sultan Syarif Kasim Riau, the E-Learning System acts as the main infrastructure for digital learning. Given its very vital role, the quality of the interface and the flow of navigation become the determining parameters of the success of knowledge transfer. Based on empirical phenomena in various university learning management system (LMS) platforms, users are still faced with ineffective navigation schemes, confusing information architectures, and inconsistencies in inter-feature functionality. To bridge these problems, the System Usability Scale (SUS) method is applied as the main evaluation instrument.

The formulation of the problem in this study is to determine the urgency of user experience evaluation in the e-learning system and the effectiveness of the SUS method as a measuring tool. The main goal is to identify the advantages of the SUS method, analyze the factors that affect the usability of the e-learning platform, and produce development recommendations based on scientific literature evidence for the E-Learning System of UIN Suska Riau.

Research Objective

Based on the problems that have been described in the background, this research is designed with the following strategic objectives:

1. Analyze the urgency and significance of the implementation of user experience evaluation in the e-learning system in influencing the effectiveness and learning satisfaction of the academic community.
2. Identify the characteristics, advantages, and validity of the System Usability Scale (SUS) method in providing a comprehensive information system usability measurement framework.
3. Evaluate the fundamental reasons for choosing e-learning as a user experience research object that requires continuous optimization for the sake of improving the quality of digital academic services.
4. Produce synthesis and recommendations based on scientific literature to prepare recommendations for the development of interface and navigation of the E-Learning System of UIN Suska Riau.

Research Questions

In order to direct the process of literature review and structured conclusion drawn, three research questions were formulated as follows:

RQ 1	: Why does user experience analysis in an e-learning system need to be done regularly?
RQ 2	: What are the main advantages of the System Usability Scale (SUS) method in user experience research?
RQ 3	: Why was the e-learning system chosen as a crucial object in user experience research?

METHODOLOGY

This study uses the Systematic Literature Review (SLR) method which refers to structured methodological standards according to Chitu Okoli (2015) to identify, evaluate, filter, and integrate findings from all scientific

articles relevant to the topic of discussion. The implementation of systematic review is strictly executed through four main phases, including planning, selection, extraction, and implementation.

Literature Search Strategy

The process of tracking scientific articles is carried out in a structured manner to minimize search bias by establishing a reputable academic database. The main databases used include Google Scholar and Semantic Scholar. To limit the search to stay focused on the accessibility corridor and learning platform, the following Boolean operator-based keyword combinations are designed:

"analysis OR evaluation AND 'user experience' OR UX OR USABILITY AND 'E-Learning' OR 'learning management system' OR 'LMS' AND 'System Usability Scale' OR SUS"

The publication time filter is limited to the last 10 years (2016–2026), with a focus on journal/proceedings articles in Indonesian and English.

Inclusion and Exclusion Criteria

To ensure the scientific validity of the analyzed literature, the limits of selection parameters are set through the following Inclusion Criteria and Exclusion Criteria:

Table 1. Article Inclusion and Exclusion Criteria

Aspects	Inclusion Criteria	Exclusion Criteria
Substance & Topics	Discuss the user experience of the information system explicitly	Not related to user experience or interface
Measurement Methodology	Apply the System Usability Scale (SUS) method	Not mentioning or discussing evaluation methods
Research Object	In the form of a website-based system or digital application	Outside the digital system or in the form of non-scientific blog opinions
Data Presentation	Present clear results that can be analyzed quantitatively/qualitatively	Does not present clear, incomplete, or duplicate research results
Time Range	Published within the last 10 years (2016–2026)	Published outside of the set time limit

Article Selection Process

The literature selection phase is carried out in stages. First, an initial search using a keyword string results in a raw set of articles. Second, duplicate document screening is carried out. Third, the researcher conducted a quick screening based on titles and abstracts. Fourth, the complete manuscript of the article that passes is read carefully to assess its suitability with the inclusion criteria. From the rigorous screening process, 33 main scientific articles were selected that met all eligibility parameters for further analysis.

Data Extraction and Analysis

The data extraction stage was carried out by compiling a summary of important information from 33 selected articles into a structured tabulation database. The extracted parameters include the identity of the author and the year of publication, the full title, the object of the research, the method applied, as well as the final findings. Data analysis was carried out using descriptive qualitative analysis techniques and comparative synthesis to answer the three research questions (RQ1, RQ2, and RQ3) systematically.

Table 2. Article Mapping to Research Questions

Code	Main Discussion Focus	Supporting Articles
RQ1	The urgency and significance of user experience analysis on digital platforms	1, 2, 3, 4, 5, 7, 8, 10, 11, 12, 13, 15, 16, 17, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32
RQ2	Advantages, reliability, and functional effectiveness of the SUS method	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 24, 25, 26, 27, 28, 29, 31, 32
RQ3	Characteristics and reasons for choosing e-learning/LMS as an evaluation object	2, 3, 8, 10, 22

SUS Measurement Scale

The main instrument used as a reference for the interpretation of the results in this study is the System Usability Scale (SUS). SUS is a 10-item questionnaire developed by John Brooke (1996), resulting in a score between 0–100 which can be interpreted as follows:

Table 3. SUS Score Interpretation

SUS Score Range	Admission Category	Letter Level	Adjective Rating
≥ 90.9	Acceptable	A+	Best Imaginable
84,1 – 90,9	Acceptable	A	Excellent
72,6 – 84,1	Acceptable	B	Good
71,1 – 72,6	Acceptable	C+	Good
65,0 – 71,1	Acceptable	C	OK
62,5 – 65,0	Marginal	C-	OK
51,7 – 62,5	Marginal	D	Poor
< 51.7	Not Acceptable	F	Awful

RESULTS AND DISCUSSION

This section presents a synthesis of the results of the study of 33 scientific articles to answer the three research questions that have been formulated, and contextualized directly for the development of the E-Learning System of UIN Suska Riau. Table 4 below summarizes the overall articles analyzed:

Table 4. Selected Article Data Extraction Results

Yes	Author Name	Publication Title	Research Object	Method	Research Results
1	Dewi et al. (2020)	Evaluation and Recommendations for Improving the VLM Website Universitas	Website VLM Univ. Brawijaya	Heuristic Evaluation & SUS	SUS score 44.17 (Not Acceptable). After the redesign, it rose

		Brawijaya on Mobile Devices			dramatically to 71.0 (Acceptable, Good).
2	Rippo et al. (2020)	The Influence of LENTERA as a Website-Based LMS on Learning Effectiveness	LMS LANTERN Univ. Mulia	Surveys & SUS	SUS score of 68.5 (Marginal High, OK). Technology familiarity has an effect of 54% on effectiveness.
3	Vlachogianni et al. (2026)	Perceived Usability of Learning Management Systems and University Websites	LMS & University Website	SLR	The average LMS score is stagnant at 60–70 (Marginal). Main problem: large file menu & value table are unresponsive.
4	Imana & Nugroho (2023)	UX Evaluation of the Open Learning System at UMS	OpenLearning UMS	Heuristic Evaluation & SUS	SUS score is 61.03 (marginal low). The misalignment of menu icons & color schemes is confusing.
5	Isfa'Lana & Majid (2024)	Quality Analysis of Microsoft Teams Using SUS as a Learning Platform	Microsoft Teams SMAN 1 Losari	YOUR SUS	SUS score of 70.5 (Acceptable, Good). Chat & video features are easily accessible; The task archive feature is still complicated.
6	Sahara et al. (2026)	Evaluation of Usability Using SUS and Correlation with Graduation Rate	LMS UMM	SUS & Pearson Correlation	Score 57.1 (Marginal Low). There is no significant correlation between LMS usability and student GPA.
7	Saputra & Parhusip (2026)	Measurement of Usability of GEN-IT E-Learning Web Application	Website E-Learning GEN-IT	SUS & Black Box	Score 90.74 (Excellent, Grade A). The entire functionality of Black Box is 100% bug-free.
8	Hidayati et al. (2024)	Analysis of the Usability of the SUS System in the Ministry of Trade Kudagang LMS	LMS Kudagang Ministry of Trade	YOUR SUS	Score 67.19 (High Marginal, OK). Good information architecture; The typography of the clue is too small.
9	Gavrila & Parhusip (2026)	Google Classroom App Usability Analysis with SUS and Black Box	Google Classroom	SUS & Black Box	Score 74.5 (Acceptable, Good). The placement of the Classwork button is very intuitive, minimizing user error.
10	Nugraha & Jumasa (2020)	Comparative Analysis of Usability LMS in Lamandau Polytechnic	LMS Lamandau Polytechnic	Comparative Analysis & SUS	The locally modified LMS achieved a score of 78.5 vs the default LMS of 62.1. Campus visual

					customization increases satisfaction.
11	Abuhlfaia & de Quincey (2019)	Evaluating the Usability of an E-Learning Platform within Higher Education	Platform E-Learning PT	SUS & Thematic UX	Score 62.5 (Marginal). Late email notifications and the absence of the auto-save feature lower the rating.
12	Tsani (2024)	EduSmart User Experience Evaluation Using SUS	Platform EduSmart	YOUR SUS	The highest score is 90.08 (Best Imaginable). Data access speed and simple homepage design are the main factors.
13	Magfirah et al. (2024)	Evaluation of the Usefulness of Al-Fityan School's Digital Learning Platform	LMS AFDAL SMPIT Al-Fityan	YOUR SUS	Score 64.6 (Marginal OK). The loading of the digital report card page is slow when accessed simultaneously.
14	Pebrianti & Hidayah (2026)	Evaluation of the Usability of E-Learning for Kito Classes	E-Learning Kelas Kito	Usability Testing & SUS	Completion Rate 88%. SUS score of 65.0 (Marginal) due to the monotonous and less modern aesthetics of the layout.
15	Antika & Yulianingsih (2023)	Analysis of the E-Learning System of Univ. PGRI Palembang with SUS	E-Learning PGRI Palembang	YOUR SUS	Score 63.4 (Marginal). Need to improve the lecture schedule menu and filter feature for the lecturer's name.
16	Frobenius et al. (2023)	Waskita Univ. Amikom LMS Usability Analysis	LMS Waskita Univ. Amikom	YOUR SUS	Lowest score is 54.2 (Not Acceptable). The navigation flow is convoluted when searching for archival materials from last semester.
17	Lukman et al. (2025)	Usability Evaluation of SiCanTiK E-Learning Using SUS and USE	E-Learning SiCanTiK SMKN 3 Kediri	SUS & USE	Ease of Use is 72% but Ease of Learning is very low. SUS score is 61.8 (marginal low).
18	Nurlistiani & Purwati (2021)	Interpretation of E-Learning Usability Testing during the Pandemic	Platform E-Learning ITTP & UGM	YOUR SUS	Average score of 63.3 (Grade C-). There is no undo/cancel button when you click the wrong send assignment.
19	Iryanti et al. (2022)	E-Learning Satisfaction Measurement With	PT E-Learning System	Heuristic & SUS	5 critical gaps in error prevention. SUS score of 66.0 (marginal high).

		Heuristic and SUS Evaluation			Login form validation needs improvement.
20	Setiawan & Wicaksono (2020)	Evaluate Google Classroom Usability Using SUS	Google Classroom	YOUR SUS	Score 76.2 (Acceptable, Good). The stability of the automatic task photo compression performance increases the value.
21	Putera et al. (2022)	Evaluation of The E-Learning System Usability Using SUS	E-Learning ITB STIKOM Bali	YOUR SUS	Score 79.0 (Acceptable, Good). Responsive system, good text color contrast, high consistency.
22	Jumaryadi & Mahdiana (2022)	Usability Testing of Budi Luhur University E-Learning System	E-Learning Univ. Budi Luhur	YOUR SUS	Average score of 65.52 (Marginal). Large gap: mobile web score 41 (Poor) vs desktop 86 (Excellent).
23	Mardiah et al. (2024)	Usability Analysis of Poltek SSN LMS Website Using SUS	LMS Poltek SSN	YOUR SUS	Score 63.5 (Marginal OK). Data security is considered reliable; The download flow of layered modules is rated slow.
24	Herdianto (2023)	Evaluation of Sigarda E-Learning PT. Right Brain With BlackBox and SUS	E-Learning Sigarda	SUS & Black Box	Score 91.0 (Best Imaginable). 100% clean functionality. Modern minimalist design encourages task completion.
25	Sudestra et al. (2024)	Improving Digital Learning: Evaluating the U Learn LMS with SUS	LMS U Learn UNDIKNAS	YOUR SUS	Score 56.65 (Not Acceptable). The layout is distorted when the screen is rotated from portrait to landscape.
26	Ardhana (2022)	Evaluation of the Usability of Qamarul Huda University with SUS	E-Learning Univ. Qamarul Huda	YOUR SUS	Score 71.15 (Acceptable, Good). Functional for lectures; The profile menu is recommended to be simplified.
27	Fatmawati (2021)	Evaluation of Usability on an OpenLearning LMS Using SUS	LMS OpenLearning	YOUR SUS	Score 61.03 (Marginal OK). It takes a long time for new users (high learning curve) to understand group quizzes.
28	Fadlilah et al. (2024)	Evaluation of the Use of Learning Technology at MTs Miftahul Huda	MTs Miftahul Huda Learning System	YOUR SUS	Score 84.76 (Excellent). Simple design is convenient for senior

					teachers; timely distribution of materials.
29	Irfani & Sartika (2023)	XYZ University LMS Satisfaction Analysis Using SUS and K-Means	XYZ University LMS	SUS & K-Means	Average score of 72.04 (Acceptable, Good). K-Means divides into 3 clusters; off-campus users are the least satisfied.
30	Ginting & Silalahi (2025)	UX Analysis on Moodle E-Learning Using SUS	E-Learning Moodle	YOUR SUS	Score 58.0 (Marginal Low). The biggest complaint: the server latency is high & the navigation buttons are too small.
31	Falah et al. (2023)	E-Learning User Satisfaction Analysis Using SUS	E-Learning MA Muhammadiyah 1 Malang	SUS (Stratified)	Teacher score 73; students 74–77 (Acceptable, Grade C, Okay). Differences in perception between two groups of users.
32	Rahayu (2025)	Analyze User Satisfaction With Moodle E-Learning With SUS	E-Learning Moodle PT	SUS (Snowball)	Score 75.06 (Acceptable). 71.9% of respondents stated that the platform is acceptable; the most Grade B.
33	Al Rasyid et al. (2022)	User Satisfaction Analysis of the Implementation of an Online Exam LMS Using E-Servqual	LMS MOLA HIGH SCHOOL MUH. Bangkinang	E-Servqual & Regression	R ² 72.7%. The Fulfillment dimension is the most dominant. F count 34.159 > F table 2.10 (significant).

Cross-Cutting Usability Themes Across the Reviewed Studies

Based on a synthesis of 33 articles, six main themes were found that consistently affect the usability of e-learning systems, namely:

1. Navigation Complexity

The most commonly encountered theme is the user's difficulty in navigating the system. Complicated navigation causes users to take longer to complete tasks and increases cognitive load.

Some of the studies that support these findings include:

- Frobenius et al. (2023) found that the flow of searching archives of previous semester material was too convoluted, resulting in a SUS score of 54.2.
- Antika and Yulianingsih (2023) reported on the need to improve the lecture schedule menu and filter lecturer names.
- Fatmawati (2021) shows that new users have difficulty understanding the flow of group quizzes.
- Ardhana (2022) recommends simplifying the profile menu.

- Ginting and Silalahi (2025) identified the size of navigation buttons that are too small as the main obstacle.

These findings suggest that a simple and consistent navigation structure is an important factor in improving the usability of e-learning.

2. Mobile Responsiveness and Cross-Device Compatibility

The second theme relates to the ability of the system to adapt to various devices.

Some studies show that there is a user experience gap between desktop and mobile devices.

- Jumaryadi and Mahdiana (2022) found an extreme difference between mobile (41) and desktop (86) scores.
- Dewi et al. (2020) showed that the redesign of the mobile interface increased the SUS score from 44.17 to 71.0.
- Sudestra et al. (2024) found display distortion when the screen is rotated from portrait to landscape.
- Vlachogianni et al. (2026) report a large unresponsive file menu.

These results indicate that responsive design is a fundamental need as the majority of LMS users today access the system via smartphones.

3. Information Architecture and Content Organization

A good information architecture helps users find information quickly.

Some studies show that improper content structure leads to user confusion.

- Hidayati et al. (2024) state that a good information architecture improves the user experience.
- Vlachogianni et al. (2026) found user difficulties due to inefficient menu structure.
- Antika and Yulianingsih (2023) highlight the need to rearrange the academic menu.
- Dewi et al. (2020) recommend a reorganization of the menu structure after evaluation.

Thus, a clear information architecture contributes to the efficiency and ease of use of the system.

4. Interface Clarity and Visual Aesthetics

The visual aspect has been shown to affect the user's perception of the quality of the system.

Factors that often come up include color consistency, icons, layout, and page design.

- Imana and Nugroho (2023) found the mismatch of icons and color schemes that confused users.
- Pebrianti and Hidayah (2026) cited the monotonous layout as the cause of the low SUS score.
- Tsani (2024) shows that a simple homepage design results in a very high SUS score (90.08).
- Herdianto (2023) reports that modern minimalist design supports the completion of user tasks.
- Nugraha and Jumasa (2020) prove that LMS visuals that are tailored to campus identity increase user satisfaction.

These findings show that visual aesthetics are not only related to beauty, but also affect the perception of ease of use.

5. System Performance and Access Speed

System speed is one of the main determinants of user satisfaction.

Performance glitches cause frustration and lower user acceptance.

Some studies have found that:

- Ginting and Silalahi (2025) identified high server latency as the main complaint.
- Magfirah et al. (2024) found that digital report cards pages were slow when accessed simultaneously.
- Tsani (2024) shows that the speed of data access is the main factor in high SUS scores.
- Mardiah et al. (2024) reported the slow process of downloading the module.
- Setiawan and Wicaksono (2020) show that the stability of automatic task compression improves the user experience.

This shows that usability is not only determined by the design of the interface, but also by the technical performance of the system.

6. Error Prevention and User Support

Another theme that is quite dominant is the ability of the system to help users avoid mistakes.

Some studies have found that:

- Iryanti et al. (2022) identified five critical gaps in error prevention mechanisms.
- Nurlistiani and Purwati (2021) found that there was no undo/cancel feature when submitting assignments.
- Abuhlfaia and de Quincey (2019) reported the unavailability of the auto-save feature.
- Iryanti et al. (2022) also highlight the need for better login validation.

The findings show that supporting features such as auto-save, action confirmation, and input validation are essential to improve user security.

RQ1: The Urgency of User Experience Analysis in Learning Systems

The thematic synthesis of the reviewed studies indicates that usability problems in e-learning systems extend beyond numerical SUS scores and are manifested through recurring issues such as navigation complexity, poor mobile responsiveness, inefficient information architecture, visual inconsistency, performance limitations, and inadequate error prevention mechanisms. These findings reinforce the urgency of conducting periodic user experience evaluations to ensure the effectiveness and sustainability of digital learning systems.

For example, Frobenius et al. (2023) in Article 16 reported that LMS Waskita Univ. Amikom achieved the lowest SUS score of 54.2 (Not Acceptable) due to a convoluted navigation flow when searching for archival materials. On the other hand, Fadlilah et al. (2024) in Article 28 prove that a system with mature UX (SUS score of 84.76) is able to facilitate the needs of senior teachers with a very high level of efficiency. Tsani (2024) in Article 12 even recorded the highest score of 90.08 (Best Imaginable) where data access speed and simple homepage design are determinants of user satisfaction.

A comparative study by Nugraha & Jumasa (2020) in Article 10 proved that LMS with visual customization of local campuses managed to achieve a score of 78.5, outperforming the default LMS which was only 62.1. This phenomenon shows that customizing UX to the user's context significantly increases acceptance. For the E-Learning System of UIN Suska Riau, this urgency is clearly seen from the phenomenon of student confusion in tracking assignments and course menus. Periodic UX analysis acts as a diagnostic radar to detect interface distortions before they affect student learning outcomes.

RQ2: Effectiveness and Advantages of the System Usability Scale (SUS) Method

The System Usability Scale (SUS) method developed by John Brooke has proven consistently to be a robust, reliable, simple, and fast evaluation tool. The main advantage of SUS lies in its ability to transform the user's qualitative perception into a single quantitative metric value ranging from 0 to 100. These numbers can then be easily interpreted into categories of admission, graduation rate, and trait assessments.

Beyond producing numerical usability scores, SUS also serves as a diagnostic instrument capable of highlighting specific usability dimensions when interpreted alongside qualitative findings. The recurring themes identified across the reviewed studies demonstrate that SUS results can guide improvements related to navigation, responsiveness, interface design, system performance, and user support.

Saputra & Parhusip (2026) in Article 7 prove the effectiveness of SUS when combined with Black Box Testing; The GEN-IT E-Learning system achieved a SUS score of 90.74 (Excellent) with 100% clean functionality. Herdianto (2023) in Article 24 also confirmed a score of 91.0 (Best Imaginable) in e-learning based on modern minimalist design. The dramatic gap reported by Jumaryadi & Mahdiana (2022) in Article 22 (mobile: score 41 vs desktop: score 86) proves that SUS is capable of accurately diagnosing cross-device accessibility issues.

The SUS instrument uses 10 questions based on a compact Likert scale so that it does not tire the respondents but still results in a very high level of measurement reliability. This advantage makes SUS the top choice in 32 of the 33 articles analyzed in this study, with Article 33 (Al Rasyid et al.) using E-Servqual as an alternative that measures the quality of electronic services with a contribution (R^2) of 72.7%.

RQ3: Reasons for Choosing E-Learning as a UX Research Object

The e-learning/LMS system was chosen as the main research object of UX because of its unique characteristics that have a very high intensity of use and a variety of contrasting user profiles, involving lecturers from various age groups and students with various levels of digital literacy. The platform serves as a virtual classroom that replaces physical interaction, making it a must-prioritize object in user experience testing.

Fatmawati (2021) in Article 27 shows that new students need extra time and effort (high learning curve) just to understand the flow of group quizzes in the OpenLearning LMS (SUS score of 61.03). While Sudestra et al. (2024) in Article 25 detected the failure of the U Learn LMS system when the screen was rotated from the portrait position to the landscape (SUS score 56.65), proving the importance of responsiveness evaluation. Ginting & Silalahi (2025) in Article 30 identified server latency and button size as the main barriers to Moodle's accessibility (SUS score of 58.0).

The study of Sahara et al. (2026) in Article 6 reveals an interesting finding: there is no significant correlation between LMS usability and student GPA (sig. value > 0.05), confirming that UX quality and academic ability are two dimensions that must be evaluated separately but synergistically. The fact that e-learning systems are used every day for crucial academic activities makes it an object that must be prioritized in user experience testing.

CONCLUSION

This Systematic Literature Review (SLR) research succeeded in summarizing and synthesizing 33 scientific articles to map the urgency of user experience evaluation using the System Usability Scale (SUS) method on e-learning platforms. The results of the analysis conclude three main points as follows:

First (RQ1), user experience is a determinant pillar that determines the success of online learning technology adoption. Periodic UX evaluations are proven to be able to identify interface distortions and recommend improvements that have a direct impact on user satisfaction and learning effectiveness. Systems with high SUS scores (≥ 80) have been proven to facilitate academic needs more efficiently.

Secondly (RQ2), the SUS method has proven to be an effective, reliable, and efficient evaluation solution. With 10 concise Likert questions, SUS is able to generate quantitative usability performance visualizations based on direct end-user perception, and is compatible with complementary methods such as Black Box Testing, K-Means, and Heuristic Evaluation.

Third (RQ3), the fundamental reason for choosing an e-learning system as a research object is rooted in the high intensity of interaction, diversity of user profiles, and inherent academic urgency. Cross-article findings confirm that interface responsiveness, ease of navigation, and visual consistency are the most critical UI/UX factors.

As a practical implication for the E-Learning System of UIN Suska Riau, the results of this SLR analysis recommend: (1) reconstruction of the information architecture on the classroom interface and assignment menu; (2) optimization of cross-device responsiveness, especially for mobile access; (3) simplification of navigation flows to suppress the learning curve of new users; and (4) the implementation of periodic SUS evaluation as an instrument of continuous system quality control.

This study has limitations in the number of literature reviewed (33 articles) and the focus of the local Indonesian context, so generalizations on an international scale require further testing. Further research is expected to expand the scope by involving reputable international journals, enriching the combination of UX evaluation instruments (such as UEQ, UMUX, or NASA-TLX), and conducting direct empirical studies on the UIN Suska Riau E-Learning System.

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