

Acceptance And Effectiveness of the e-RANPs System in Quranic Tasmik Management: A Pilot Study Among Islamic Education Teachers in State of Perlis

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Abstract. This paper presents e-Rekod Tasmik Al-Quran Negeri Perlis (e-RANPs), a data-driven digital system designed to enhance the management of Quranic recitation (tasmik) assessment in primary Islamic education. The traditional manual approach to recording and monitoring tasmik performance is often inefficient, fragmented, and susceptible to data inconsistency. To address these challenges, e-RANPs was developed as a centralized digital platform that enables structured recording, real-time monitoring, and systematic reporting of students' Quranic recitation progress. A pilot study was conducted involving 58 Islamic Education teachers under the Perlis State Education Department, Malaysia. Data were collected using a structured five-point Likert scale questionnaire covering usability, efficiency, data accuracy, and user satisfaction. Descriptive statistical analysis was applied. Findings indicate a high level of user acceptance, particularly in improving administrative efficiency, reducing teacher workload, and enhancing monitoring of student performance. The system also demonstrates strong potential in supporting digital transformation in Islamic education through data-driven decision-making. Identified challenges include internet connectivity limitations and user adaptation requirements. Overall, e-RANPs represents a scalable and sustainable innovation that strengthens Quranic assessment management and contributes to the advancement of digital Islamic education systems.

Keywords: e-RANPs, digital transformation, Islamic education, Quranic recitation, tasmik

INTRODUCTION

Islamic Education in Malaysia is continuously strengthened through structured national initiatives aimed at developing balanced and holistic Muslim students [1]. One of the key initiatives introduced by the Ministry of Education Malaysia is the j-QAF programme, which was conceived to reinforce Islamic Education within the national curriculum [2]. The programme focuses on enhancing students' ability to read and complete the Quran, develop basic Arabic language proficiency, strengthen Fardu Ain practices, and acquire Jawi literacy skills [3].

In the context of education system development, curriculum, infrastructure, and human resources are widely recognized as the three fundamental pillars of an effective education system [4]. Among these components, human resource development plays a critical role in ensuring the success of educational transformation initiatives.

To support these national aspirations, the Ministry of Education Malaysia has implemented several improvements in the implementation model of the j-QAF programme, including policy updates such as the Circular Letter of Specialization No. 2/2015 on the implementation of new norms for Islamic Education teachers in primary schools [3]. These reforms emphasize the importance of strengthening program management, support systems, teaching facilities, as well as monitoring and supervision mechanisms to ensure effective implementation at school level.

Within this framework, Islamic Education Teachers (IETs) play a central role in developing students' Quranic literacy through structured instruction and continuous assessment of recitation skills [5]. Their responsibilities include ensuring that students acquire accurate Quranic recitation skills through systematic teaching and assessment processes.

However, despite these structured efforts, previous practices in Quranic recitation assessment (tasmik) implementation have revealed several operational challenges at the school level. These include inconsistencies in record management, limited real-time monitoring of student progress, and inefficiencies

associated with manual documentation systems [6]. Such limitations hinder effective tracking of student achievement and reduce the efficiency of data-driven decision-making in Islamic Education management.

These challenges highlight the need for a more systematic, efficient, and technology-driven approach to managing Quranic recitation assessment. In response to this gap, the e-RANPs system was developed as a digital innovation platform designed to enhance the management of tasmik processes through structured data recording, real-time monitoring, and centralized reporting mechanisms. The system aims to support Islamic Education transformation by improving efficiency, accuracy, and transparency in assessment management practices.

Previous studies on e-Tasmik indicate that teacher readiness does not strongly determine system effectiveness, as perceived ease of use, usefulness, and user acceptance are more dependent on system design quality rather than user readiness level [7]. This suggests that well-designed digital systems such as e-RANPs can achieve successful adoption even in contexts with varying levels of teacher digital readiness.

Problem Statement

The implementation of Quranic tasmik in primary schools is still largely dependent on manual recording and monitoring practices [6]. Student assessment records are often maintained separately by individual teachers using record books or printed forms, resulting in fragmented data management and limited accessibility. The absence of a centralized digital database makes it difficult for teachers, school administrators, and educational authorities to obtain comprehensive and up-to-date information on students' Quranic learning progress.

In addition, the manual management of tasmik records increases the administrative workload of IETs. Teachers are required to record assessment results, update student progress, and prepare reports manually, which can be time-consuming and prone to human error. This situation also limits real-time monitoring of student achievement, making it difficult to identify learning gaps promptly and implement appropriate intervention strategies for students who require additional support [8].

Furthermore, the existing system provides limited analytical reporting for evidence-based decision-making. Data inconsistencies, incomplete records, and the risk of data loss may affect the accuracy of assessment information. Without a systematic mechanism for data analysis and reporting, school administrators face challenges in monitoring performance trends and evaluating programme effectiveness. These limitations highlight the need for a centralized and digitalized assessment management system such as e-RANPs to enhance efficiency, data accuracy, and continuous monitoring of Quranic recitation assessment.

Research Objectives

The study aims to:

1. Evaluate user acceptance of the e-RANPs system
2. Assess system effectiveness in Quranic recitation assessment management
3. Identify implementation challenges
4. Examine the potential of e-RANPs in supporting digital transformation in Islamic education

METHODS

This study employed a quantitative descriptive research design to evaluate the effectiveness and user acceptance of the e-RANPs system as a digital platform for managing tasmik assessment. The quantitative approach was selected to obtain systematic and measurable feedback regarding the functionality, usability, and effectiveness of the system among its users.

A pilot implementation of the e-RANPs system was conducted in selected primary schools under the Perlis State Education Department, Malaysia. The study involved 58 respondents comprising Islamic Education teachers, Head Panel Teachers, j-QAF Coordinators, and school administrators who were directly involved in the implementation and management of Quranic recitation assessment. These participants were selected as they represented the primary users and stakeholders of the system.

Data were collected using a structured questionnaire developed specifically for this study. The instrument consisted of items designed to assess five key dimensions of the system, namely system usability, management efficiency, student monitoring effectiveness, data accuracy, and user satisfaction. Responses were measured using a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The questionnaire was administered online following the pilot implementation period, allowing respondents to evaluate the system based on their actual experience using e-RANPs.

The collected data were analysed using descriptive statistical methods. Frequency distributions, percentages, mean scores, and standard deviations were computed to describe respondents' perceptions and evaluate the overall effectiveness of the system. The analysis was conducted to identify the strengths, limitations, and potential areas for improvement of e-RANPs as a digital innovation in Quranic recitation assessment management.

System Overview

The e-RANPs is a web-based digital platform developed by group of IETs with initiated to support the management of tasmik assessment in primary schools. The system integrates student assessment records, teacher evaluation processes, monitoring functions, and reporting mechanisms within a centralized environment. Its primary objective is to improve the efficiency, accuracy, and accessibility of assessment data while reducing the administrative burden on teachers.

The platform consists of four main components: the Student Module, which stores students' recitation achievement records; the Assessment Module, which enables teachers to record and update assessment results; the Monitoring Dashboard, which provides real-time tracking of students' progress; and a centralized database that securely stores all assessment information. The system also incorporates an analytics and reporting feature that generates performance summaries and supports data-driven decision-making by school administrators and educational stakeholders. Figure 1 illustrates the front page of the e-RANPs platform, while Figure 2 presents the worksheet used by IETs to record the tasmik assessment process.

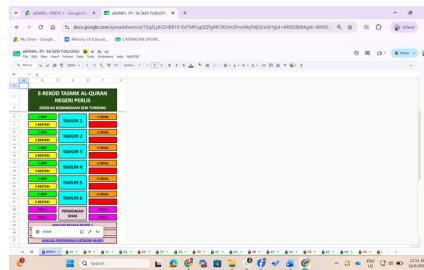


Figure 1. Front Page of e-RANPs

BORANG REKOD TASMIK			2 BESTARI		BACAAN TERKINI		PENTAKSIRAN	KUMPULAN	NAMA	REMARKS
BIL	NAMA	NO. IC	KELAS	HQRA' / AL-QURAN	MUKA SURAT	BIL. BACAAN	TASMIK AKHIR	KATEGORI MURID	INTERVENSI & INTENSIF	GURU TASMIK
1	ADAM MUJADD BIN SHAHIDI	180709090017	T2-B	YORA 4	4*19	13	11/06/2026	MENGULASI	PIRA QURAN	ILANI
2	AIDAN ZULFAN BIN MOHAMMAD ZULHAIRI	181214070107	T2-B	YORA 2	2*4	14	11/06/2026	SEDERHANA	PIRA QURAN	ILANI
3	AKIF ZAHIRULHAQ BIN ZAKARIA	181010080071	T2-B	YORA 2	2*5	13	11/06/2026	SEDERHANA	PIRA QURAN	SITI MAIMUNAH
4	AKIF QAYUM BIN SHAUFLI AMRI	180601070815	T2-B	YORA 2	2*17	13	11/06/2026	SEDERHANA	PIRA QURAN	SITI MAIMUNAH
5	ANGGUN MAWAZZAH BINTI MOHD YAFIZAN	180913090014	T2-B	YORA 2	2*23	11	11/06/2026	MENGULASI	PIRA QURAN	SITI MAIMUNAH
6	ANIS FALSAH BINTI MAT HAMDI	180825090070	T2-B	YORA 3	3*18	14	11/06/2026	MENGULASI	PIRA QURAN	ILANI
7	HUMUDA AMYITHA BINTI ASBUL	180319090150	T2-B	YORA 2	2*19	14	11/06/2026	SEDERHANA	PIRA QURAN	ILANI
8	MUHAMMAD ANIMAR FIRASH BIN SHAHRIZAN	181107090081	T2-B	YORA 5	5*20	14	11/06/2026	MENGULASI	PIRA QURAN	ILANI
9	MUHAMMAD ILMAM DANISH BIN MUHAMMAD JEFFRI	180601090111	T2-B	YORA 2	2*29	13	11/06/2026	SEDERHANA	PIRA QURAN	SITI MAIMUNAH
10	MUHAMMAD AYDAN FIRAS BIN NADIR	180313090029	T2-B	YORA 3	3*9	11	11/06/2026	SEDERHANA	PIRA QURAN	SITI MAIMUNAH
11	MUHAMMAD AZAFY QAYSER BIN MOHD AZRY	180729090081	T2-B	YORA 1	1*29	11	11/06/2026	SEDERHANA	PIRA QURAN	ILANI
12	MUHAMMAD MUZZAMMIL BIN SAHARUDIN	180212090177	T2-B	YORA 4	4*21	13	11/06/2026	SEDERHANA	PIRA QURAN	ILANI
13	MUHAMMAD ZUL AEMAN BIN ZULFIKA AZMEER	181103090033	T2-B	YORA 2	2*8	12	11/06/2026	SEDERHANA	PIRA QURAN	SITI MAIMUNAH
14	NAURA NAFESA BINTI MOHAMMAD RIZAL	181010090042	T2-B	YORA 2	2*2	14	11/06/2026	MENGULASI	PIRA QURAN	ILANI
15	NUR AIRA NATASHA BINTI MOHAMMAD HAFIF	180407090054	T2-B	YORA 3	3*15	13	11/06/2026	MENGULASI	PIRA QURAN	ILANI
16	NUR ARISA HUMAIRA BINTI MOHD ADHA ZULKARNAIN	180428090084	T2-B	YORA 2	2*14	7	14/05/2026	SEDERHANA	PIRA QURAN	SITI MAIMUNAH
17	NUR RAKHIBA BINTI MUHAMMAD TARIQI	181213090174	T2-B	YORA 3	3*32	14	11/06/2026	MENGULASI	PIRA QURAN	ILANI
18	NUR HANAN IMANI BINTI NORAKMAN	180413090046	T2-B	YORA 3	3*20	12	11/06/2026	SEDERHANA	PIRA QURAN	SITI MAIMUNAH
19	NUR MAHYAN ELYIA BINTI ABDUL MAUK	180305090184	T2-B	YORA 2	2*13	13	11/06/2026	SEDERHANA	PIRA QURAN	ILANI
20	NUR SARAH AALIYA BINTI MOHD SHAFLI HAKIMIE	181206090052	T2-B	YORA 2	2*2	12	11/06/2026	SEDERHANA	PIRA QURAN	SITI MAIMUNAH
21	NURAFEEZA BINTI MUZDAHAFAR	180825090110	T2-B	YORA 1	1*14	10	11/06/2026	SEDERHANA	PIRA QURAN	ILANI
22	NURAFIYHA ALAEYA BINTI ABDUL GHANI	180605090100	T2-B	YORA 2	2*19	11	11/06/2026	MENGULASI	PIRA QURAN	SITI MAIMUNAH

Figure 2. Worksheet Record of Tasmik Assessment Process

Figure 3 illustrates the overall architecture of e-RANPs. Users, including teachers, school administrators, and education officers, access the system through a web-based interface. Assessment data entered the system are stored in a centralized database and subsequently processed through the analytics

and reporting layer to facilitate monitoring, evaluation, and continuous improvement of Quranic recitation assessment management.

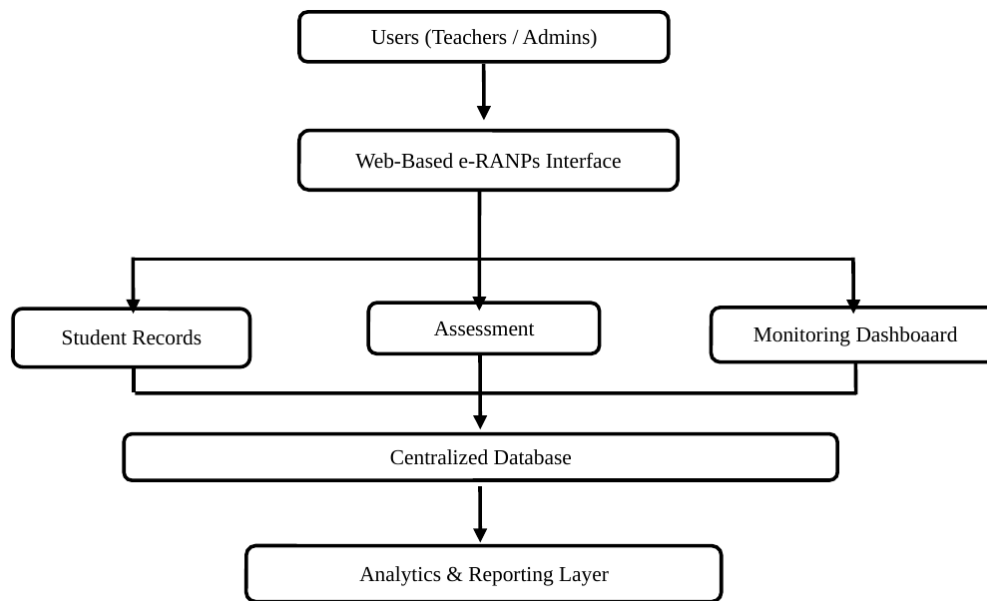


Figure 3. E-RANPs System Architecture

RESULTS AND DISCUSSION

A total of 58 IETs participated in the pilot study of the e-RANPs system. The overall findings indicate a high level of user acceptance, with an average mean score of approximately 4.12 out of 5.00 across all measured dimensions. This suggests that respondents generally perceived e-RANPs as a useful and effective digital platform for managing tasmik assessment in schools.

The highest-rated items were related to time efficiency and administrative support. Respondents strongly agreed that e-RANPs saves time compared to conventional manual methods ($M = 4.53$) and helps teachers complete tasmik recording tasks more quickly ($M = 4.52$). These findings indicate that the system successfully addresses one of the major challenges associated with traditional record management, namely the extensive time required for documentation and reporting activities.

The usability of the system was also positively evaluated. Teachers reported that e-RANPs is easy to use without assistance from others ($M = 4.48$), while the dashboard and data display were considered easy to understand ($M = 4.48$). In addition, respondents agreed that the navigation structure is clear and well organized ($M = 4.40$), enabling users to perform assessment-related tasks with minimal confusion. These findings suggest that the system possesses a user-friendly design that supports smooth adoption among teachers.

From the perspective of productivity, respondents agreed that the functions provided by e-RANPs contribute positively to their daily work ($M = 4.38$). Teachers also reported feeling comfortable using the system in their routine assessment activities ($M = 4.38$). The findings demonstrate that the integration of digital technology into the tasmik assessment process can improve operational efficiency while supporting teachers in managing student assessment records more systematically. This supports the view that technology-enabled educational systems can enhance administrative efficiency, facilitate data management, and contribute to more effective educational practices [9], [10]. The high mean scores recorded for usability, efficiency, and user satisfaction further indicate that e-RANPs has the potential to serve as a sustainable digital assessment management platform for Islamic Education in Malaysian primary schools.

The study further revealed positive perceptions regarding monitoring and assessment management. Respondents agreed that e-RANPs facilitates continuous monitoring of students' Quranic recitation progress and supports more systematic identification of students' learning weaknesses. The centralized digital records were viewed as more organized, accessible, and easier to retrieve when required for reporting and intervention purposes [11]. These findings highlight the potential of e-RANPs to support data-driven decision-making in Islamic Education management in line with the Digital Education Policy [12].

Despite the positive findings, several implementation challenges were identified. The most notable challenge relates to internet connectivity. Respondents moderately agreed that internet access limitations

may affect the smooth operation of the online system ($M = 3.90$). This suggests that technological infrastructure remains an important consideration for large-scale implementation, particularly in schools with limited internet accessibility.

The findings also indicate the need for continuous user support and professional development. Although respondents generally disagreed that e-RANPs increases teachers' workload ($M = 2.26$), some respondents highlighted the need for additional training and exposure to maximize system utilization. The relatively lower mean score for the item related to training adequacy ($M = 2.59$) suggests that further user support initiatives may enhance confidence and competency in system usage.

Overall, the pilot implementation demonstrates that e-RANPs possesses strong potential as a digital transformation tool for Quranic recitation assessment management. The system was positively received by users due to its ease of use, time-saving capabilities, and ability to improve monitoring and record management. While improvements in infrastructure support and user training are necessary, the findings provide encouraging evidence that e-RANPs can contribute significantly towards enhancing efficiency, accountability, and data-driven practices in Islamic Education.

CONCLUSION

E-RANPs provides an innovative and scalable solution for tasmik assessment management in primary Islamic education. The system improves efficiency, enhances data accuracy, and supports structured monitoring of student performance. With further enhancement and wider implementation, e-RANPs has the potential to be adopted at national level as a standardized digital Islamic education management system.

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APPENDIX

Questionnaire

Bil	Perkara
1	Sistem e-RANPs mudah digunakan tanpa bantuan orang lain.

Bil	Perkara
2	Paparan Sheet dan Dashboard Sistem e-RANPs mudah difahami.
3	Navigasi dalam sistem e-RANPs adalah jelas dan tersusun.
4	Saya boleh melaksanakan tugas dalam sistem e-RANPs tanpa kekeliruan.
5	Saya mudah belajar menggunakan sistem e-RANPs dengan bantuan yang minima daripada orang lain.
6	Saya cepat mahir menggunakan fungsi asas sistem e-RANPs.
7	Arahan atau panduan dalam sistem e-RANPs mudah difahami.
8	Saya tidak memerlukan latihan yang panjang untuk menggunakan sistem e-RANPs.
9	Sistem e-RANPs mudah digunakan tanpa bantuan orang lain. 2
10	Sistem eRANPs membantu saya menyelesaikan tugas rekod tasmik dengan lebih cepat.
11	Sistem e-RANPs ini menjimatkan masa berbanding kaedah manual.
12	Saya boleh melaksanakan tugas dengan lancar menggunakan sistem e-RANPs tanpa gangguan.
13	Fungsi dalam sistem e-RANPs membantu meningkatkan produktiviti saya.
14	Saya jarang menghadapi ralat semasa menggunakan sistem e-RANPs.
15	Jika berlaku ralat semasa menggunakan sistem e-RANPs, saya tahu cara untuk membetulkannya.
16	Mesej ralat dalam sistem e-RANPs adalah jelas dan membantu.
17	Sistem e-RANPs berfungsi dengan stabil semasa digunakan.
18	Saya berpuas hati dengan penggunaan sistem e-RANPs secara dalam talian dalam pelaksanaan pengajaran dan pembelajaran.
19	Penggunaan sistem e-RANPs dalam talian meningkatkan kecekapan saya dalam merekod pencapaian bacaan murid.
20	Saya berasa selesa menggunakan platform digital bagi tujuan sistem e-RANPs .
21	Penggunaan sistem e-RANPs secara dalam talian menjimatkan masa berbanding kaedah konvensional.
22	Saya mempunyai keyakinan terhadap ketepatan dan kebolehppercayaan data yang direkodkan dalam sistem e-RANPs.
23	Sistem e-RANPs dalam talian mudah diakses tanpa mengira masa dan lokasi.
24	Saya selesa menggunakan sistem e-RANPs dalam tugas harian.
25	Saya akan terus menggunakan sistem e-RANPs pada masa akan datang.
26	Saya akan mencadangkan penggunaan sistem e-RANPs kepada rakan guru lain.
27	Secara keseluruhan, saya berpuas hati terhadap keberkesanan sistem e-RANPs secara dalam talian.
28	Penggunaan sistem e-RANPs memudahkan pemantauan berterusan terhadap perkembangan bacaan murid.
29	Sistem e-RANPs membantu guru mengenal pasti kelemahan bacaan murid secara lebih sistematik dan efisien.
30	Rekod yang disimpan dalam sistem e-RANPs adalah lebih tersusun dan mudah dirujuk semula.
31	Sistem e-RANPs memudahkan perkongsian maklumat antara guru, pentadbir dan ibu bapa.

Bil	Perkara
32	Integrasi teknologi dalam sistem e-RANPs meningkatkan keberkesanan pengajaran Tilawah al-Quran.
33	Sistem e-RANPs menyokong penggunaan pelbagai peranti digital dalam proses pengajaran dan pembelajaran.
34	Sistem e-RANPs memudahkan proses pelaporan serta analisis pencapaian murid
35	Kekangan capaian internet menjejaskan kelancaran penggunaan sistem e-RANPs secara dalam talian.
36	Saya menghadapi kesukaran dalam mengendalikan sistem e-RANPs dalam talian.
37	Saya menghadapi kesukaran dalam mengendalikan sistem e-RANPs dalam talian.
38	Penggunaan sistem e-RANPs ini meningkatkan beban tugas guru.
39	Tahap latihan dan pendedahan berkaitan penggunaan sistem e-RANPs ini adalah tidak mencukupi.
40	Apakah masalah utama yang anda hadapi semasa menggunakan sistem e-RANPs?
41	Apakah cadangan anda untuk memantapkan sistem e-RANPs?