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Development of School Management Information System and Learning Management System at RA-Al Hida

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Abstract: The objectives of this research were to create a web-based computerized system, fund internet installation costs, conduct outreach and analyze the contribution of the school information system to RA Al-Hida's progress, improve the quality of education for each student, and increase global prosperity by improving the standard of living for teachers and staff. Data collection methods include observation, interviews, and surveys. The methods used in developing this system include system development and implementation, as well as system testing and use. The trial implementation of this system was carried out for 10 days. The test reliability of the system, a survey was conducted using Google Forms with 4 questions and the rating scale of 1-5. The subjects were teachers and parents, consisting of 3 teachers and 3 parents. The results of this study are the creation of an integrated and comprehensive school management information system and learning management system that can improve the quality of education for students, teachers and parents understand the use of the system and improve the standard of living for teachers and staff, thereby creating global prosperity.

Keyword: Education, Global Prosperity, Learning Management System, School Management Information System, Quality of Education.

INTRODUCTION

Education in Indonesia consists of several levels, according to Undang-Undang Nomor 20 Tahun 2003 concerning the Indonesian education system are early childhood education, primary education, and senior secondary education. One of the key concerns in Indonesian education is early childhood education. Early childhood education is a crucial foundation for developing the quality of human resources in the future.

Early childhood education system is also related to the learning processes that are carried out. Learning for young children is usually conducted through direct learning methods or face-to-face (offline). This is because the absorption of knowledge by young children is still very limited, although their desire to learn is very high. However, offline intensive learning activities have changed with the occurrence of the Covid-19 pandemic.

Pandemic Covid-19 brought about significant changes in the education system, where 1.6 billion students in over 190 countries and across all continents were affected by lockdowns. This lockdown closed educational institutions worldwide, affecting approximately 94% (Rakhmetov et al., 2022). The ongoing pandemic for nearly a year has given rise to various

issues such as: limited understanding of the material, difficulties in fostering learning interests, arranging study time due to parents' work, parents being impatient in accompanying their children's learning, insufficient knowledge to use gadgets, and the difficulty of accessing the internet (Wardani & Ayriza, 2020). With the existence of this pandemic, the learning and teaching process requires a user-friendly integrated system that can be conducted remotely.

Beside the pandemic Covid-19, some preschools still face several issues with their educational management system. The problems include a still conventional, document-based management system, reliance on internet installation costs, limitations in the teachers' or school staff's ability to use technology, and a lack of comprehensive monitoring of student progress. The conventional document-based system leads to delays in information delivery, lack of data integration, and low accuracy in children's development reports. This results in reduced decision-making effectiveness and parental involvement in the education process.

To answer this issue, it is necessary to develop a comprehensive school management and e-learning system based on a learning management system (LMS) designed with digital technology. School management information system supports management activities such as planning, organizing, actuating, and controlling to support the achievement of operational functions' goals and objectives in educational organizations (Aryadi, 2023). A web-based school management information system is an information technology tool designed to support educational administration activities more efficiently and structurally (Wahyuni, et.al, 2025).

Learning Management System is a web-based software program for managing, documenting, monitoring, reporting, administration, and distribution of educational content, training programs, technical manuals, instructional videos, or digital library materials, as well as learning and development projects (Shymkova et.al., 2021). On the other hand, the Learning Management System (LMS) is a technological development as a learning medium, which is one of the efforts to provide quality educational services (Fa'iziyah, 2023).

The second system must be able to integrate the main school functions, starting from digital attendance, student progress reporting, two-way communication between teachers and parents, up to academic data management and administration. A web-based and application approach allows for quick, transparent, and real-time access for all stakeholders, thereby significantly improving the quality of education.

Improving the quality of education can support the achievement of sustainable development goals (SDGs). The fourth goal of sustainable development regarding the quality of education is to promote inclusive and equitable quality education and to encourage opportunities for lifelong learning for all. The realization of this goal requires complex efforts and consistent interventions in various fields of education (Erlina, 2021).

The improvement of the quality of early childhood education, it is expected that there will be an increase in the quality of human resources, especially in soft skills and hard skills, which will contribute to economic growth, poverty alleviation, and the achievement of global prosperity.

One of the object research projects is a preschool that has issues such as still using manual documents, being constrained by internet installation costs, limited ability in using technology by teachers and parents, and a lack of comprehensive monitoring of student development is RA Al-Hida. RA Al-Hida is an early childhood education institution that operates within a professional scope, with learning and teaching activities that always emphasize student well-being, character development, spiritual intelligence, and intellectual growth. Therefore, it requires comprehensive system development.

Based on the description above, the objective of this research is to develop a web-based computerized system, aiming to reduce the cost of internet installation, carry out socialization and analysis of the contribution of the school information system to ensure that RA Al-Hida continues to progress and enhance global prosperity.

METHOD

Data collection methods include observations, interviews, and surveys conducted on

teachers, school employees/operators, and parents to develop a system according to school needs. The methods for developing this system include the system development and implementation stages, as well as the system testing and use stages. Implementation of the system that has been created has been carried out for 10 days. To test the reliability of the system being built, a survey was conducted using Google Form with the number of questions being 4 questions with a rating scale of 1-5. The objects are teachers and parents, total of 3 teachers and 3 parents of students.

RESULT AND DISCUSSION

The result of this research is a school management information system that was integrated with the learning management system. This system development was carried out in two stages, that are system development and implementation stage and the system testing and use stage. The results of each stage are:

System Development and Implementation Stage

The description of the application of the school management information system and learning management system is as follows:

1. School Management Information System (SIMS)

a) Menu Log In

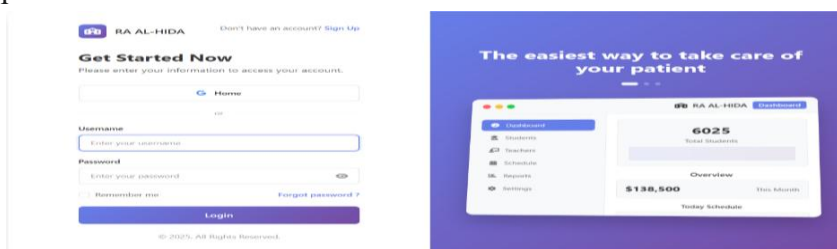


Figure 1. Menu of Log in for Management Information System of RA Al - Hida

b) Data of Teachers

RA AL-HIDA
DATA GURU
Tanggal Cetak: 11/10/2025 10:58:25

No	Nama Lengkap	Jabatan	Tempat, Tanggal Lahir	Alamat	No HP	Pendidikan
1	Ieti Yuliana, S.Pd	Guru	Surabaya, 10/03/1990	Jl. Pendidikan No. 789, Surabaya	081234567892	S1 Pendidikan
2	Ruri Nurmalia	TU & Operator	Bandung, 20/08/1985	Jl. Merdeka No. 456, Bandung	081234567891	S1 Administrasi
3	Siti Luthfiah, S.Pd	Guru	Yogyakarta, 05/12/1988	Jl. Guru No. 321, Yogyakarta	081234567893	S1 Pendidikan
4	Wati, S.Pd.I	Kepala Sekolah	Jakarta, 21/10/1972	Jln. Surlang No.56C	087795118475	S1 Pendidikan Islam

Total Guru: 4 orang

Figure 2. Menu for Data of Teachers

c) Data of Students

RA AL-HIDA
Data Seluruh Siswa
Dicetak pada: 11/10/2025 11:04:08

No	Nama Lengkap	NISN	NIK	Tempat, Tgl Lahir	Umur	JK	Kelas	No. Telepon	Nama Ayah	Nama Ibu
1	ABYAN ALDEVARO SEPTIAN	3195910223	3215262312190001	Karawang, 22/12/2019	5	L	Kelompok A	085720561334	ANDRI SEPTIAN	IRMA WINARNI
2	ACHMAD AZMI	3209966978	3175052106200001	JAKARTA, 21/05/2020	5	L	Kelompok A	6289502450014	Didin Komanudin	RAESI DAINE AMBARSARI
3	ADILA NAURA SAPUTRA	3194504951	3175054908190005	JAKARTA, 08/08/2019	6	P	Kelompok B	628811749818	ADETA SAPUTRA	OKTAVANNY KURNIA
4	AFNAN ZAYDAN ALFABDI	3204432898	3175052204200004	JAKARTA, 20/04/2020	5	L	Kelompok A	6285692290740	Muhammad Sukarno Putra.U	HILMA FARHANI
5	AHMAD TAQIYYAN RIZQIANSYAH	3182662372	3175051011180004	Jakarta, 11/10/2018	7	L	Kelompok B	6285810096024	AHMAD FIRDAUS	DIRA FEBRI SOFIANA
6	ABYAH PUTRI WIGAKSONO	3199590863	3175056010190001	Jakarta, 20/10/2019	5	P	Kelompok A	628577076079	WIGAKSONO	SURYANIH
7	ALINA AYURI RAMADHANI	3201325714	ALINA AYURI RAMADHAN	Jakarta, 05/12/2020	4	P	Kelompok A	6281221443856	WAHYUDIN	NURI NURFITRAH
8	ADILA NAUWA SAPUTRA	3193597036	3175054908190004	Jakarta, 08/08/2019	6	P	Kelompok B	6288809050645	Adetya Saputra	OKTAVANNY KURNIA
9	ABRAN SHAKEL SYAMANI	3203229849	3175050205200006	Jakarta, 06/02/2020	5	L	Kelompok A	6281952756453	AGUS RCLY SUPREATNA	SABRINA APRILA PUTRI

Figure 3. Menu for Data of Students

d) Data on School Payments

KWITANSI PEMBAYARAN
RA AL-HIDA

Nama Siswa: ABYAN ALDEVARO SEPTIAN
 Kelas: Kelompok A
 Jenis Pembayaran: SPP
 Periode: 10/2025
 Jumlah: Rp 100.000
 Tanggal Bayar: 28/09/2025
 Metode: Transfer

11/10/2025
Petugas Keuangan

Figure 4. Menu for Data of School Payments

2. Learning Management System (LMS)

a) Dashboard

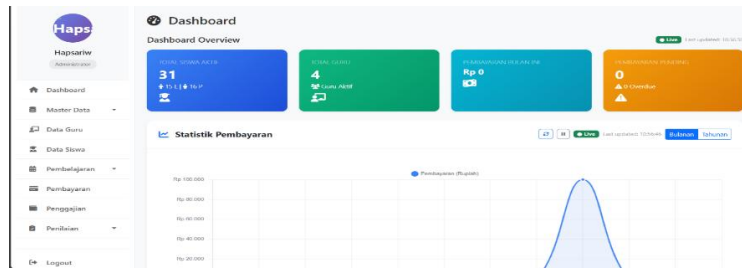


Figure 5. Dashboard

b) Class Data Report

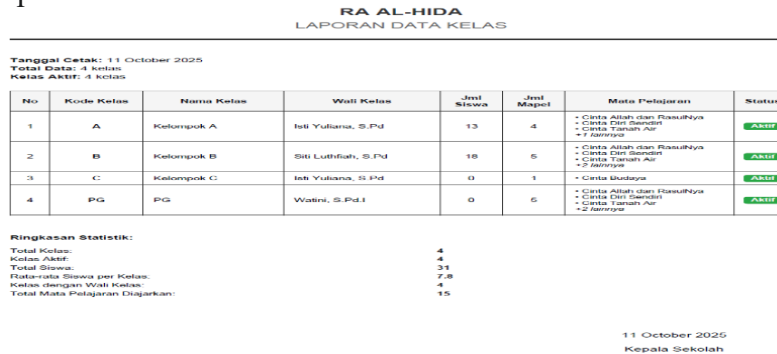


Figure 6. Class Data Report

c) Subject Data Report

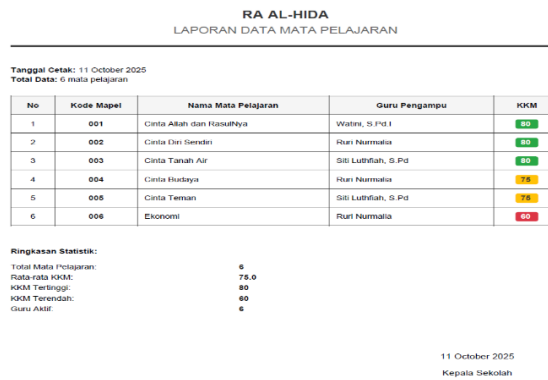


Figure 7. Subject Data Report

d) Learning Material Report

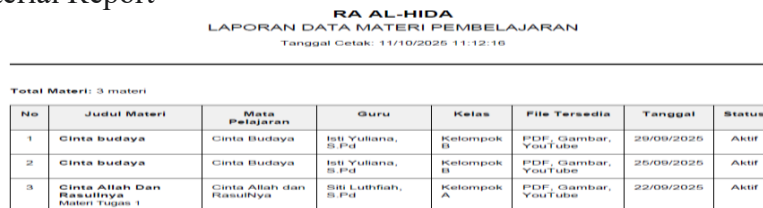


Figure 8. Learning Material Report

e) Student Assessment Report

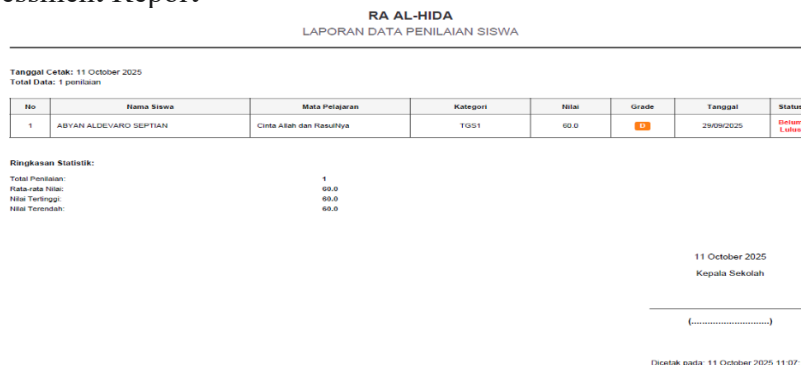


Figure 9. Student Assessment Report

Stage of Testing and System Usage

The school information management system (SIMS) and LMS applications successfully answer the needs for learning and administrative systems at RA Al-Hida school. This was validated during the 10-day system testing phase, involving 3 teachers and 3 parents of students. This validation used questionnaires distributed through google form, with the focus of the evaluation covering the use of school information management systems (SIMS) such as menu for data of teacher, data of students, Data of school payment. The LMS testing covered menu such as class data, subject data, data of learning material and student assessment. The questionnaire results for teachers and parents are as follows:

Table 1. Result of the Questionnaire Validity Test for Teachers

Aspect that Assessed	Teacher 1	Teacher 2	Teacher 3	Average
Usability (1-5)	5	4	5	4,7
Access Speed (1-5)	4	5	4	4,3
Feature Suitability (1-5)	5	4	5	4,7
Overall Satisfaction (1-5)	5	4	5	4,7

Table 2. Result of the Questionnaire Validity Test for Parents

Aspect that Assessed	OT 1	OT 2	OT 3	Rata-rata
Accessibility (1-5)	4	4	5	4,3
Understanding Information (1-5)	4	4	4	4,0
Teacher Response Speed (1-5)	5	4	5	4,7
Overall Satisfaction (1-5)	4	4	5	4,3

Discussion

Early childhood education plays a very fundamental role in determining the quality of human resources to be born in the future. Unfortunately, the reality shows that the early childhood education management system that occurs in Indonesia, especially in schools like RA Al-Hida, still faces many challenges, both structural and technical. The general problem that occurs is the use of manual documents, limited internet access, and the low ability of teachers and parents in utilizing information technology, which have become the main obstacles in organizing effective and efficient education.

The solution to the problems that occur is the first goal of this research is the creation of a school information management system (SIMS) and a learning management system (LMS). The integration of both can become a strategic solution for early childhood schools facing conventional management challenges. After the system is formed, the next step is to implement the system to RA Al-Hida school. The implementation of the system was carried out over 10 days.

During those 10 days, also carried out the socialization of how to use and test the validity of the system for teachers and parents, as can be seen in Table 1 and Table 2, there are good results for both systems. Where the level of satisfaction during use and access speed shows an average result of >4. Therefore, school administration and communication between teachers and parents increase about 50% compared to before using the application because parents can see their children's learning results every day on the learning management system specifically for students.

The second goal of the research is the problem of internet installation costs. This can be overcome by continuously promoting the school to the surrounding environment or using social media. With the existence of the system created, it is sure to make the school an attractive place so that many parents will register their children at RA Al-Hida. Automatically, RA Al-Hida's income increases and can install the internet regularly every month.

Socialization for teachers and parents is carried out periodically so that teachers and parents increasingly understand the use of the system and follow the progress of the students. On the other hand, the development of the educational information system also contributes to the achievement of the Sustainable Development Goals (SDGs), especially the fourth goal on

improving the quality of education. The implementation of an information technology-based system can improve the accessibility and quality of educational services. Thus, the success of the implementation of the school information management system (SIMS) and the learning management system (LMS) at RA Al-Hida can become a model for wider early childhood education digitalization implementation, while also making a tangible contribution to sustainable development, human resource competitiveness, and global prosperity. Global prosperity will achieve by improving the living standards of teachers and school staff. If the living standards of teachers improve, purchasing power will increase, and Indonesia's prosperity will certainly increase as well.

CONCLUSION

According to the discussion above, it can be concluded that early childhood education is a very important foundation in the world of education. Therefore, by improving the quality of education through the creation of this web-based application, various problems can be solved such as making learning more interactive and comprehensive, ensuring data accuracy, accelerating the administrative process, and teachers and parents understanding digital literacy. The implementation of this system is in line with the achievement of the fourth Sustainable Development Goals (SDGs) regarding the improvement of education quality, which ultimately contributes to the enhancement of students' soft skills and hard skills, economic growth, and global prosperity.

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