

## DEVELOPMENT OF E-LEARNING BASED HUMAN RESOURCE MANAGEMENT ASSISTED BY EDLINK ON THE QUALITY OF ELEMENTARY SCHOOL TEACHERS

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**Abstrak:** Penelitian ini dilakukan untuk mengembangkan manajemen SDM berbasis e-learning dengan menggunakan platform Edlink dan mengevaluasi efektivitasnya terhadap kualitas guru SD. Dalam penelitian ini, metode Research and Development (R&D) dengan 4 tahapan (4D) digunakan. Hasil validasi ahli menunjukkan bahwa pengembangan ini sangat layak dengan presentase validasi kelayakan 91,67%, kepraktisan 92%, dan keefektivan 89,5%. Respon guru terhadap pengembangan ini sangat positif dengan presentase sebesar 87,9%, menunjukkan bahwa pengembangan manajemen SDM berbasis e-learning berbantuan Edlink sangat layak digunakan sebagai upaya meningkatkan kualitas guru dalam pembelajaran daring. Dapat disimpulkan bahwa pengembangan ini efektif dan praktis digunakan sebagai media pembelajaran untuk meningkatkan kualitas guru di sekolah, terutama dalam konteks pembelajaran daring saat ini.

Kata kunci: Manajemen SDM, e-Learning, Kualitas Guru

**Abstract:** This research was conducted to develop human resource management based on e-learning using the Edlink platform and evaluate its effectiveness on the quality of elementary school teachers. In this study, the Research and Development (R&D) method with 4 stages (4D) was used. Expert validation results show that this development is very feasible with a feasibility validation percentage of 91.67%, practicality of 92%, and effectiveness of 89.5%. The teacher's response to this development was very positive with a percentage of 87.9%, indicating that the development of HR management based on e-learning assisted by Edlink is very appropriate to use as an effort to improve the quality of teachers in online learning. It can be concluded that this development is effectively and practically used as a learning medium to improve the quality of teachers in schools, especially in the current online learning context.

Keywords: HR Management, e-Learning, Teacher Quality

### Introduction

Education plays an important role in national development (Humaeroh & Dewi, 2021; Widiensyah, 2017). The quality of education plays a major role in improving the quality of human resources (HR), which is an important factor in development (Aliyyah et al., 2019; Putri et al., 2020). Therefore, improving the quality of teachers as teachers is very important. Qualified teachers can provide effective and efficient learning thereby increasing student competency. In the digital era, information and communication technology (ICT) can be used to improve the quality of education and develop teacher skills and competencies. The use of information and communication technology (ICT) in education has many advantages, especially in terms of the effectiveness and efficiency of learning, one of which is e-Learning.

E-learning is a form of using information and communication technology (ICT) which provides many advantages in education (Azhari, 2019). Through e-learning, the learning process becomes more flexible and independent, by allowing access to up-to-date and varied learning materials without being limited by time and place. In addition, e-learning can also provide opportunities for teachers to improve their skills and competencies on an ongoing basis (Abi Yodha et al., 2019). E-learning is becoming a popular choice in education today, because of its many advantages. E-learning facilitates student and teacher access to the latest and most varied learning

materials, and allows students to study flexibly and independently. In addition, e-learning assists teachers in developing their skills and competencies, so as to improve the quality of teachers as educators (Elizah et al., 2022; Kustandi et al., 2021).

At SD Qur'an Al-Madani, e-learning can be an alternative solution to improve teacher quality. With e-learning, teachers can improve their skills and competencies effectively, thereby providing a better learning experience for students. In addition, e-learning can also assist HR management by providing accurate and real-time information and analysis on teacher performance, as well as assisting in making better decisions. Thus, the use of e-learning is expected to improve the quality of teachers as educators and make a positive contribution to national development through improving the quality of human resources (HR).

Several previous studies have also been conducted to examine the effect of e-learning on the quality of learning in elementary schools. One of the studies by Suhandiah et al., (2019) showed that it was able to increase teachers' knowledge and understanding of the concept of e-learning. In addition, research by (Rahmi et al., 2020) also found that e-learning can integrate ICT in the learning process. Even so, there are still obstacles in the field such as the lack of availability of infrastructure and limited knowledge and skills of teachers in using technology. Although e-learning has many advantages in the learning process, its application is still not optimal among elementary school teachers, especially at SD Qur'an, due to a lack of knowledge and skills in using technology and a lack of support from the school.

In the learning process at SD Qur'an Al-Madani Padang City, the use of e-learning is still not optimal, especially related to the quality of teachers in teaching. The main obstacle faced is the limited learning media in schools, which causes teachers to only rely on teaching methods that are monotonous and less attractive to students. This has an impact on students' low interest in learning and unsatisfactory learning outcomes. A number of previous studies have shown that interesting learning materials, the relationship between learning and the real life of students, the activeness of students in learning activities, and a fun learning atmosphere influence students' learning interest. To improve the quality of teaching at SD Qur'an Al-Madani, it is necessary to develop e-learning-based HR management that can assist teachers in the learning process.

Edlink can be a solution to improve the quality of learning in SD Qur'an by providing various features that help develop teacher skills and competencies (Susilawati et al., 2021). Edlink can help collect assignments and study reports to provide accurate information on teacher performance, which can be monitored by school principals to provide timely feedback (Mahayukti et al., 2022). In addition, Edlink provides up-to-date and varied learning materials that can help teachers develop their skills and competencies more effectively and efficiently. By using Edlink, teachers at SD Qur'an can provide a better learning experience for students.

This research aims to develop human resource management based on e-learning with the support of Edlink, as a solution to improve the quality of teaching in SD Qur'an. By using e-learning-based HR management, it is hoped that teachers can improve their skills and competencies through easy access to various and up-to-date learning materials. In addition, Edlink also provides flexibility for teachers in managing the time and place of learning, so that the learning process can be accelerated and more effective.

## Method

This research uses the 4D development model (Define, Design, Develop, and Disseminate) with a development research design (Laili, 2019). This model consists of four stages, namely defining development needs, designing development models, developing products, and distributing products to users (Oktaviani & Ayu, 2021). The research sample was 8 elementary school teachers who teach at SD Qur'an Al-Madani Padang City, selected by purposive sampling technique because they have basic knowledge about the use of technology. Data collection techniques include literature study, interviews, observation, and questionnaires. The data obtained were analyzed using qualitative and quantitative descriptive analysis techniques.

To collect data in this study, several techniques were used, including: a. Literature study, namely collecting data from written sources related to the theories and results of previous studies that are relevant to this research. b. Interviews, namely conducting interviews with elementary school teachers to find out their experiences and opinions about using e-learning and the Edlink application. c. Observation, namely direct observation of the teaching process carried out by elementary school teachers and the use of the Edlink application in the teaching and learning process. d. Questionnaire, namely giving questionnaires to elementary school teachers to find out their opinions regarding the development of e-learning-based HR management assisted by Edlink. Data obtained from various sources were processed and analyzed using qualitative and quantitative descriptive analysis techniques. This technique is used to analyze qualitative data obtained from interviews, observations, and questionnaires.

## Findings and Discussion

Activities begin with the Define stage to define problems and understand user needs as well as formulate clear goals. At this stage, researchers conducted a literature study and interviews with teachers and school administrators to gain a deeper understanding of the problems faced and their needs and expectations for the development of e-learning-based HR management with the help of Edlink. The results of this problem and needs analysis are used as the basis of information for research.



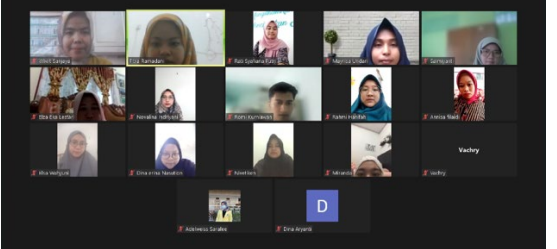
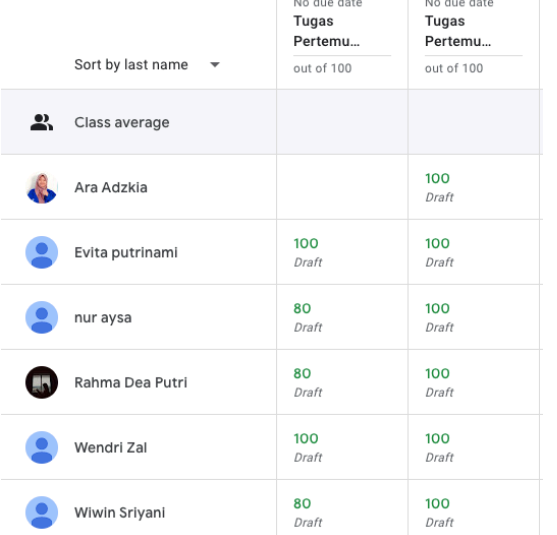
**Table 1. Analysis of Teacher Problems and Needs**

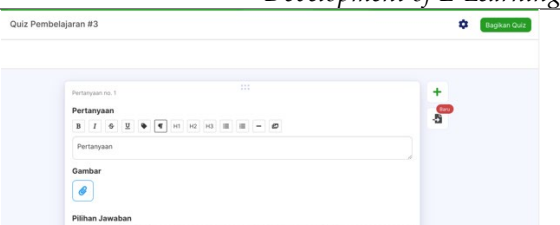
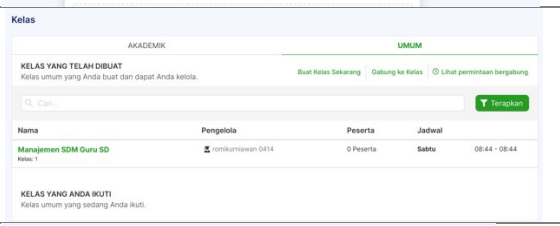
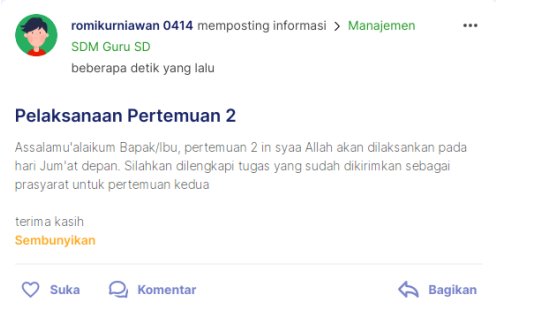
Problem Analysis	Needs Analysis
1. The use of e-learning in education management is still not optimal.	1. A new approach is needed to improve the quality of education in SD (especially on the quality of teachers).
2. Limited knowledge and skills in using technology as well as adequate support and facilities from the school are one of the obstacles in implementing e-learning.	2. The quality of good teachers is the main key in achieving quality education goals.
3. The quality of elementary school teachers still needs to be improved.	3. Information and communication technology (ICT) provides great potential in improving the quality of education and improving the quality of human resources (HR).
4. Lack of access to easy and effective learning is an obstacle for teachers in improving skills and competencies.	4. The use of e-learning can help teachers gain access to learning that is easier and more effective.
5. The availability of quality ICT to support learning in SD Qur'an is still limited.	5. E-learning can assist teachers in improving skills and competencies.

Based on the table presented, it can be concluded that the problem in improving the quality of teachers in basic education, especially in SD Qur'an, is caused by a lack of access by teachers to effective and easy learning. To overcome this, the development of e-learning-based HR management can be carried out with the help of the Edlink application. Interviews with several teachers and school administrators were also conducted to obtain information about their needs and expectations for the development of human resource management. Based on interviews, it was found that teachers at SD Qur'an needed easier and more effective access to learning in order to improve the quality of learning in class. They also hope to receive training and support in using the Edlink application so they can maximize the benefits of using it. However, some teachers experience problems in using technology and need support to overcome this.

The second stage of this research is Design which aims to design and develop a model or prototype that can overcome the problems that have been identified in the previous stage. At this stage, the researchers designed and developed an e-learning-based HR management model with the help of Edlink, which consists of several features designed based on the results of the definitions in the previous stage. Researchers identified several important features to assist teachers in increasing access to and effectiveness of learning, such as training features, technical support, and ease of access. This model or prototype is designed to provide solutions to problems faced by teachers in SD Qur'an in improving the quality of learning.

**Table 2.** Edlink Features

No.	Image	Function	Features																								
1	Learning materials	Edlink provides various kinds of learning materials that teachers can access online.	 <p>The screenshot shows a post from 'romikurniawan 0414' titled 'Pertemuan 1'. It includes a link to a PDF document: <a href="https://chemistryeducation.uii.ac.id/wp-content/uploads/2015/05/03-PEMBELAJARAN-MIKRO-Kemenag.pdf">https://chemistryeducation.uii.ac.id/wp-content/uploads/2015/05/03-PEMBELAJARAN-MIKRO-Kemenag.pdf</a>. There are interaction buttons for 'Suka', 'Komentar', and 'Bagikan'.</p>																								
2	Task Collection	This feature allows teachers to submit assignments online, which can be graded by leaders.	 <p>The screenshot shows a post from 'romikurniawan 0414' titled 'Tugas Pertemuan 1'. It specifies a deadline: 'Batas tanggal &amp; waktu pengumpulan: 13 Mei 2023 11:47' and '2 Jam 58 Menit 10 Detik'. A 'Lihat Hasil' button is visible. Below the task details, there is a link to a PDF document: <a href="https://islamic-education.uii.ac.id/wp-content/uploads/2018/03/Buku-Pedoman-Praktik-Microteaching-2018.pdf">https://islamic-education.uii.ac.id/wp-content/uploads/2018/03/Buku-Pedoman-Praktik-Microteaching-2018.pdf</a>.</p>																								
3	Online Discussion	Edlink provides an online discussion feature that allows users to discuss learning materials with fellow teachers.	 <p>The screenshot shows a grid of video thumbnails from an online meeting, with names like 'Ara Adzka', 'Evita putrinami', 'nur aysa', 'Rahma Dea Putri', 'Wendri Zal', and 'Wiwin Sriyani' visible.</p>																								
4	Progress Report	Edlink provides learning progress reports that can assist in tracking teachers' learning progress.	 <p>The screenshot shows a progress report table with columns for 'Sort by last name', 'Tugas Pertemuan...', and 'Tugas Pertemuan...'. The table lists several teachers and their scores.</p> <table border="1"> <thead> <tr> <th>Sort by last name</th> <th>Tugas Pertemuan... out of 100</th> <th>Tugas Pertemuan... out of 100</th> </tr> </thead> <tbody> <tr> <td>Class average</td> <td></td> <td></td> </tr> <tr> <td>Ara Adzka</td> <td></td> <td>100 Draft</td> </tr> <tr> <td>Evita putrinami</td> <td>100 Draft</td> <td>100 Draft</td> </tr> <tr> <td>nur aysa</td> <td>80 Draft</td> <td>100 Draft</td> </tr> <tr> <td>Rahma Dea Putri</td> <td>80 Draft</td> <td>100 Draft</td> </tr> <tr> <td>Wendri Zal</td> <td>100 Draft</td> <td>100 Draft</td> </tr> <tr> <td>Wiwin Sriyani</td> <td>80 Draft</td> <td>100 Draft</td> </tr> </tbody> </table>	Sort by last name	Tugas Pertemuan... out of 100	Tugas Pertemuan... out of 100	Class average			Ara Adzka		100 Draft	Evita putrinami	100 Draft	100 Draft	nur aysa	80 Draft	100 Draft	Rahma Dea Putri	80 Draft	100 Draft	Wendri Zal	100 Draft	100 Draft	Wiwin Sriyani	80 Draft	100 Draft
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5	Online exams	This feature allows teachers to take online exams with various types of questions.	
6	Class Settings	Edlink provides a class management feature that makes it easier for teachers to manage the classes listed in it.	
7	Announcement	Edlink provides an announcement feature to make it easier for teachers to provide important information.	

The development stage (Develop) aims to test and develop a model or prototype that has been designed in the previous stage. Researchers conduct trials on models or prototypes that have been designed to ensure their effectiveness in improving teacher quality. The development of e-learning is carried out through 2 stages, namely expert review and validation, as well as trials on teachers. At the expert review and validation stage, the researcher asked for an assessment from experts regarding the feasibility, practicality, and effectiveness of the designed e-learning materials and media. Data from expert validator validation results were then analyzed using the selected data analysis technique. After going through the expert validation stage, e-learning is tested on teachers to get feedback regarding the effectiveness and quality of the e-learning that has been developed.

**Table 4. Expert Validator Validation Results**

Aspects of the Validation	Results of the Overall	Criteria
Material	90%	Very Worth it
Media	97%	Very Worth it
Language	88%	Very Worth it
effectiveness	89,5%	Very Worth it
Practicality	92%	Very Worth it

Based on the data obtained from the expert validator, the designed and developed e-learning model or prototype received a fairly high presentation for all validation categories, namely material validation of 90%, media eligibility validation of 97%, language validation of 88%, practicality validation of 92%, and media effectiveness validation of 89.5%. Next, the researcher conducted field trials by implementing the product on 8 Qur'an elementary school teachers as research subjects. The trial was carried out by giving students a questionnaire containing 4 indicators and 16 statements, using a guttman scale with a score of 1 for the answer "Yes" and 0 for the answer "No". The results of the student questionnaire are recorded in the table.

**Table 5. Results of the Teacher Response Questionnaire**

Indicator	Percentage	Criteria
Understanding	88,3%	Very Worth it
Involvement	90,3%	Very Worth it
Interest	87%	Very Worth it
Attention	86%	Very Worth it
Overall average	87,9%	Very Worth it

From the results of the teacher response questionnaire which was tested using the developed e-learning, a percentage of 87.9% was obtained which indicated that the e-learning received very feasible criteria from the teacher's perspective.

The Dissemination Stage is the stage where the researcher will disseminate the results of his research to the public or the scientific community. At this stage, researchers will compile research reports and present or publish their research results in the form of scientific articles in relevant journals or scientific seminars. This research report will contain a summary of the entire research process, the results and findings obtained, as well as the practical and theoretical implications of the research results. In addition, the researcher will also disseminate his research report to related parties, especially to teachers at SD Qur'an Al-Madani Padang City.

In order to improve the quality of elementary school teachers, Edlink-assisted e-learning is considered feasible to be developed and tested in several schools. Validation is carried out on e-learning and the material used in development, with several aspects of assessment such as e-learning quality, use of language, relevance, suitability for learning objectives, and presentation of e-learning. The results of the validation show that all aspects are categorized as very feasible, so that the Edlink-based HR management development e-learning can be directly applied to elementary teacher learning. HR management development material is also considered good and can be applied well in schools. Support from previous research and recent research also reveals that assisted platform-based e-learning is very feasible to use as a learning medium after carrying out several stages of analysis and validation testing. The next stage is Dissemination, where researchers will disseminate research results to the public or the scientific community through presentation or publication of research results in the form of scientific articles in relevant journals or scientific seminars.



Figure 1. Socialization of Product Use

The use of Edlink-assisted e-learning in developing HR management must pay attention to its practicality and effectiveness. Validation was carried out to measure the level of practicality from the aspects of its benefits and use, and the results of the validation showed that Edlink was very practical and suitable for use as a medium for developing the quality of elementary school teachers. In addition, validation of the effectiveness of Edlink was also carried out by expert validators and the results showed that Edlink was effective in improving the quality of elementary school teachers and student learning outcomes. Edlink also helps elementary school teachers develop managerial skills and the use of information technology needed in today's digital era. Therefore, Edlink can be used as an evaluation tool to measure the effectiveness of the HR management development program that has been implemented in schools (Fitriani, 2020).

To measure teachers' responses to the development of Edlink-assisted e-learning-based HR management as an effort to improve the quality of elementary school teachers, questionnaires were distributed to 8 elementary school teachers who had used the Edlink application in their learning activities. The questionnaire measures the teacher's response to the benefits and practicality of using the Edlink application in improving the quality of learning. Several assessment variables such as the ease of using the application, the availability of relevant learning materials, improving the quality of learning, and the ability to monitor student progress are measured in a questionnaire. The results of the questionnaire analysis show that the average percentage for each aspect of the assessment is in the very decent category. Therefore, it can be concluded that Edlink is effective in improving the quality of elementary school teachers and has been responded well by teachers who have used it in learning activities. This finding is in accordance with previous research which shows that the use of technology in learning

can improve the quality of learning and provide significant benefits for teachers and students.

From the results of the questionnaire given to 8 elementary school teachers who used Edlink in learning, it can be concluded that the development of HR management based on e-learning assisted by Edlink received a positive response from the teachers. This is in line with previous research which shows that the use of e-learning technology can improve the skills and competence of teachers in teaching and assist in the development of learning materials. Therefore, the development of e-learning-based HR management assisted by Edlink can be an effective alternative in improving the quality of elementary school teachers.

The development of e-learning-based HR management with the help of Edlink significantly affects the quality of teachers in elementary schools (Jamil et al., 2022). In this development, there is an increase in teacher performance that can be seen during learning, where they are more skilled and effective in managing human resource management. The quality of learning provided by teachers has also improved because they can obtain teaching materials and learning content that are more diverse and up-to-date through the e-learning system. Teachers can also access training and self-development materials anytime and anywhere, which provides flexibility and convenience in developing skills and knowledge without leaving their duties and responsibilities at school. This is in line with previous research which shows that the use of e-learning technology can improve teachers' skills and competencies in teaching and help them develop learning materials effectively. Therefore, the development of e-learning-based HR management with the help of Edlink can be an effective solution to improve the quality of teachers in elementary schools.

The use of Edlink as an aid in the development of e-learning-based HR management has advantages for teachers. Through its features, Edlink can assist teachers in managing administration, monitoring student progress, and obtaining information regarding tasks and responsibilities that must be carried out (Astini, 2020; Supriyadi, 2022). In addition, the results of the teacher's response questionnaire after the implementation of the Edlink-based e-learning learning system showed that the teachers felt happy, interested, and involved in learning, so that the Edlink-based e-learning learning system was considered suitable as an effort to improve teacher quality. . Therefore, it can be concluded that the Edlink-based e-learning learning system can be used to improve the quality of teachers in elementary schools, and can be applied to other schools by taking into account the needs and characteristics of existing teachers. In addition, the development of this e-learning system can also be combined with other learning models or approaches in order to increase the effectiveness and efficiency of the system.

## Conclusion

Research on the development of e-learning-based HR management with the help of Edlink was carried out using the Research and Development (R&D) method to evaluate the feasibility, effectiveness, practicality, and teacher response to the system. Expert validation results show that this development is very feasible with a feasibility validation percentage of 91.67%, practicality of 92%, and effectiveness of 89.5%. The teacher's response to this development was very positive with a percentage of 87.9%. In the current state of online learning, the development of e-learning-based HR management assisted by Edlink can be a solution to overcome difficulties in improving the quality of teachers in elementary schools. The use of technology has succeeded in increasing teachers' feelings of enjoyment, involvement, interest, and attention in improving teaching quality. Therefore, the Edlink-based e-learning learning system can be used as a form of effort to improve the quality of teachers in elementary schools and can be applied to other schools by taking into account the characteristics of existing teachers.

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