

Preschool Teacher's Performance Evaluation System

Nor Iadah Yusop^{1*}, Goh Fang Yao¹, Mohamed Ali Saip¹,
Adiyati Mohd Nor²

School of Computing, Universiti Utara Malaysia, 06010 UUM Sintok, Kedah,
MALAYSIA

²Berkat Tasneem Sdn. Bhd., Bandar Darulaman, 06000 Jitra, Kedah, MALAYSIA

*Corresponding Author Designation

DOI: <https://doi.org/10.30880/mari.2023.04.01.029>

Received 15 October 2022; Accepted 30 November 2022; Available online 15 January 2023

Abstract : Kindergartens are important educational settings for the methodical instruction of children as well as the dissemination of information and culture. In a kindergarten setting, the teachers can do this well as they have the most contact and familiarity with the kids. Their roles are crucial to ensuring a child's academic achievement throughout their school years, hence kindergarten administration should always keep an eye on their performance. Nevertheless, in recent years a formal checklist has been used to evaluate preschool teachers. As a result, the management of the kindergarten does not maintain regular and consistent instructor records. Additionally, this manual method needs a lot of effort, time, and resources. To overcome these problems, a web-based follow-up system for evaluating and monitoring the performance of teachers was developed. Teachers' key performance indices (KPI) which are defined by the kindergarten's management serve as the basis for the system. The waterfall method was employed to guide the system development process. The database is managed using phpMyAdmin, a PHP and MySQL administration tool. The system allows the kindergarten's administration to monitor the performance of its teachers, and the teachers themselves will become aware of their own performance.

Keywords: Preschool Teacher, Performance Evaluation, Performance Monitoring, Teachers Performance

1. Introduction

The Preschool Teacher's Performance Evaluation System is a PHP/MySQL project that helps kindergarten management to keep track of the teachers' performances. It also allows the respective teachers to be informed of their performance by referring to their evaluation results. The system is developed to facilitate three types of users namely. the Administrator, Evaluators, and Teachers. The Administrator is in charge of maintaining and populating the data in the system database using the front-

*Corresponding author: noriadah@uum.edu.my

2023 UTHM Publisher. All rights reserved.

publisher.uthm.edu.my/periodicals/index.php/mari

end feature for the admin side. These include the list of subjects, teachers, evaluation rubrics, and some other related data. The Evaluator evaluates the teachers' performances by assigning scores to each criterion based on the given rubric. Meanwhile, the Teachers can manage their personal profiles and access their performance evaluation results by logging into the system at any time of the year.

In addition, the system would be able to retrieve information on the evaluation and generate teachers' yearly performance evaluation reports. By using this system, the performance of teachers is thus tracked, assessed, and reported to management. This is important as the teachers' roles are crucial to ensuring a child's academic achievement throughout their school years, hence kindergarten administration should always keep an eye on their performance [1, 2]. Furthermore, the teacher's evaluation result is used to allow the respective teachers to be informed on their performance, and also be informed on their area of improvement shall there is any. Additionally, automating the processes of manually preparing, packaging, delivering, gathering, analyzing, and reporting data, saves staff time and energy as well as kindergarten resources, thus improving the quality of education [3].

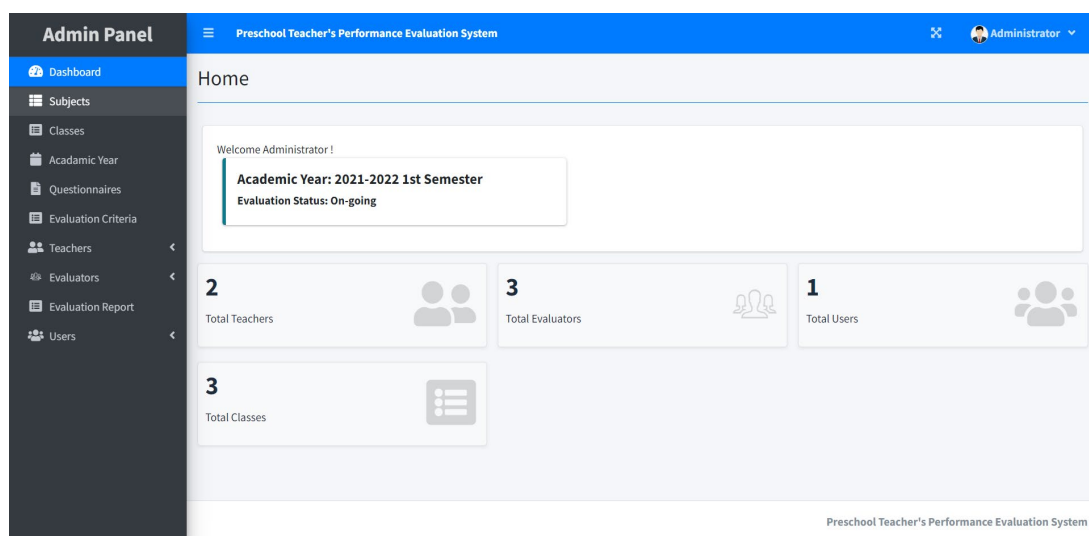


Figure 1: Main Interface Design of Preschool Teacher's Performance Evaluation System

2. Methods

The software development life cycle (SDLC) refers to the stages of the software development process. By using the SDLC model, a project can be implemented efficiently and produces high-quality software that meets the requirements. In this project, a waterfall model is chosen to implement the preschool teacher's performance system because it is simple and easy to understand and use. The waterfall model is a linear sequential design process in which the progress is flowing steadily downwards through the established phases namely planning, analysis, design, implementation, and system testing. In the waterfall model, each phase must be completed before the next step begins. There is no overlapping or iteration throughout the phases [4]. The phases employed in the development are described next.

Phase 1: Planning

In the first phase, we need to know what we want to do and what we have to design including its processes and functionality. The project plans to develop a preschool teacher's performance evaluation system with the aim to allow the kindergarten's management to keep track of its teachers' performances.

Phase 2: Requirement Analysis

In this phase, the information and requirements for the system are gathered. Then, the scope of the system is determined. This includes how the system looks and what features should be considered in developing the system. There is a need to understand the specific requirements for the project to help in designing the features of the system and finding a solution to solve the problems. Based on the gathered requirements, the performance evaluation for teachers is based on a set of criteria that are divided into four factors. The first factor is Teaching Plan Monitoring, the second factor is File Monitoring, the third is Teaching and Learning Monitoring and lastly, the fourth is Classroom Teaching and Learning Monitoring. The evaluation of the teachers is through assigning scores to each rubric of the factors. section and the scores will be added together to determine the teacher's overall score obtained. The score will then be used to determine the teacher's performance rating, which will be graded as A, B, C, or D. Besides, there is also a comment section for the evaluator to give a comment on the teacher's performance. The head of the kindergarten had to grade the teachers based on the criteria, as well as give some detailed comments about the teacher. The system would then save and generate a report for all of the teachers' performance evaluations based on what had been evaluated.

Phase 3: System Design

The System Design phase, it helps in identifying and specifying the software and hardware needed for the system. For the system, phpMyAdmin as PHP and MySQL administration tool is used to manage the input and output of data from the database. The reason that PHP and MySQL were chosen is it allows the developer to create, update, drop, alter, delete, import, and export teachers' information database tables by using this software. phpMyAdmin is a graphical user interface (GUI) application for managing MySQL databases. The database and table can be manually set up and queries can be run. Moreover, it provides a web-based interface that is suitable for our project's purpose.

Phase 4: Implementation

This phase involves the development of software and hardware. In this phase, program would be developed as the solution to solve the specific problems. The source code for preschool teacher's performance system is written and tested to make sure the correct output is produced. The bugs or errors are removed at this stage. In this phase, we must make sure that users get to log in to the system, get access to the evaluation resources, and the system is able to store the evaluation data in to database, and generate efficiency report.

Phase 5: System testing

In this phase, the system must meet the requirements as defined in the document and functioning well. Then, we will evaluate the testing result and make adjustment on the system. If there is no adjustment required, the system is complete and ready to be released to the end-user.

3. Results and Discussion

A usability evaluation was conducted on 30 respondents, consist of teacher and evaluator from different department. Some of the respondents were approached in person to conduct a live system evaluation and fill in the survey on the spot. Other respondents could post the completed questionnaire to the submission Google Drive. The Web-based Preschool Teacher's Performance Evaluation System and a post-task questionnaire were the instruments used for the evaluation. While Section A requested respondents' demographic information, Section B sought their opinions on the web-based preschool teacher performance evaluation system using a Likert scale with a maximum of five points, with one denoting strongly disagree and five denoting strongly agree.

According to the respondents' evaluation feedback, the Preschool Teacher's Performance Evaluation System is useful, simple to use, secure, and fulfils user satisfaction. Additionally, the respondents stated that they were satisfied with the system's feature that made it easier for them to rate the preschool teachers. The majority of respondents concur that the login, add, edit, delete, search, and generate evaluation report functions were simple and helpful, according to an analysis of their input on the system's individual features. They also believed that the system would assist them in more effectively managing the data related to preschool teachers and would fulfill their expectations for managing teachers' performance. According to the respondents, the user interface of the system was simple to use without the need for a user guide. Further, the respondents were satisfied with the design of the system and intended to recommend the system to others.

4. Conclusion

The Preschool Teacher's Performance Evaluation System was developed to overcome the existing problem with the teacher management system. The performance of the developed system has been successfully demonstrated. In the future, we plan to expand the functionality of the Preschool Teacher's Performance Evaluation System by automatically analyzing the comments given by evaluators to generate reports. In order to categorize and summarise comments as strengths and weaknesses, the concepts of NLP and AI can be integrated.

Acknowledgment

This work was supported by the UUM Research Acculturation Grant (S/O Code: 21208, 2021).

References

- [1] A. B. Dagal, and R. Zembat, "A Developmental Study on Evaluating the Performance of Preschool Education Institution Teachers with 360 Degree Feedback," *Journal of Education and Training Studies*, vol. 5, no. 60, pp. 220-231, 2019.
- [2] S. Alkhafaji, and B. Sriram, "Instructor's Performance: A Proposed Model for Online Evaluation," *International Journal of Information Engineering and Electronic Business*, vol. 5, no. (4), pp. 34, 2013.
- [3] Y. A. Muhie, A. B. Wolde, C. H. Tesfay, and B. A. Bedada, "Improving Quality of Education by Evaluating the Capacity of Lecturers Using a Web Based System," *Journal of Software Engineering and Applications*, vol. 13, no. 10, pp. 288, 2020.
- [4] D. Nicula, and S. S. Ghimiși, (2019, May). "Command and control vs self-management," in *IOP Conference Series: Materials Science and Engineering*, IOP Publishing, vol. 514, no. 1, p. 012039, May, 2019.