Pedagogical Review of Edulogy LMS: Case Study on Indonesian Educational System

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Article Info

Abstrak

Learning Management System (LMS) menjadi salah satu alternative pembelajaran yang memungkinkan guru dan siswa berinteraksi secara sistematis. Selain itu, LMS juga menggambarkan solusi digitaliasasi sistem pendidikan. Penelitian ini bertujuan untuk menganalisis aspek pedagogis dalam LMS Edulogy. Metoda penelitian yang digunakan adalah studi kasus pada dua dashboard LMS Edulogy yaitu dashboard wakil kepala bidang kurikulum dan dashboard guru. Selain itu, respon pengguna juga dikumpulkan melalui penyebaran angket kepada 144 guru dan 8 wakil kepala bidang kurikulum. Hasil penelitian menunjukan bahwa LMS Edulogy cukup baik dalam memfasilitasi wakil kepala bidang kurikulum dan guru dalam menjalankan tugasnya. Sebanyak 64.44% tugas wakil kepala bidang kurikulum dan 60% tugas guru sudah terfasilitasi dalam LMS Edulogy. Secara keseluruhan, tingkat kepuasan pada LMS Edulogy tergolong baik dimana 75% dari wakil kepala sekolah bidang kurikulum menyatakan puas dan 67.64% guru menyatakan puas. Hasil penelitian ini diharapkan dapat menjadi rujukan pengembangan berikutnya terkait LMS dan menjadi bahan pertimbangan untuk menggunakan LMS Edulogy.

Kata Kunci: analisa pedagogi, system manajemen pembelajaran, *edulogy*

Abstract

Learning Management System (LMS) was an alternative learning where teachers and students interacted systematically. Besides, LMS also described the digitalization solutions of the education system. This study aimed to analyze the pedagogical aspects of LMS Edulogy. The research meth-od used was a case study on two LMS Edulogy dashboards, namely the dashboard of the vice principal of curriculum and the dashboard of the teacher. In addition, user responses were also collected by distributing questionnaires to 144 teachers and 8 vice-

principals of the curriculum. The results showed that the LMS Edulogy was quite good at facilitating the vice principal of the curriculum and teachers in carrying out their duties. As many as 64.44% of the duties of the vice principal of curriculum and 60% of the duties of the teachers have been facilitated in LMS Edulogy. Overall, the level of satisfaction at LMS Edulogy classified as good where 75% of the vice principal in the curriculum field are satisfied and 67.64% of the teachers were expressed satisfaction. The results of this study were expected to be a reference for the next development related to LMS and become a considera-tion for using LMS Edulogy.

INTRODUCTION

Technology has a significant impact on the development of the world of education. Innova-tions such as e-learning, learning management system (LMS), massive open online course (MOOC), to the emergence of flipped and blended learning programs are a positive impact of the development of information and communication technology on the world of education (Omar & Yaacob, 2020; Pickering & Swinnerton, 2017; Zheng et al., 2018). The novelties produced are in line with the vision and mission of national education which is outlined in the 2013 curriculum structure (K-13). K-13 emphasizes the use of integrated Information and communication technologies (ICT) in learning (Dilson et al., 2020; Maria & Sediyono, 2017). This aims to adapt to learning to the current situation and conditions. The majority of developers, in their de-velopment, tend to make practical innovations. The development of the LMS system is made as easy as possible and selects aspects that are used only by the user, which in this case is the teacher and students. Not many LMS developments are aimed at facilitating the work of teachers and students as directed in the laws and regulations, especially the applicable curriculum. This of course has an im-pact on the difficulties of teachers when they are required to master many supporting systems and applications so that the digitalization of the education system is fulfilled. As a re-sult, teachers tend to feel additional burdens and assignments and prefer to keep using the conventional model. This LMS was developed by PT. Mandiri Abadi Teknologi based in Bandung. As one of the LMS developed with a school system, not a course, Edulogy is an alternative for schools that were previously unable to develop LMS independently.

The features contained in LMS Edulogy basically have similarities with LMS such as Google Classroom, Edmodo, or Schoology. However, LMS Edulogy has an integrated system according to the structural hierarchy in the school. However, LMS Edulogy is almost the same as LMS in general which requires a systematic review of the system hierarchy. Therefore, in this study, an analysis of the LMS eduology was carried out regarding the suitability of the schematic and hierarchical system in the LMS Edulogy with K-13. The results of this study are expected to provide an overview of the suitability and readiness of LMS education in facilitating the education system in Indonesia. In addition, this analysis can also be used as a reference for further development to support the digitization of the education system as a whole.

LITERATURE REVIEW

The study of pedagogical analysis basically aims to verify a product developed from the point of view of Education. This is considering that the tendency of system developers is

technology experts who sometimes do work without paying attention to the main function of the user. Green and Chewning (2020) state that there are several dissatisfied using LMS where school have to improve their LMS with better learning environment of remove the LMS entirely. This is based on LMS features that are not fully in accordance with the needs of the learning process. Berggren (2005) further stated that the open-source Learning Management System (LMS) is not only a technological question, but also related to practical, pedagogical, and philosophical issues, so that a good LMS is in accordance with the needs of implementing the learning process in schools.

LMS generally follow the form of international course implementation (Berggren et al., 2005). A course system focuses on providing interaction between teachers and students, sharing of information, administering tests, and so on. This LMS model has not been able to fully accommodate the needs of implementing learning programs in schools considering that there are various authorities in the school environment such as homeroom teachers, class teachers, deputy heads of curriculum, deputy heads of student affairs, students, parents, and many other structural positions that exist in school (Laohajaratsang, 2018; Tujni & Syakti, 2019).

Each authority has its own role with one common goal, namely the success of learning activities and accommodating the potentials of students. However, the most dominant authority in maintaining academic quality is the teacher and the deputy head of the curriculum field, the duties of each of which will be described in the following.

Vice Principal

Vice Principal of the curriculum is a position held by a teacher as an additional task (Menteri Hukum dan Hak Asasi Manusia Republik Indonesia, 2017). Vice principals are seconded to facilitate the principal's performance in managerial terms (Ambarwati, 2018). Furthermore, Paudi and Suking (2020) explained that the vice principal in the curriculum area is a middle-level leadership hierarchy which has a very important role in maintaining the quality of the learning experience for students. The additional duties held by the vice principal will greatly reduce the concentration of the vice principal in carrying out their duties There have been many innovations develop facilitate the performance of the vice principal of the curriculum, for example, is the application of making lesson schedules (Maarif, 2017). The vice-principal of the curriculum has the task of compiling teaching programs, compiling educational calendars, compiling teacher teaching assignments, compiling learning schedules, compiling admissions schedules for educational books and reports, providing the syllabus for all subjects, providing and checking lists attend the teacher, and arrange the completeness of the teacher's facilities (Mulyana & Faqih, 2012). In more detail, the main duties and functions of the vice principal of the school / madrasah, as shown in Table 1 and Table 2.

Depending on the size of the institution, the vice principal may be the only employee in that position or one of several. Leadership traits, determination, self-confidence, and strong decision-making abilities are required for this position. Assistant principals must have good communication, organizational, and interpersonal skills because their work entails a wide range of responsibilities. The ideal vice principal has a desire to interact with pupils as well as the ability to do so. A vice principal's main responsibility is to assist in the development and enforcement of policies and guidelines for students, staff, and professors at the school. Interaction with school staff and administrators, as well as school boards at all levels from the district to the state, is required. Vice principals are extensively involved in conceiving the aims of their school and creating instructional and extracurricular program objectives to this end.

Table 1. Main Duties of the Vice Principal of Curriculum

	Duties
1	Preparing the formulation of curriculum goals
2	Prepare for content determination and curriculum organization
3	Linking the curriculum to available time, physical facilities, and personnel
4	Prepare teaching program materials, resources and equipment.
5	Prepare a teaching supervision program
6	Preparing in-service education programs for teachers
7	Develop programs related to the teaching and learning process
8	Develop a school special education calendar
9	Create KBM formats
10	Arrange the division of teacher teaching duties.
11	Compile a teacher picket list
12	Compile a list of teachers assigned to be homeroom teachers
13	Develop a lesson schedule
14	Develop a schedule of evaluation activities that include: - Daily Examination - Semester Examination - Final Examination
15	Collecting teacher work, consisting of: - Annual program - Semester program - Lesson Plan - Learning Media (Module, Worksheet, etc.) - Report on curriculum targets and absorption
16	Coordinating and submitting the results of the preparation of teacher teaching tools.
17	Prepare reports on teaching and learning activities
18	Fostering and managing MGMP (Subject Teacher Deliberation) activities
19	Prepare reports on MGMP activities.
20	Carry out the best teacher selection
21	Coordinating the implementation of additional lessons or intensive guidance.
22	Create activity reports

Teacher

The teacher has a big role in the continuity of the learning process in the classroom. The teacher serves as a facilitator in learning that helps students achieve predetermined learning goals. In addition to teaching assign-ments, teachers are also inserted with other administrative tasks that require time to com-plete. In many research results, ad-ministrative tasks tend to be more burdensome and time-consuming than teaching (teaching) tasks. Referring to standard school administration documents at least the administrative duties of teachers can be classified into four parts, namely planning, implementing, evaluating, and styling. A more complete description can be found in Table 3. This research is a qualitative analysis with two main language topics, namely: (1) How is the readiness of features in LMS Edulogy that are relevant to the condition of the education system in Indonesia, especially features that support the performance of teachers and deputy heads of curriculum fields; (2) How do teachers and deputy heads of curriculum respond to features in LMS Edulogy in supporting their assignments?

Table 2. Functions of the Vice Principal of Curriculum

	Job Description
1	Leading the study of continuous teaching
2	Organize an upgrading program for teachers
3	Supervise curriculum development
4	Oversee the supervision and evaluation of teachers by the principal of the field of study
5	Directing the preparation of curriculum guidelines, subjects and other teaching materials; suggest textbooks.
6	Examine learning methods and problems together with teachers and guidance personnel
7	Making suggestions about major changes in the teaching program to school principals
8	Cooperate with officials in charge of students in compiling subjects to be provided and master schedules
9	Describes an educational calendar
10	Develop a teaching structure, division of teaching tasks and schedule lessons
11	Organize and facilitate the implementation of the preparation of teaching administration (annual program, a semester program, syllabus, lesson plans, list of grades, teacher absences, face-to-face absences and class journals)
12	Assisting the principal in the implementation of teaching and learning activities
13	Cooperating with the vice-principal of Student Affairs in the dividing classes of new students
14	Keep documents on assessment tools and submit reports on assessment results.
15	Organizing teacher development activities through MGMP Education and Training, Seminars, Workshops, upgrades and others
16	Organize and create criteria for promotion and graduation
17	Organize improvement efforts and teaching sifting
18	Managing academic competition
19	Coordinating the procurement activities for the required teacher teaching materials
20	Create student progress reports
21	Regulate the learning evaluations and the processing of grades which include assignment scores, daily exams, mid-semester exams, semester exam, tryouts, final exams and others
22	Always coordinate with other parties in program implementation
23	Responsible for his duties to the Principal of the Madrasah

Source: Adapted from Mulyana & Faqih (2012); Sutrisna (1987)

METHOD

This study uses a qualitative research method, a case study design. The case study used in this research is a single instrumental case study by focusing on a single case aspect (Creswell & Creswell, 2018). The research activity was carried out by analyzing the learning systems and mechanisms available in LMS Edulogy. Data about the system is obtained di-rectly, namely by accessing and analyzing the three main Edulogy dashboards, https://sekolah.Edulogy.id/ , https://guru.Edulogy.id/, and https://siswa.Edulogy.id/. Besides, interviews with Edulogy were also conducted to confirm the intercorrelation scheme that was applied. Besides, data is also obtained from the mobile version of the LMS Edulogy through the edulogy application.

Edulogy LMS is one of the LMS that is currently widely used. As one of the LMS developed with a school system, not a course. It provides an alternative for schools that were previously unable to develop LMS independently. The features contained in LMS Edulogy basically have similarities with LMS such as Google Classroom, Edmodo, or Schoology. However, LMS Edulogy has an integrated system according to the structural hierarchy in the school. In this study, an analysis of the user's LMS satisfaction level was also carried out. User

selection is done by purposive sampling (random purpose) which involves two main stakeholders, namely the teacher and the vice-principal of the curriculum. This selection is based on research objectives that analyze pedagogic aspects including interaction and learning administration.

The number of users who acted as respondents in this study was 152, spread over 144 teachers and 8 from representatives of the curriculum field. The data analysis was conducted in a descriptive qualitative manner. The results of the analysis of the learning scheme in the LMS Edulogy are compared with the K-13 curriculum structure. The aim is to get an overview of how the readiness of LMS edu-logy is in facilitating the education system in Indonesia, especially in the K-13 curriculum.

Table 3. Main Duties and Functions of Teachers

	Develop Learning Programs
1	Educational calendar
2	Make the breakdown of time effective
3	Create an annual program
4	Create a semester program
5	Create a syllabus
6	Prepare lesson plan
	Implement Learning Programs
1	List of student attendance
2	Analyze student attendance
3	Fill out the class journal
4	Fill out the learning journal
5	Make special notes in the learning process
	Conduct an Evaluation
1	Develop an evaluation implementation program
2	Develop evaluation tools (grids, question texts, assessment guidelines, other instruments)
3	Carry out evaluations according to the required competencies
4	List each student's grades and competencies
5	Carry out an Analysis of Evaluation Results
	Compile and Implement Enrichment
1	Arrange remedial/enrichment programs
2	Implement improvements which include remedial teaching and/or remedial tests
3	Carry out enrichments for special or highly able students
4	List of the value of the remittances and enrichment results.

Source: Adapted from Mulyana & Faqih (2012); Sutrisna (1987)

RESULTS

The research results are described through three subjects. The first topic discuss-es the overview of the vice principal of the curriculum aspect. The second subject dis-cusses in terms of the teacher as the main fa-cilitator in classroom learning. Finally, on the third subject in terms of user satisfaction as-pects.
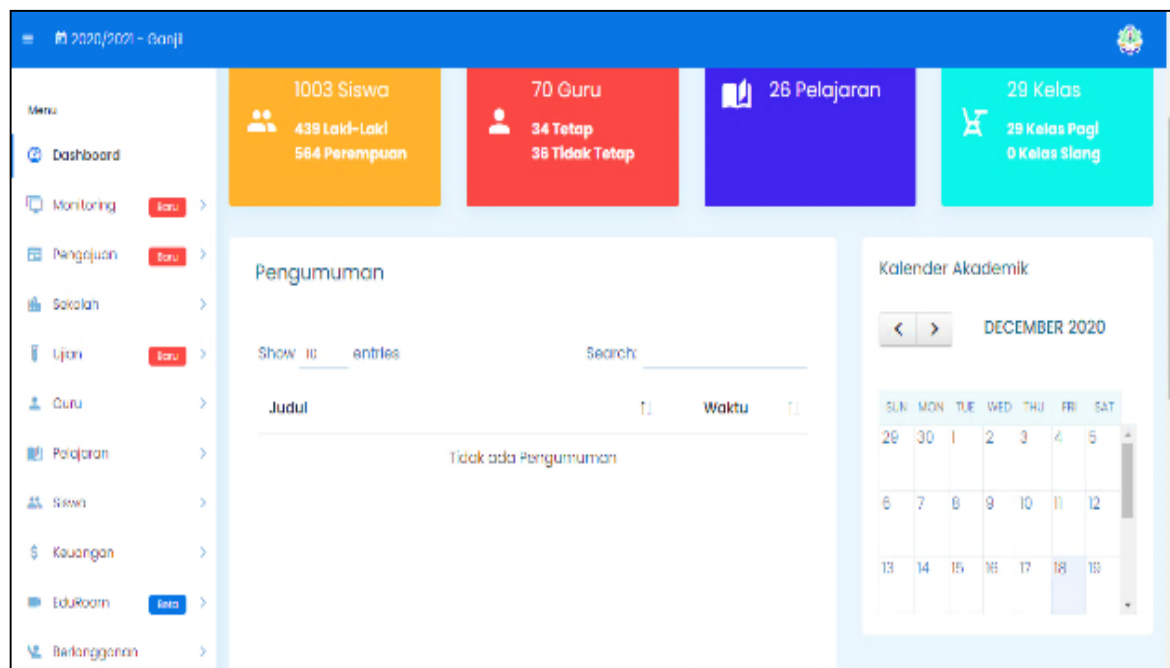
Figure 1. Vice-Principal Dashboard

Dashboard for Vice Principal of Curriculum

The research results are described through three The dashboard available for the vice principal of curriculum refers to the menus in Figure 1. The dashboard that is available for the vice principal of curriculum is developed according to the needs of the vice principal of curriculum to carry out assignments. The menus contained in the dashboard of the vice principal of the curriculum area include monitoring, submission, school, examinations, teachers, lessons, students, finance, education, subscription, assistance, arrangements, and exit. Referring to these menus, several menus are considered ineffective and are outside the main duties and functions of the vice principal of curriculum.

The results of the analysis that refer to the main duties and functions of the vice principal of the curriculum field are shown in Table 4 and Table 5. The dashboard of the vice principal of ccurriculumin LMS Edulogy has generally provided facilities for the vice principal of the curriculum in carrying out their duties. Of the 45 assignments and job descriptions for the vice principal of curriculum, there are at least 29 tasks and job descriptions that are already contained in the LMS Edulogy or around 64.44%. The percentage was obtained by comparing the number of tasks contained in LMS Edulogy and the total task. This percentage shows that the LMS Edulogy is good enough to facilitate the vice principal of the curriculum in carrying out his duties. According to Table 4, LMS Edulogy provides real-time information about learning time and personnel (teachers) on duty. LMS Edulogy provides Material Bank, Assignments Bank and a Question Bank which allows the vice principal of curriculum to review and prepare all materials Facilitating and developing programs related to the teaching and learning process, a program that is integrated with subject teachers that makes it possible to monitor learning activities on an ongoing basis the educational calendar provided is integrated with teachers, students, and parents. Unfortunately, vice principle is not facilitated to design KBM (Learning Process) format that crucial for some context of learning for example in vocational class.

Table 4. Pedagogic analysis on the dashboard of the vice principal of the LMS Edulogy curriculum according to main duty and function

	Main duty and function	Feature
1	Preparing the formulation of curriculum goals	**X**
2	Prepare for content determination and curriculum organization	**X**
3	Linking the curriculum to available time, physical facilities, and personnel	✓
4	Prepare teaching program materials, resources and equipment.	✓
5	Prepare a teaching supervision program	**X**
6	Preparing in-service education programs for teachers	**X**
7	Develop programs related to the teaching and learning process	✓
8	Develop a school special education calendar	✓
9	Create KBM formats	**X**
10	Arrange the division of teacher teaching duties.	✓
11	Compile a teacher picket list	✓
12	Compile a list of teachers assigned to be homeroom teachers	✓
13	Develop a lesson schedule	✓
14	Develop a schedule of evaluation activities that include: - Daily Examination - Semester Examination - Final Examination	✓
15	Collecting teacher work, consisting of: - Annual program - Semester program - Lesson Plan - Learning Media (Module, Worksheet, etc) - Report on curriculum targets and absorption	✓
16	Coordinating and submitting the results of the preparation of teacher teaching tools.	✓
17	Prepare reports on teaching and learning activities	**X**
18	Fostering and managing MGMP (Subject Teacher Deliberation) activities	**X**
19	Prepare reports on MGMP activities.	**X**
20	Carry out the best teacher selection	✓
21	Coordinating the implementation of additional lessons or intensive guidance.	✓
22	Create activity reports	**X**

The next duty facilitated is to arrange the division of teacher teaching duties. There are rules for teaching teachers in every subject being taught. However, there is not yet available accumulated lesson hours for general monitoring. For daily present (usually as picket officer), the teacher picket list is integrated with the teacher's account so that the principal, vice-principal, students and parents can find out the attendance of students and picket officers who are responsible for that day. The homeroom list is effective enough where the rules provided do not allow one class to have two homerooms. Homeroom authority is also integrated with teacher and student accounts. The lesson schedule is integrated with the teacher and student accounts. The arranged lesson schedule allows for monitoring the distribution of lesson hours for teachers. The weakness is that there is no verification between class hours, which means that the vice principal of the curriculum sector or the class teacher must input the lesson schedule manually.

The next feature is exam schedule that can be inputted in the educational calendar which can be known by students and parents since the beginning of the semester. Teacher work results that can be monitored using LMS Edulogy in the form of lesson plans only. The lesson plans format available in the Edulogy LMS follows the latest pattern according to the Minister of Education and Culture's circular on simplifying the lesson plans (Kemendikbud Republik Indonesia, 2019).

Teacher teaching devices that are stored in each teacher's account will be integrated with the dashboard of the vice principal of the curriculum field so that they can immediately check the devices that have been made by the teacher. In selecting exemplary teachers, LMS Edulogy provides information about teacher activities in real-time, making it easier for the vice principal to carry out this task. Additional lessons and intensive guidance can be accommodated using LMS Edulogy. The vice-principal of the curriculum can consider the time and the teacher to carry out additional lessons to other extracurricular activities.

In addition, vice principle of curriculum also has some of job description provide in Table 5. Job description is more technical than main duty and function, so it should be more facilitated in good LMS. Table 5 shows that LMS Edulogy provide continuous and real-time communication and supervision channels to support this task. Through data and information about teacher performance in LMS Edulogy, the vice principal of the curriculum can select and determine teachers to take part in upgrading activities. Through real-time data, the vice principal of the curriculum can conduct comprehensive supervision related to curriculum development programs that are based on teacher activities and student development.

Through the data that is generated in real-time, the vice principal of the curriculum can supervise and evaluate teachers on an ongoing basis. The material bank, assignment bank, and question bank in LMS Edulogy facilitate the vice principal of the curriculum to identify the needs and availability of reference materials for each subject. The journal and learning notes provided for both individual students and the class as a whole make it easier for the vice principal of the curriculum section to analyze learning problems.

Although the vice principal of the curriculum can access and monitor every activity of the teacher, the actions that can be taken by the vice principal of the curriculum are still limited and cannot provide systematic feedback. The lesson menu allows the vice principal of the curriculum area to determine the subjects to be presented in each academic year. The database provided also allows the vice principal of the curriculum field to select subjects based on the applicable curriculum, and/or can add certain subjects according to the qualifications of the school's human resources.

Educational calendars are still notifications and markers. No reminder activity allows the teacher to regularly prepare everything. The learning menu allows the vice principal of the curriculum to compile the teaching structure, division of teaching tasks and lesson schedules that are directly integrated with each teacher's account. At this point, LMS Edulogy facilitates the preparation of lesson plans only, list of scores, teacher absences, face-to-face absences, and class journals. Through an integrated system, the principal and vice-principal of the curriculum will get data and information related to teaching and learning activities in real-time. The points for dividing students into classes are found on the two dashboards, namely the vice principal of the curriculum and student fields. The available assessment is still limited to the cognitive aspect. Meanwhile, the psychomotor and affective assessment is carried out outside the system, then the results of the assessment can be input into the system.

Table 5. Pedagogic analysis on the dashboard of the vice principal of the LMS Edulogy curriculum according to Job description

	Job Description	Features
1	Leading the study of continuous teaching	✓
2	Organize an upgrading program for teachers	✓
3	Supervise curriculum development	✓
4	Oversee the supervision and evaluation of teachers by the principal of the field of study	✓
5	Directing the preparation of curriculum guidelines, subjects and other teaching materials; suggest textbooks.	✓
6	Examine learning methods and problems together with teachers and guidance personnel	✓
7	Making suggestions about major changes in the teaching program to school principals	X
8	Cooperate with officials in charge of students in compiling subjects to be provided and master schedules	✓
9	Describes an educational calendar	X
10	Develop a teaching structure, division of teaching tasks and schedule lessons	✓
11	Organize and facilitate the implementation of the preparation of teaching administration (annual program, a semester program, syllabus, lesson plans, list of grades, teacher absences, face-to-face absences and class journals)	✓
12	Assisting the principal in the implementation of teaching and learning activities	✓
13	Cooperating with the vice-principal of Student Affairs in the dividing classes of new students	✓
14	Keep documents on assessment tools and submit reports on assessment results.	✓
15	Organizing teacher development activities through MGMP Education and Training, Seminars, Workshops, upgrades and others	X
16	Organize and create criteria for promotion and graduation	X
17	Organize improvement efforts and teaching sifting	X
18	Monitoring academic competition	✓
19	Coordinating the procurement activities for the required teacher teaching materials	✓
20	Create student progress reports	✓
21	Regulate the learning evaluations and the processing of grades which include assignment scores, daily exam, mid-semester exam, semester exam, tryouts, final exams and others	✓
22	Always coordinate with other parties in program implementation	X
23	Responsible for his duties to the Principal of the Madrasah	X

The new LMS Edulogy provides data and information on teacher performance, while the selection and recording of teachers who are given competency development tasks do not yet exist. Student competency data that can be reviewed in real-time makes it easier for the vice principal of the curriculum to observe students' abilities on an ongoing basis Using the material bank database, the vice-principal of the curriculum can review the availability of additional learning materials from teachers in addition to those provided in the library. LMS Edulogy presents student development charts that can be used as material for the vice principal of the curriculum field to make student progress reports. The integrated educational calendar, question bank, and assignment and exam features provided by LMS Edulogy allow vice-principals to be able to carry out the evaluation process in real-time and continuously. LMS Edulogy does have an integrated system down to the supervisory level and the dashboard

for the education office level, it's just that the integration system that is provided is only an integrated database so that coordination is still carried out separately. In addition to the scope of the task being facilitated quite large, several educational features are still considered ineffective and not yet on target.

Dashboard for Teacher

The teacher dashboard has deeper authority than the deputy head of the curriculum. Structurally the function of the deputy head of the curriculum is higher than that of the classroom teacher, but in learning activities the vice principal the curriculum is only a supervisor, while the teacher has the authority to prepare, implement and evaluate.

The teacher dashboard aims to make it easier for teachers to carry out their duties, especially facilitating teachers to document every learning activity in terms of inputs, processes, to outputs and learning out-comes. The display of the teacher dashboard on the LMS Edulogy is shown in Figure 2.
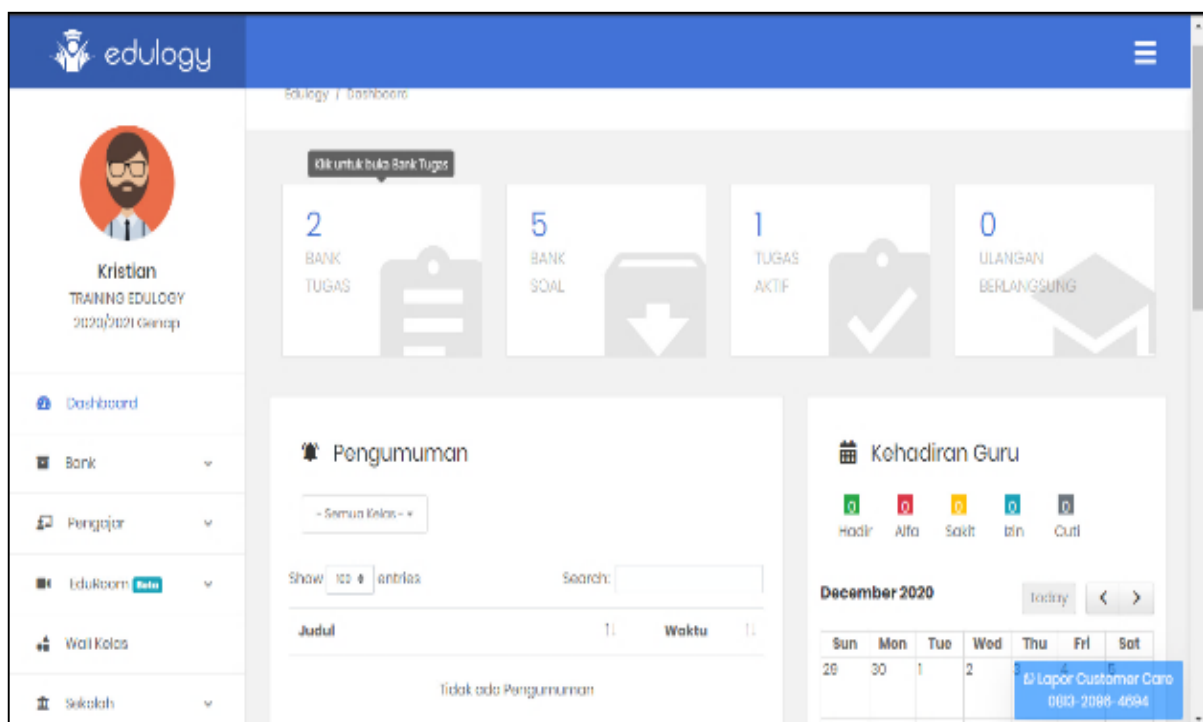

Figure 2. Teacher Dashboard

LMS Edulogy provides several menus and features that aim to make it easier for teachers including the dashboard menu, bank menu, teacher menu, eduroom menu, homeroom menu, school menu, extracurricular menu, set menu and profile menu. The results of the pedagogical analysis of the teacher dashboard of LMS Edulogy on Development Learning Programs are presented in Table 6. Table 6 shows that LMS Edulogy only facility teacher for 2 of 6 duties in develop learning programs. The first is Educational calendar that is Integrated educational calendar with vice-principal of the curriculum and students. The second is prepare lesson plan, The lesson plan format presented follows the four main points as described in the Ministry of Education, Culture, Research and Technology Indonesia circular letter (Kemendikbud Republik Indonesia, 2019).

Table 6. Teacher dashboard of LMS Edulogy on Developing Learning Programs

	Duties	LMS Edulogy
1	Educational calendar	✓
2	Make the breakdown of time effective	X
3	Create an annual program	X
4	Create a semester program	X
5	Create a syllabus	X
6	Prepare lesson plan	✓

Generally, LMS Edulogy not complete in facilitating teacher for learning administration duty. There are still four duty that is not provided by LMS Edulogy. However, this LMS is quite good because providing the most technical preparation, namely lesson plan. Thus, teacher can make and distribute easily the lesson plan for vice principle of curriculum, principle, student, and parents. The next analysis is on facilitating teacher for implemented learning programs provided in Table 7. According to Table 7, Teacher is facilitated to make attendance list of students during learning activities that is integrated with the vice principle of the curriculum field with information on attendance, illness, permission, neglect, and dispensation.

Table 7. Teacher dashboard of LMS Edulogy on Implementation of Learning Programs

	Duties	LMS Edulogy
1	List of student attendance	✓
2	Analyze student attendance	✓
3	Fill out the class journal	X
4	Fill out the learning journal	✓
5	Make special notes in the learning process	✓

Table 8. Teacher dashboard of LMS Edulogy on Conducting an Evaluation.

	Duties	LMS Edulogy
1	Develop an evaluation implementation program	X
2	Develop evaluation tools (grids, question texts, assessment guidelines, other instruments)	✓
3	Carry out evaluations according to the required competencies	✓
4	List each student's grades and competencies	✓
5	Carry out an Analysis of Evaluation Results	✓

LMS Edulogy also provide a summary report related to student attendance in class. In addition, Journal class are available with several points, namely dates, notes, obstacles, preparation, materials and assignments. And teacher can make any specific note in learning process that integrated into learning journals. The next teacher duty is to conduct and evaluation that can be seen in Table 8. Table 8 show that LMS Edulogy is quate ready for supporting teacher conducting evaluation. In online class, electronic evaluation is one of the most important to be prepared. There are several principles that still also required for online test. The new LMS Edulogy provides a task bank and a question bank that make teacher can easily make, storage, and share their work for college. Unfortunately, the evaluation tools available in LMS Edulogy are still limited to the cognitive assessment of the form of PG test,

complex PG, true-false, and essays. The results of the study are presented for each student and are based on the tests performed. Analysis of the evaluation results is contained in the value recap. However, it is still a summary report and descriptive analysis. Nowadays, there are also developed another model of test known as AKM (Assessment Kompetensi Minimum) which quite different from regular test in the form of randomize the question. AKM use Adaptive Test (Computerized Adaptive test or Multistage Adaptive Test) that is not provided in LMS Edulogy. Table 9 provide an overview for feature in LMS Edulogy supporting teacher in compiling and implementing enrichment.

Table 9. Teacher dashboard of LMS Edulogy on Compiling and Implementing Enrichment.

	Duties	LMS Edulogy
1	Arrange remedial/enrichment programs	✓
2	Implement improvements which include remedial teaching and/or remedial tests	X
3	Carry out enrichments for special or highly able students	X
4	List of the value of the remedial and enrichment results.	✓

In Table 9, there are 2 teacher duties facilitated and 2 teacher duties not facilitated. The first is Arrange remedial or enrichment programs in which data relating to the test results for each student can be used as material for consideration for carrying out remedial and enrichment. The second is exam system that provides an opportunity to make improvements, namely the teacher can carry out repeated exams and the reported scores are also repeated. In general, the features contained in the LMS Edulogy are sufficient to facilitate teach-ers in carrying out their duties. Based on data in Table 5 through Table 8, There are 12 of the 20 teacher duties that have been facilitated in the LMS Edulogy, which means in percentage, 60% of the teacher's assignments can be done digitally using LMS Edulogy.

User Satisfaction

The satisfaction of LMS Edulogy users was collected through the distribution of online questionnaires. The question is related to their experience using LMS Edulogy in supporting their work. From the question "are you satisfied using LMS Edulogy related to your work?", as many as 75% of the vice principal of the curriculum sector gave a "satisfied" response to LMS Edulogy in facili-tating their performance while the other 25% gave a neutral attitude towards the use of LMS Edulogy. Although this result is good enough, there are still found any problem express by respondent. For example, the mis-function of the task in vice principle of curriculum dashboard. The results of the responses given by the teacher tend to be more diverse, as shown in Figure 3.
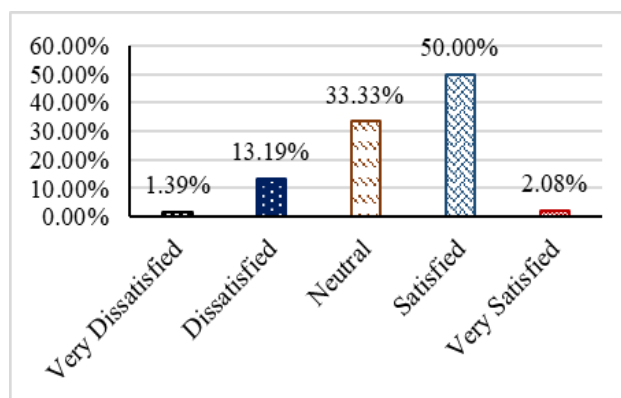

Figure 3. Teacher level of satisfaction

DISCUSSION

Dashboard for Vice Principal of Curriculum

This will be discussed based on the respective menu available in the dash-board of the vice principal of curriculum. Antony (2015) prove that the principal advantages using LMS for school management is helping stockholders such as head principal, vice principal and teacher for organizing class subject. The first menu is a dashboard that presents data related to the number of students, the number of teachers, the number of subjects, the number of classes, the educational calendar, announcements, and edu info. Next menu is "monitoring". The first feature that is considered inaccurate is the "student participation" feature.

This feature provides data related to students who log in to the Edulogy application (android) and the relationship between student accounts and parents. This feature is considered ineffective for the vice principal of the curriculum sector and should be presented for the student dashboard because it is outside the academic realm. Meanwhile, the features of "teacher participation", "Teaching and Learning Activities", "Teacher Journal", and "Lessons attendance lists" are good enough to provide comprehensive information. The first and second menus provided to help vice principal of curriculum carry on the monitoring function. As hybrid management system, these menus will more effective if vice principal of curriculum push teacher to update their dashboard frequently (Antony, 2015; Lisnawati, 2018).

The third menu is the submission menu. This menu contains Lesson Plan (RPP) features where the vice principal of the curriculum can conduct a review of the lesson plans submitted by each teacher. Every application made by the teach-er, the vice principal can give a response in the form of "in-process" which means that it is being reviewed, "accepted", or "rejected". This feature will greatly assist the vice principal of the curriculum field to develop curriculum, improve the quality of learning, and collect learning tools. The drawback of this feature is that the vice principal of the curriculum is not allowed to respond to the teacher's work so that the teacher will experience confusion when the tools that have been made are not accepted. Besides, this feature is still limited to lesson plans only and does not cover other learning tools. The school menu contains all the infor-mation that must be filled in by the vice-principal of the curriculum field. This menu is integrated to all users (school principal, vice-principal of student affairs, teachers, students, and parents). Overall this menu is considered good enough.

The exam menu is a menu that allows the vice principal of the curriculum to make ex-ams, which in this case are school-level ex-ams. Meanwhile, class-level exams such as daily tests and lesson quizzes are handled by each teacher. The teacher menu makes it easy for the vice principal of the curriculum to carry out personnel duties. In this menu, there is a fea-ture for monitoring teacher attendance at school. Meanwhile, the presence of the teach-er in the classroom is presented in the moni-toring menu. The weakness in this menu is that it does not provide assignment features in the form of sending teaching assignments to the teacher.

The lesson menu contains a list of lessons that apply to each school. LMS Edulogy generally supports learning based on the KTSP (Indonesia Curriculum establish in 2006 through 2013) and K-13 curricula. Specifically for specific subjects such as vocational high schools and the curriculum in madrasah or pesantren, the subject input mode is provided if it is not yet available in a choice of subjects. The weak-ness in this menu is related to the available school mode where the option of schools un-der the Ministry of Religion is not yet available. So that compulsory subjects in the mad-rasah curriculum are shown as an additional curriculum. Besides, the lesson schedule fea-ture also needs to be further developed to make

it easier for the vice principal of the cur-riculum in compiling a learning schedule. According to research by Herdiyansyah and Cahyana (2015) and also research by Farianto et al. (2015) which state that preparing lesson schedules manually (using paper) tends to experience errors and cause teachers to clash with each other during implementation.

Next is the student menu which contains features for adding students, re-registering, and listing students who leave. The weakness in this menu is the re-register feature where the transfer of students for each academic year is still not efficient. The vice-principal must move students from one class to another class manually. However, as a solution to this problem a menu of adding study groups is provided on the homeroom teacher's account.

Generally, menus and features provided in LMS Edulogy may be able to support the vice principal of curriculum solving tasks. These findings were similar to research by Bazeliuk (2019) which state that LMS is not only a supporting tool, more than that it can be a core of digitalization in educational envi-ronments. Besides, Farianto & Yudi Novianto (2015) state that digital information provides for all stake-holders can reduce the misinformation.

Dashboard for Teacher

A discussion of the features contained in the teacher dashboard in LMS Edulogy provides for each menu. The first menu is a dashboard that presents data on the number of assignments in the assignment bank and progress, the number of exam pack-ages in the question bank and ongoing exams, summary reports on teacher attendance, aca-demic calendars, announcements, and info. In general, this menu is considered to be quite good at presenting the information.

On the bank menu, there are three features provided, namely Lesson Plan (RPP), Materials, Tasks, and Questions. The RPP menu is made based on the latest directives from the Ministry of Edu-cation and Culture, made with a draft and submission system. At the initial stage, the teacher prepares a draft lesson plan consisting of subjects, levels, subject matter, time alloca-tion, learning objectives, learning activities, and assessment. The completed draft must be submitted for verification by the vice princi-pal of curriculum. The drawback of this fea-ture is the absence of a "sharing" feature for students. According to a study by Nasrullah and Ismail (2018), the students should also know the learning design that is being carried out to make students more focused on carry-ing out learning activities. The similar finding was also found by Emda (2018) whose state that find the influence of the description of the objectives and benefits of learning to be carried out with the learning motivation of students. Another thing that needs to be im-proved is the aspect of developing lesson plans considering that the simplification of the lesson plans made to the Education and Cul-ture Ministry still provides opportunities for teachers to explore (Kemendikbud Republik Indonesia, 2019). On the features of the mate-rial bank, task bank and question bank, LMS Edulogy is considered to be quite good by in-tegrating between the three. The deficiency in the question bank feature only on the types of assessments available is to remember that assessment in the world of education is not only limited to cognitive aspects. Besides, the flexibility in choosing the form of assessment also needs to be improved so that the assessment is more flexible.

Next is the teaching menu with features including teaching classes, submitting lesson plans, teaching schedules, class absences, les-sons, and a recap of grades. The teaching class features, teaching schedules, and class absences are in accordance with the applica-ble rules where the teacher stays in the class-room, complete the lesson schedule (if it has not been inputted by the vice-principal of the curriculum) and fills in learning attendance. The RPP and value recap features still only contain summary reports with some fixed val-ues that can be input manually as an alterna-tive to the implementation of assessments that are not yet

supported by LMS Edulogy. In the learning feature, there are four sub-features which contain material, assignments, exams, and journals. These four sub-features indicate ongoing material files, assignments and tests, as well as journals for each meeting.

The EduRoom menu is a container pro-vided by LMS Edulogy for virtual face-to-face meetings. It's just that this menu is not openly activated, meaning that re-verification (sub-scription) is required between the school and Edulogy if you want this feature. Homeroom and extracurricular menus are also LMS Edulogy services to accommodate teachers who are given additional assignments as homeroom teachers or as extracurricular teachers. These two menus are only active for accounts of teachers who are given additional assignments. On the homeroom menu, the teacher in charge has access to add and remove students from the study group, do school absences (student attendance at school), monitor the amount of material, assignments and tests in class, and monitor student attendance in class during learning. . While on the extracurricular menu, teachers are given access to add and remove extracurricular members, add trainers and compile a schedule for implementing activities. All of these features are integrated with the vice-principal of the curriculum, vice-principal of student affairs, principal, students and parents.

User Satisfaction

User Satisfaction that illustrate in Figure 3 proved the majority of teachers are quite satisfied with the features contained in the LMS Edulogy. This indicates that the Edulogy LMS is quite compatible with the applied learning scheme which refers to the K-13 curriculum. This result tends to be smaller than the level of satisfaction in using google classroom (Fahirah et al., 2020) and e moodle (Tiawan et al., 2020). Based on the feedback given by the respondents, the low level of satisfaction was allegedly due to technical problems. Besides, the frequency of use is also one of the factors that determine the level of user satisfaction (Larasati & Andayani, 2019).

This study has limitations in terms of data sources. This refers to the dashboards on many Edulogy LMS such as school principals, vice-principals of student affairs, finance, administration, agencies (institutions), and supervisors. Further research is needed to analyze other dashboards to get a comprehensive picture of the readiness of LMS Edulogy in supporting the education system in Indonesia.

CONCLUSION

LMS Edulogy is ready enough for support and relevant to condition in education system in Indonesia. In addition, LMS Edulogy has many features to support the performance of the vice principal of curriculum and teachers. Analysis of LMS readiness on the pedagogic aspect shows that as many as 64.44% of the duties and job descriptions of the vice principal of the curriculum area have been facilitated in the edulgy LMS and as many as 60% of the teacher's as-signments and job descriptions have also been facilitated. The hierarchical system that has been built has also led to the direction of the K-13 curriculum with an integrated system scheme that allows each stakeholder to perform their tasks in real-time. Based on the questionnaire distributed, 75% of the vice principal of the curriculum field expressed satisfaction with LMS Edulogy and 67.64% of teachers also expressed satisfaction with LMS Edulogy.

This study has limitations in terms of data sources. This refers to the dashboards on many Edulogy LMS such as school principals, vice-principals of student affairs, finance, administration, agencies (institutions), and supervisors. Further research is needed to analyze

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REFERENCES

Ambarwati, S. (2018). Analisis kinerja wakil kepala sekolah urusan kurikulum dalam mengimplementasikan kurikulum 2013 tingkat SMK negeri di kabupaten Klaten. Universitas Negeri Semarang.

Antony, B. (2015). SCORM: A Solution for ICT-Based LMS Performance Enhancement. International Journal of Electronics Communication and Computer Engineering, 1(6), 146.

Aufa, S. R. (2020). Peran Wakil Sekolah Dalam Manajemen Kurikulum di Sekolah Inklusi SDN Banua Anyar 4 Banjarmasin. https://doi.org/10.31219/osf.io/wzvs7

Bazeliuk, O. (2019). Peculiarities of digitalized learning process organisation in the learning management systems. Professional Pedagogy, 18(1), 143–147. https://doi.org/10.32835/2223-5752.2019.18.143-147

Berggren, A., Burgos, D., Fontana, J. M., Hinkelman, D., Hung, V., & Hursh, A. (2005). Practical and Pedagogical Issues for Teacher Adoption of IMS Learning Design Standards in Moodle LMS Abstract : Commentaries : 2005, 1–24.

Creswell, D., & Creswell, J. W. (2018). Research Design: Qualitative, Quantitative, and Mixed Methods Approaches (5th ed.). SAGE Publications Sage CA: Los Angeles, CA.

Dilson, Noviardi, Suhery, L., Asnur, H., Yunita, R., & Arimadona, S. (2020). Pelatihan peningkatan kompetensi guru MTsN 1 Kota Payakumbuh dalam pengembangan media pembelajaran terintegrasi TIK. BERNAS: Jurnal Pengabdian Kepada Masyarakat, 1(4), 385–395. https://doi.org/10.31949/jb.v1i4.453

Emda, A. (2018). Kedudukan Motivasi Belajar Siswa Dalam Pembelajaran. Lantanida Journal, 5(2), 172. https://doi.org/10.22373/lj.v5i2.2838

Fahirah, Puteri, S. L. E., & Arnesia, P. D. (2020). Analisis Google Classroom Sebagai Sistem Pembelajaran Jarak Jauh Saat Pandemi Covid-19 menggunakan Model Kesuksesan Sistem Informasi Delone dan McLean. Seminar Nasional Teknologi Informasi Dan Komunikasi, 4(September), 57–64.

Farianto, A., & Yudi Novianto, M. (2015). Perancangan Sistem Informasi Akademik Berbasis Web Pada Sma N 14 Muaro Jambi. Ilmiah Media SISFO, 08(2), 1–11.

Green, K. R., & Chewning, H. L. (2020). The Fault in our Systems : LMS as a Vehicle for Critical Pedagogy. 2023(MarketsandMarkets 2019).

Herdiansyah, E., & Cahyana, R. (2015). Pengembangan Aplikasi Penyusun Jadwal Pelajaran Secara Otomatis. Jurnal Algoritma, 12(2), 186–191. https://doi.org/10.33364/algoritma/v.12-2.186

Kemendikbud Republik Indonesia. (2019). Surat Edaran Nomor 14 2019 Tentang Penyederhanaan Rencana Pelaksanaan Pembelajaran (p. 2).

Laohajaratsang, T. (2018). Designing Effective Pedagogical Approaches with Next-Generation LMS for Students in Higher Education Thanomporn Laohajaratsang Information Technology Service Center and Faculty of Education. THAITESOL Journal, 31(1), 1–20.

Larasati, N. A., & Andayani, S. (2019). Pengaruh Penggunaan Learning Management System (LMS) Terhadap Tingkat Kepuasan Mahasiswa Menggunakan Metode DeLone and McLean. 04, 13–20. https://doi.org/10.17605/jti.v4i1.506

Lisnawati, R. (2018). Fungsi Manajemen Kepala Sekolah, Motivasi, dan Kinerja Guru. Jurnal Pendidikan (Teori Dan Praktik), 2(2), 143. https://doi.org/10.26740/jp.v2n2.p143-149

Maarif, S. (2017). Aplikasi pewarnaan titik pada graph dalam pembuatan jadwal pelajaran. Pi: Mathematics Education Journal, 1(1), 22–26. https://doi.org/10.21067/pmej.v1i1.2001

Maria, E., & Sediyono, E. (2017). Pengembangan Model Manajemen Pembelajaran Berbasis Tik Di Sekolah Dasar. Kelola: Jurnal Manajemen Pendidikan, 4(1), 59. https://doi.org/10.24246/j.jk.2017.v4.i1.p59-71

Menteri Hukum dan Hak Asasi Manusia Republik Indonesia. (2017). Peraturan Pemerintah Republik Indonesia No 19 ,2017 Tentang Guru. In Peraturan Pemerintah Republik Indonesia Nomor 19 Tahun 2017.

Mulyana, R., & Faqih, A. (2012). Standar Dokumen Administrasi Madrasah (pp. 152–153). Unit Pelaksana Program Akreditasi Madrasah (UPPAM) Direktorat Pendidikan Madrasah, Ditjen Pendidikan Islam Kementerian Agama RI.

Nasrulloh, I., & Ismail, A. (2018). Analisis Kebutuhan Pembelajaran Berbasis ICT. Jurnal Petik, 3(1), 28. https://doi.org/10.31980/jpetik.v3i1.355

Omar, U., & Yaacob, A. (2020). The benefits of learning management system (LMS) in facilitating the TESL teacher trainees' learning. Practitioner Reseacrh, 2, 103–119.

Paudi, S., & Suking, A. (2020). Jurnal Manajemen Pendidikan Kinerja Wakil Kepala Sekolah Menengah Pertama dilihat dari Tugas Pokok dan Fungsinya Performance of The Vice Principals of Junior High Schools Viewed from Their Main Duties. 2(2), 192–205.

Pickering, J. D., & Swinnerton, B. J. (2017). An Anatomy Massive Open Online Course as a Continuing Professional Development Tool for Healthcare Professionals. Medical Science Educator, 27(2), 243–252. https://doi.org/10.1007/s40670-017-0383-7

Sutrisna, O. (1987). Administrasi Pendidikan Dasar Teoritis Untuk Praktek Profesional (p. 38). Angkasa.

Teknologi, P. M. A. (2020). Edulogy Student. Edulogy Indonesia.

Tiawan, Tamsir, A., Nugroho, E. A., & Kurnia, D. (2020). Webinar Penggunaan Moodle sebagai Media E-Learning Guru-Guru di Jawa Barat. BERNAS: Jurnal Pengabdian Kepada Masyarakat, 1(4), 500–505. https://doi.org/10.31949/jb.v1i4.418

Tujni, B., & Syakti, F. (2019). Implementasi Sistem Usability Scale Dalam Evaluasi Perspektif Pengguna Terhadap Sistem Informasi Akademik Berbasis Mobile. ILKOM Jurnal Ilmiah, 11(3), 241–251.

Zheng, Y., Wang, J., Doll, W., Deng, X., & Williams, M. (2018). The impact of organisational support, technical support, and self-efficacy on faculty perceived benefits of using learning management system. Behaviour and Information Technology, 37(4), 311–319. https://doi.org/10.1080/0144929X.2018.1436590