Management of ICT-Based Learning Programs to Improve Student Learning Outcomes

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Abstract. Online learning has caused various problems experienced by teachers, students, and parents. Especially for students who don't have cellphones for online learning are confused, so they must look for solutions to anticipate this. This study tried to understand and examine the management of ICT-based learning programs to improve student learning outcomes at SMAN 1 Rengasdengklok through directive observations at the research site and communicative interactions with school residents and the community involved in it. Because the problems that occur in humans are basically related to observation, this research uses qualitative methods. The results of the trials that have been carried out have the impact that it is time for an ICT-based learning program to be implemented at SMAN 1 Rengasdengklok. Human resources are essential in ICT-based learning in addition to the budget, data availability, openness to innovation, institutional support, and policies and facilities.

Keywords: ICT, learning, management, online, program

1. Introduction

The globalization era are influence the quality of knowledge that leads to life skills so that knowledge underlies alternative solutions in various fields of life. Thus, a teacher must have a global perspective, namely a teacher who is able to utilize and develop resources to reach the needs of life in the era of world competition. In order to create an innovative, active, creative, effective and fun learning as outlined in the standard educational process, it requires teachers to utilize various learning resources, so as to increase the potential of students to the fullest [1]. One way of learning that is active, interactive, fun, challenging is learning using an Informatics and Technology-based learning model, one of which is the Talk fusion platform and kejar.id application. It's just that even though there are IT and digital developments in the world of education, the role of the teacher can't be replaced because there must be interaction in the learning and teaching process. Education must still have interaction, the classroom should not shackle students with IT or the Internet, so that interaction can be built positively. The many obstacles faced by the school need attention from various parties. In addition, there is a need for careful preparation and improvement in all components of education, both teaching staff, curriculum, infrastructure, management in learning programs [2].

In addition to the enormous benefits in education, the online learning turns out to cause many common problems felt by students, teachers and parents. Among them are students who don't have smrtphone to support online learning, making the school look for solutions to overcome this. Online learning is very dependent on the internet [3]. Internet connection is one of the obstacles for students whose are difficult to access the internet, like those who live in rural, remote and disadvantaged areas. Sometimes the network is unstable even using a cellular network, because of geographical location far from the coverage of internet signals. That problem occurs in students who take online learning so the implementation isn't optimal [4].

The kejar.id application is an online learning application with three philosophies, namely measurable, monitored, and complete. Which means, all levels of the school including parents and teachers can access and know the level of complete learning of students [5]. So that teachers and parents can measure the extent of students' learning understanding by monitoring it through the features available in the kejar.id application which can then motivate students to be better and enthusiastic in improving their learning [6]. Talk fusion platform is an IT company based in Tampa, Florida, United States that utilizes WebRTS (Web Real Time Communication) technology which is transformed into a video communication platform so that people can do it efficiently and at affordable costs.

This study aims to reveal the management of ICT-based learning programs to improve student learning outcomes so as to improve the quality of high school graduates in Karawang Regency. Therefore, it is deemed necessary to plan the management of ICT-based learning programs. This study proposes the management of ICT-based learning programs through the kejar.id application and the Talk fusion platform that is carried out effectively, efficiently and fun, evaluation. As well as to determine the supporting and inhibiting factors that will affect the improvement of the quality of student learning outcomes, especially in SMAN 1 Rengasdengklok and in general in all public and private high schools in Karawang Regency. The problems of the ICT-based learning process carried out by students that have not been solved are the background of this research. This happens partly because of the complexity of changes in the principal's policy as a decision maker in schools. Likewise with human resources who have not fully mastered IT. In addition, IT infrastructure such as computers, networks and internet access, as well as user friendly content and application platforms (instrumental input) are not yet fully adequate. In addition, this also occurs because the empowerment of students (raw input) is not yet optimal. The absence of family, community, and school community involvement (environmental input) that will support it also affects the management of ICT-based learning programs to improve student learning outcomes[7].

Learning programs are defined as the design or planning of a continuous unit of activity in the learning process that has a purpose and involves a group of people (especially teachers and students) to achieve the goals that have been set. Learning programs are a series of processes carried out by individuals intentionally to form a learning environment so that there is a change in attitudes, skills [8]. Management is a process carried out so that a business can run well, it requires planning, thinking, directing, and regulating as well as using or involving all existing potential, both personal and material, effectively and efficiently [9].

The role of technology and information in the field of education will give birth to new features in the world of education, for example a multimedia-based learning system (technology involving text, images, video, sound) so that teachers can present material that is more interesting, not monotonous and makes it easier to present [10]. ICT-based learning is basically the use of ICT to support the learning process in order to achieve the learning

objectives that have been formulated [11]. Learning management is an effort to manage learning which includes planning, implementing, and evaluating learning in order to achieve learning objectives effectively and efficiently. Learning implies the existence of teaching and teaching activities, where the parties who teach are teachers and those who teach are students. activity-oriented teaching materials oriented to the development, knowledge, attitudes and skills of students [12].

The research objective to be achieved from the results of this study is to determine the implementation of ICT-based learning programs that are implemented in support of government policies in producing quality and learning outcomes that are active, innovative, creative, effective, fun and challenging for students and teachers at SMAN 1 Rengasdengklok, Karawang Regency.

2. Methods

In this study, researchers tried to understand and examine the management of ICT-based learning programs to improve student learning outcomes at SMAN 1 Rengasdengklok through directive observations at the research site and communicative interactions with school residents and the community involved in it. Researchers in this case use a qualitative approach, because the problems related to humans are fundamentally dependent on observation. Understanding the type of research also helps researchers to formulate questions to be submitted to participants. And the type of research used is a case study which explores a single entity or phenomenon (case) from a certain period and activity (can be in the form of programs, events, processes, institutions or social groups), as well as collecting detailed information using various data collection procedures over a period of time. case[13]. This study uses a descriptive method because it utilizes qualitative data and descriptively explores a problem that will be discussed according to reality by the researcher [14]. The approaches and methods used are taken to achieve the goal of positive changes in students.
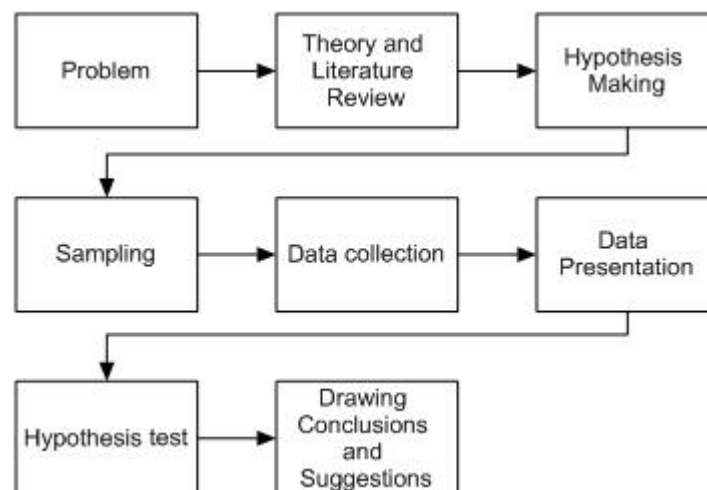

Fig. 2.1. Research Process Flowchart

Data analysis in qualitative research is a series of activities to organize interview transcripts, field notes, and other materials that can be used to increase researchers' understanding of the object of research and enable researchers to convey research findings to others. Thus, in data analysis, data organization is carried out, looking for patterns of relationships and interrelationships between or interactions between data, finding which ones are important that must be experienced, and finally determining what needs to be reported and informed to the public [15].

The primary data sources in this study were the principal, teachers (who de facto and de jure carry out learning, totaling 5 people who teach in the science and social studies majors), students (students from class XI majoring in science 5 people from 6 classes in SMAN 1 Rengasdengklok, Karawang Regency and majoring in Social Sciences 5 people from 6 classes), School Operatos, Deputy Head of Curriculum, School Education Quality Assurance Team (TPMPS) and testimonials from parents, where they get information and feel the results of ICT-based learning felt by children. Their children, as well as their achievements while studying at SMAN 1 Rengasdengklok.

3. Results and Discussion

The results of research in the field obtained data that there were several results obtained in the implementation of ICT-based learning programs at SMAN 1 Rengasdengklok can be defined as follows: first, ICT-based learning programs with presentations in the form of videos as teaching materials so as to create fun and exciting learning conditions, Second, it encourages students to always develop the ability to use electronic media and the internet in order to be of higher quality. Based on direct observation of the learning process in English subjects, it can be seen that there is a student's ability to develop material and think critically where students discuss and give opinions about the material given during the learning process. Based on the interpretation in the research, where the implementation of ICT-based learning programs in schools produces quality students, by using ICT-based learning, they tend to be more independent, creative and innovative so as to enable them to develop all their potential. In the management of ICT-based learning programs, there is the use of digital advantages where teachers and students can communicate relatively easily without being limited by space and time as long as they can access the internet. Teachers can also upload evaluation scores and store them on the server system so that students and parents can view them online, for example through the use of e-reports which are now used in almost every school supporting ICT-based learning programs. This is in line with the opinion of Firmansyah & Saidah [16] that:

> This ICT-based learning media provides a different learning atmosphere for students and provides more varied learning resources, makes it easier for teachers to provide learning materials and resources, makes it easier for teachers to give exams, check exam results and announce grades to students, and learning can be done anywhere, anytime and anywhere as long as they can access the internet.

This study limits the ICT-based learning program to English subjects. Based on the results of interviews with the Principal, Deputy Head of Curriculum, TPMPS, TU/OPS, Committees and students at SMAN 1 Rengasdengklok, the research findings are described as follows: There are stages in planning ICT-based learning programs for English subjects,

namely, first the ICT team determines the application to be used by searching for information from books and internet networks. Second, determine a clear strategy regarding the target audience, learning, availability of infrastructure and budget. Third, the school must have a special hosting and network and be assisted by an internet network. Fourth is the preparation of teaching materials according to the demands of the curriculum in the form of topics that are in accordance with the characteristics of the subject.
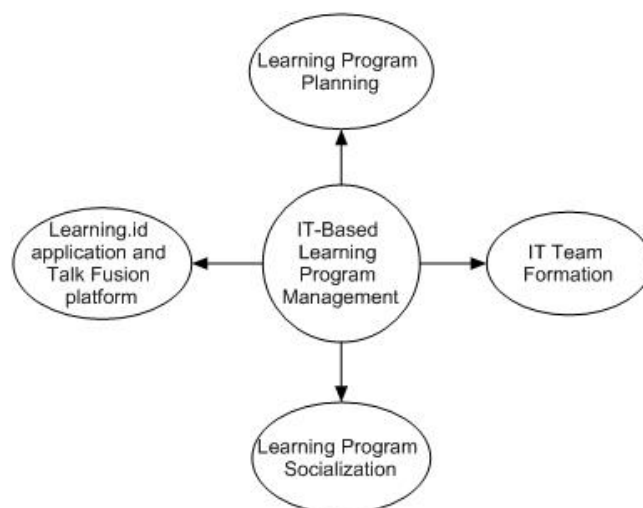
Fig. 3.1. ICT-Based Learning Program Planning Model

The implementation of the ICT-based learning program at SMAN 1 Rengasdengklok includes a number of stages consisting of: first, the learning carried out focuses on students. Second, developing teaching materials in accordance with the indicators of competency achievement. Third, learning is carried out individually and in groups based on ICT. Individually, where each student accesses teaching materials and works on questions on their respective devices or laptops. The above is supported by interviews conducted with teachers:

"In the implementation of ICT-based learning programs, teachers and students use the kejar.id application account and the Talk fusion platform that already exists on the computer, when entering the program, students must enter the class code and the subjects they have each. The teaching materials taken are in accordance with the topics to be discussed. In the elaboration activities, questions are given according to the discussion through their respective computers and are given questions that must be done at home. The results of students' answers will be listed on their respective computers. (Interview result with English teacher Tati Hartati, S.Pd)

The evaluation process as an effort to improve the ICT-based learning program used at SMAN 1 Rengasdengklok includes several things: first, helping teachers understand and in learning using computers/laptops, second, teachers are able and confident to make video-based teaching materials as well as the main actor in the video, third, designing an evaluation schedule, fourth providing formats for evaluating the achievement of results and the implementation process, fifth, helping to administrate the evaluation results.

4. Conclusion

The results of the research found at SMAN 1 Rengasdengklok have met most of the technical aspects, but there are some notes that must be considered, namely the learning culture of the students is still low. Meanwhile, in terms of facilities, the Institute has also tested the state of the network, hardware, and software as a support for learning. From a scientific point of view, SMAN 1 Rengasdengklok takes great care by conducting a series of studies on the use of the Talk Fusion platform kejar.id and applications (software). the results of the trials that have been carried out have the impact that it is time for an ICT-based learning program to be implemented at SMAN 1 Rengasdengklok. Human resources are important in ICT-based learning in addition to the budget, data availability and openness to innovation, as well as institutional support, both policies and facilities.

Based on the rationalization above, the researchers formulated the ATM (Action Teacher Model) ICT-based learning model using the kejar.id application and the Talk Fusion platform in an effort to improve student learning outcomes. The formulation of the ATM using the kejar.id application and the Talk Fusion platform is in line with the demands of learning in the era of globalization which constantly optimizes information and communication technology. This learning model that uses the kejar.id application and the Talk Fusion platform focuses on managing digital sources of knowledge and information in teaching and learning activities (KBM) so that students get a meaningful learning experience.

5. References

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