Teacher Perception of Implementation Learning Management System: CCR with Android Opensource

Zainur Rasyid Ridlo[1*], Rusdianto[1], Samsul Bahri[2], Luthfin Afafa[1]
[1]University of Jember, Jember, Indonesia
[2]Bandung Institute of Technology, Bandung, Indonesia
Email: zainur.fkip@unej.ac.id[1*]

ARTICLE INFO

ABSTRACT

The purpose of this research is mapping teacher perception on learning management system as second opinion in pandemic era. The methodology of research divided into three parts, namely preparation, action, and evaluation. The first step is preparation, include prepare to train the teacher to use CCR and android application opensourse. The second step is action, this section is most important in this research because in this section the teachers were practicing with CCR and android application within the teaching activities in online learning. After those steps, the final is evaluation, the teachers were evaluated using likert scale of the implementation of CCR and android open sourse. The result of this research is most of the teachers feel easy in accessing CCR and android opensource application.

INTRODUCTION

The term ICT (Information, Communication, Technology) is familiar in everyday life. Behind that all, ICT itself has a big role to play in people's daily lives. Even today, not a single human being can be separated from their needs related to ICT. The role of ICT in people's daily lives that unwittingly has a big impact in various fields of life. The role of ICT in fulfilling basic human needs, education, health, entertainment, and so on. At present, people who work both in large companies to micro and small businesses can be equated as illiterate people if they are not ICT literate (Thomas and Oladejo, 2017). Some people who are unwilling or slow in following ICT developments are sometimes said to be retarded. In addition, it is usually more difficult for this person to find a job or the information needed to find a job. Apart from that, in the field of education, ICT has had the same impact.

The development of ICT in education makes it easier for teachers and students to communicate, for example in distance learning so as to increase access, accelerate, and make learning more effective (Haydn, 2001). The existence of ICT makes it easier for teachers to

process the information they have about lessons that are quite difficult to explain if only done by lecturing that can bore students in learning. Some of those things that have been explained, shown that ICT currently affects various aspects of human life. Therefore, it is very important nowadays to understand ICT which is developing today and also in the past so that the history and meaning of ICT itself can be well understood so that ICT can be used wisely and responsibly in everyday life. The existence of ICT in people's lives provides dynamic changes (Ratheeswari, 2018). ICT affects every aspect of human life, starting from social life in society, such as communication, politics, and also education.

Everything about ICT also changes the way humans complete their work in everyday life. Starting in prehistoric times, actually humans have used a technology that helps humans to exchange information. However, the communication carried out at that time was very simple so that the information obtained was also very limited. The technology used at that time was the use of sound-generating devices where each sound produced had a different meaning. This makes humans continue to develop technology to make it easier for humans to communicate and obtain information. The development of ICT occurs even today, but the rapid increase that occurred started with the invention of the computer. After that, the development of computers, which were initially only used as calculators, gradually spread as hardware devices for communication. Until now, these tools can be easily found with simpler and more practical models, namely laptops. Behind all that, the invention of the internet also had a big influence on the use of computers as a communication medium and information center. This indicates the rapid development of ICT and cannot be separated from human life.

Education is one aspect that is also facilitated by the development of ICT. Since the 1980s, educators, researchers, and thinkers have studied the use of ICT and demonstrated various successes (White, 2008). In the world of education, the use of ICT was initially used more often to prepare learning materials and process the results of evaluation or assessment, and not in the learning process itself (Haydn, 2001). The emergence of the internet in 1973 provided an increase in the productivity of services in various fields and can also be used to organize learning materials more easily and more efficiently by teachers. The use of ICT in education has also begun to be discussed as a new trend in the world of education. Utilization of ICT in education also requires a new curriculum to manage and provide standards for learning so that it can be adapted to current developments and needs of ICT. In addition, the use of ICT in education is also expected to be able to provide significant changes so that the learning process can also involve a wider scope (White, 2008). The impact of ICT which provides an increase in educational achievement has also begun to attract the attention of researchers and teachers to learn more (Fernandez-Gutierrez *et al*., 2020). However, the number of ICTs that have developed also needs to be matched with teaching needs so that teachers also need to be careful in choosing the results of the ICT that will be used.

The implementation of ICT in education has goals and objectives, including applying the principle of lifelong learning, improving educational services and facilities, encouraging equal opportunities to obtain education and information, developing systems for collecting and disseminating educational information, increasing technological literacy for all citizens, especially students, develop distance education, to promote a learning culture in educational institutions (development of learning skills, expansion of optional education, open source education, etc.) (Jadhao, 2017). ICT in learning that is used is very diverse. However, it can be felt that not all of them are suitable for teaching and learning activities so that teachers must also

be able to choose which ICT is suitable for teaching. In addition, the creativity and skills of teachers can also be seen from their ability to use ICT-based learning media (Lestari, 2018).

The use of ICT in the teaching and learning process must be adapted to the subject matter to be studied (Haydn, 2001). For example, in the field of science subjects, it requires not only ICT-based media that can display material and natural phenomena (Suyatna, 2020). The characteristics of science material also require the practice needed to provide direct experience for students to carry out investigations. However, it is not uncommon for the available materials and facilities to be quite expensive and difficult to obtain. This is where the role of ICT needs to be developed not only as a delivery of material but also in practice. The emergence of virtual labs and simulations for practicum can help students in this matter so that the costs and time required are lighter. Of course, this is different from other subject areas.

The rapid development of ICT has an impact on changes in work and work organization so that the competencies required in a job also change. Currently, many countries consider that understanding ICT and mastering basic skills and ICT concepts is part of the core of education, in addition to reading, writing and arithmetic (Meshram, et al, 2017). The full role of youth in education and its contribution to the country is one of UNESCO's goals. Therefore, UNESCO advises governments in various countries to increase the use of ICT in their schools. ICT can also improve the quality of education in several ways, including increasing student motivation and involvement, facilitating the acquisition of basic skills, improving teacher training. ICTs are also transformational tools that, when used appropriately, can promote a shift to a learner-centered environment (Meshram et al., 2017).

The implementation of ICT to find learning resources usually uses the internet, namely through a search portal such as google. Even now, it is not uncommon for students and teachers to find learning resources from YouTube. Distance learning is also inseparable from the use of ICT. The internet and video calls that are used during the learning process make it possible for the teaching and learning process to occur from a considerable distance so that it can reduce costs for transportation. This is also a trend for learning that can be done from home and is commonly known as electronic learning (e-learning). E-learning is defined as learning in a way that uses ICT (Kumar, 2017). ICT provides an unlimited scope of communication for teachers and students from all over the world (Jambhulkar, 2017). Management of student learning evaluation results is also inseparable from the use of ICT in education. In this research we try to train several teachers in junior high school and evaluate the implementation of learning management system namely CCR that integrated with android open source aplications.

METHODOLOGY

The methods of this research divided into three parts, namely preparation, action, and evaluation. The first step is preparation, that contains of preparation to train the teacher to use CCR and android application opensourse. The second step is action, this section is most important in this research because in this section, the teachers were practicing with CCR and android application within the teaching activities in online learning. After those steps, the final is evaluation, the teachers were evaluated using likert scale containing questions about the implementation of CCR and android open source application. In this research we try to train several teachers in junior high school and evaluate the implementation of CCR that integrated with android open source aplications. The instrument used in this research was observation sheet of likert scale that contains of several questions to measure the teachers' responses after undergone the training. The likert scale included scale point form 1-5 points that represents the teachers' preferences. The data collected then analyzed so that can be seen in the form of graphs.

RESULT AND DISCUSSION

The teacher responses of implementation CCR and android opensourse in online teaching and learning activity is impressively shown in graph of figure below.
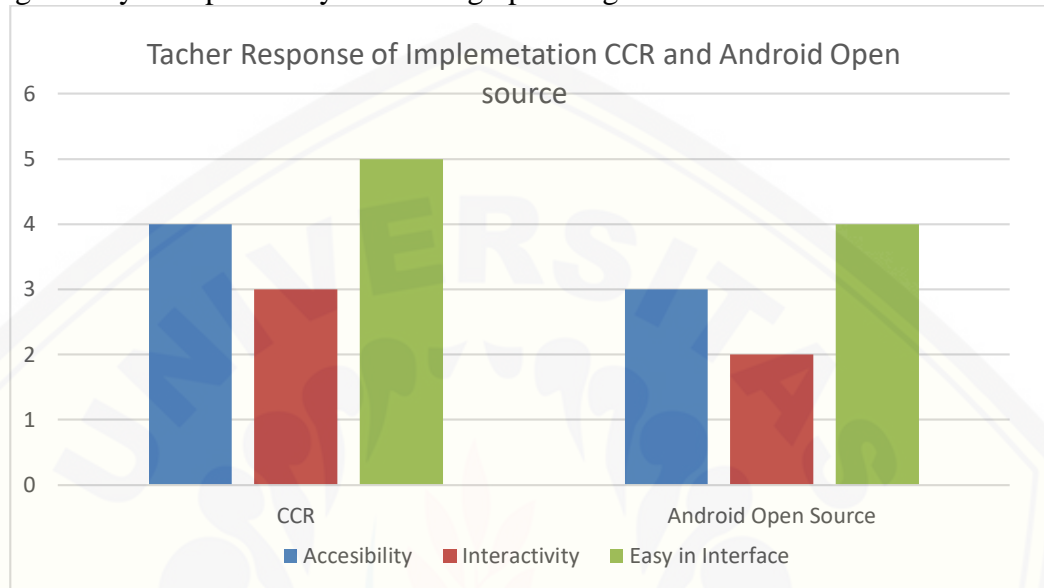

Figure 1. Teachers' Response of CCR and Android Application Open Source

From the picture above, it can be seen that the teachers' responses including three chategory, namely accessibility, interactivity, and easy in interface. The responses differentiated between the two kinds, namely responses about implementation of CCR and implementation of Android open source application. From the graph we notice that all of the three chategory of responses are higher in the implementation of CCR rather that in the implementation of android open source application.

Accessibility of CCR was higher than android open source application known can be caused by the needed of download and installation process in the way to use the android open source application, while in the way to use CCR those process was unnecessary. This result relevants to a past research done by Xu *et al.* (2017), which stated that the cloud classroom was flexible due to its accessibility, so that users' acceptance to use cloud classroom was higher.

Interactivity score of CCR also known was higher than the android open source application. It is because CCR facilitates student and lecturer in the online classroom and online assessment process in realtime. Related to the research done by Ridlo *et al.* (2020), the use of CCR in the classroom activity known can be enhanced teacher and students' interactivity. The example of the interactivity is sudent can use the emoticon provided in the CCR to show their respond to the teacher's instruction in the learning process.

Easy in interface score of CCR also known was higher than the android open source application. This happens because of the interactivity score of CCR also higher than the android open source application, which mediating the easy in interface score. So that, the teachers responded that the use of CCR was easier in the interface. Related to the research done by Ridlo *et al.* (2019), the CCR interface provides teacher to manage the learning activity especially in the formative assessment to be effectively caried out. Online learning with CCR can supports the question and answer activity to provides the more active learning process.

Jadhao (2017) state that the use of ICT in the learning and evaluation process is very important. The use of computers or laptops to process and store student learning outcomes in the form of digital data. The ability to store quite a lot of data, the ease of editing and the cost-effectiveness of not using paper is also one of the factors that made this form of ICT chosen in processing and storing student evaluation results. The technology information skills and learning management system has change to online learning system as for the example is using CCR in the classroom activity. The CCR interface shown in Figure 2.
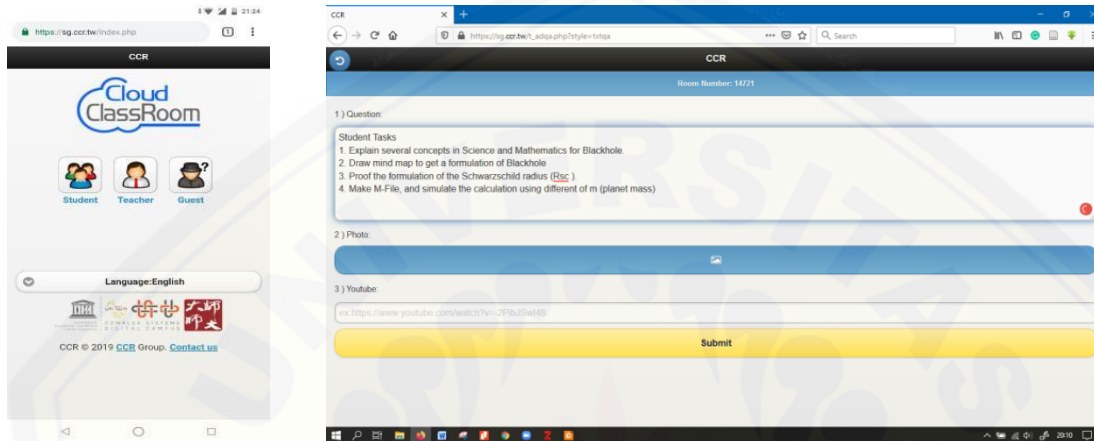

Figure 2. CCR interface

From the CCR interface above, it is shown that CCR also had a positive impact on the improvement of student response in the assessment process. The integration of CCR in the learning process can help teachers to reduce teaching load, and they can use class time to cover more relevant topics. The online assessment presents using a cloud classroom as facilitating students using a menu, direct question, quiz, and GEARS (Gamified Electronic Audience Response System).

CONCLUSION

ICT in education does not only provides benefits for teachers and students. The use of ICT in the implementation of tests or examinations conducted online can save costs and protect the environment from a lack of fresh air due to logging to meet paper needs. In addition, the implementation of the test and this learning process also helps the environment free from pollution due to the large number of transportation used (Pawar, 2017) . The effectiveness and efficiency of ICT in the world of education also makes the use of it more comprehensive in learning (Jambhulkar, 2017) . In addition, Jadhao and Jadhao (2017) state that the use of ICT in education can help improve memory retention, increase motivation, and deepen student understanding. ICT can also be used to promote group learning in problem-solving and project activities.

The results of accessibility, interactivity, and easy in interface of CCR are higher than the android open source application. ICTs allow for the formation of a rich network of interconnections and relationships between individuals. This can train students to be accustomed to collaborating and being responsible for their work so that students are more active and productive. In addition, this also provides an indirect experience for students to become accustomed to doing productive activities in the workplace later. The CCR and Android opensource application making teacher and learning process more effective and efficient.

REFERENCES

Fernández-Gutiérrez, M., Gimenez, G., & Calero, J. 2020. Is the use of ICT in education leading to higher student outcomes? Analysis from the Spanish Autonomous Communities. *Computers & Education*, *157*, 103969.

Haydn, T. 2001. Subject discipline dimensions of ICT and learning: history, a case study. *History Education Research Journal*. 2: 1-18.

Jadhao, V. K. 2017. The role of ICT in teaching learning and evaluation. In *Research Journal (The Proceedings of One Day State Level Seminar on The Role of ICT in Quality Education)* (pp. 20-26).

Jambhulkar, K.G.K. 2017. Use of ICT in Teaching–Learning Process. *Research Journal*. 26.

Kumar, A. 2017. E-learning and blended learning in orthodontic education. *APOS Trends in Orthodontics*, *7*(4), 188-198.

Lestari, I. D. 2018. Peranan guru dalam penggunaan media pembelajaran berbasis information and communication technology (ICT) di SDN RRI cisalak. *SAP (Susunan Artikel Pendidikan)*, *3*(2).

Meshram, U.P., Dhanwante, S.P., Sontakke, R.N., Kadam, A.J. 2017 Impact of ICT Education. *Research Journal*. 10-15.

Pawar, M. N. 2017. The importance of ICT for quality education in developing India. *Research Journal*, *16*.

Ratheeswari, K. 2018. Information Communication Technology in Education. *Journal of Applied and Advanced Research*. 3: S45-S47.

Ridlo, Z. R., Dafik, Prihandini R. M., Nugroho, C. I. W., and Alfarisi, R. 2019. The effectiveness of research-based learning with computer programming and highly interactive cloud classroom (HIC) elaboration in improving higher order thinking skills in solving a combination of wave function, *Journal of Physics: Conf. Series*, 1211, p. 012049.

Ridlo Z. R., Dafik, and Nugroho, C. I. W. 2020. The effectiveness of implementation research-based learning model of teaching integrated with cloud classroom (CCR) to improving critical thinking skills in an astronomy courses. *Journal of Physics: Conference Series*, 1563, p. 012034.

Suyatna, A. 2020. ICT learning media comparative studies: simulation, e-modules, videos. In *Journal of Physics: Conference Series*. 1572.

Thomas, O.A. and Oladejo, M.A. 2017. Teacher-Trainees' Perceptions of ICT (Information Communication Technology) Integration in Nigerian Teacher Education Programme. *Educare*. 10.

White, G. 2008. ICT Trends in Education. *Digital Learning Research*. 2.

Xu, J., Liu Y., Liu, Z., and Zhang, J. 2017. Study on factors that affect college students' acceptance of Cloud-Classroom, *International Symposium on Educational Technology (ISET)*, p. 99-102