



# Educational Quality Equation Through The Management Of Distance Education Information And Communication Technology (ICT) Based In Senior High School

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**Abstract-** This research describes the management of distance education to improve the quality of education. The form of management of distance education in responding to the needs of the people in the revolutionary 4.0 era is viewed from the aspects of education management, from planning, implementation, to evaluation of learning. This research uses descriptive qualitative method, which is a research method used to examine natural conditions of objects. Researchers as key instruments. Data collection techniques in this study were carried out by means of literature study, participatory observation, interviews and documentation. Data analysis is inductive. The results of qualitative research emphasize the meaning rather than generalization. The information and communication technology based distance education program in the SMAN 2 Padalarang model school was implemented with a portion of 80% online and 20% face to face. Online learning utilizes LMS (Learning Management system) technology using EDOBOX and VICOM in administration, learning and educational evaluation. The implementation of distance learning based on information and communication technology contributes to the acceleration of equal distribution of learning opportunities and improvement in the quality of education. This is evidenced by the increase in APK (Gross Participation Rate) in West Bandung Regency from 2014 as much as 51.85% to 69.88% in 2017 or an increase of 18.03%.

**Keywords:** management; education; distance

## I. INTRODUCTION

The study of distance educational management in information and communication technology-based showed advantages, it improves the educational quality equation. The study of the distance educational management has been undertaken by a number of experts; Rogantina (2017), Husaini (2014), and Aripin (2015). Their yielded researches explained that the advances of information and communication technology overcome and improve the quality of education and educational quality equation in Indonesia. The ways that the teacher and the students will perceive the online course so as to be an effective and positive educational experience(Saiyd & Sayed, 2011). Furthermore, the use of information technology in the field of education has important meaning, it is especially to equalize the educational opportunities and improve the quality of education (Buselic, 2012). The educational provider in DEM (Distance Education Mode) gives opportunity to society in obtaining equal educational services as the face-to-face educational providers (Pant, 2005).

The distance learning is a learning model which separates students from their educators. It emphasizes the principles of learning independently, structurally and guided,uses various learning resources, Renders learning media as learning sources more dominantly than the educators; replacing the face-to-face learning with the information and communication technology-based learning interactions, even though it is still allowed to provide limitedly face-to-face learning(Munir, 2017).Furthermore, according to American Journal of Distance that eeducation distance is institutionally based formal education where the learninggroup is separated and where interactive communications systems are used toconnect instructors, learners, and and resources(Holden, Westfall, & Gamor, 2010).

## Educational Management in Distance Learning

Educational management is a good benchmark to measure the quality of education (Ghasemy&Hussin, 2016). Management is a series of actions and tasks relevant to highly well-organized and effectual application of resources within the organization in order to attain organizational objectives (Sapre, 2002) and educational management may be regarded as a discipline with respect to the management of educational organizations (Bush, 2007).

An educational institution that carries out its educational management properly will produce the qualified outcomes as well (Husaini& Happy, 2019). Likewise, the utilization of well-managed educational technology may also improve the quality and quality distribution in education, so that DEP (Distance Education Program) on information and communication technology- based can be achieved (Cigdem & Tirkes, 2010). Many occurred problems in the world of education are caused by the poor managements performed by the educational institutions which responsible in conducting the education (Okonna, 2001). Web education systems, the trial operations results, and the questionnaire responses received from both staff and students are used to identify the strengths and limitations of Web based distance learning management systems.

Paul Suparno (2012) stated that the quality of education includes the quality of the curriculum, the learning process, evaluation, textbooks, teachers, facilities and infrastructure. Furthermore, it includes to get equal education, in fact, there are still many school-age children are unable to get formal education. The educational management may implement a number of stages; planning, organizing, mobilizing, and supervising, which are carried out to determine whether the stages above have achieved the goals, and the achievement are undertaken by using human resources and other resources (Badrudin, 2017).

The efforts to improve public access for having quality education has been mandated by the opening of 1945 constitution of the republic of Indonesia. Utilization of information technology in education has an important role, especially it is as an effort to equalize public opportunity to acquire equal education and to gain educational quality improvement. In the era of the industrial revolution today, education sector is demanded to follow the rapid technological developments. It is adaptable to use sophisticated and advanced information and communication technology to accelerate learning processes.

Meanwhile, the government has launched easy access education for its community from basic to secondary education level; it is the Open Distance Education (ODE). To make the Open Distance Education (ODE), the government appoints a parent school at the elementary and secondary school levels in regencies/municipal in West Java. The objective of distance education is to increase the enlargement and equation in educational access to education, as well as increasing the quality and relevance of education. Therefore, this study is focused on describing and analyzing the information and communication technology-based on distance learning policy; the planning of equalizing educational quality through information and communication technology-based on distance education program; the implementation of information and communication technology-based; and the evaluation of information and communication technology-based on distance learning on the 2nd State Senior High School in Padalarang regency west Bandung Indonesia.

## II. METHODS

This research is undertaken by using qualitative approach. It is focused on understanding community, problem or symptom occurred in community. The data are collected through finding out facts in depth as many as possible, then the data are displayed in the forms of sentences not numeric. It is a descriptive qualitative study which stressed on investigating the information and communication technology-based distance education. The information and communication technology-based is applied to equalize the educational quality on the 2nd state of Senior High School in Padalarang. The data collecting technique is the most strategic step in a study and the main goal of doing a research is getting the data (Sugiyono, 2012:62).

The researchers applied literature reviews, participative observations, depth interviews, and documentations in collecting the data. To analyze the collected data undertaken in-depth interviews, fieldnotes and documentation, the researchers organized them systematically. Then, the data were categorized, elaborated into the units, synthesized, arranged into patterns, selected the important ones and study them deeply. At last, the researchers formulate conclusions which understandable by the researchers themselves and others (Sugiyono, 2012: 89). Those data analytical steps were undergone in four patternal activities; they were collecting, reducing, reporting and concluding/verifying the data

### III. RESULTS AND DISCUSSION

The central government is the policy maker who issues the equalization of the educational quality through the information and communication technology-based distance learning policy on the 2nd State Senior High School in Padalarang regency West Bandung. It is directed to improve the quality of education and equalize the educational access for all children in this state. Based on the state constitution of number 20 year 2003, article 1 “ the right fulfillment of a child to get education is conscious and planned efforts to embody the situational and processing learnings, to enable the school-age child actively to develop her/his self-potential, to strengthen her/his spiritual religious, self-control, personality, self-intelligent, self-moral value, and skills needed by her/himself, community, state and nation.

Based on the constitution stated above that gaining compulsory education is the right of every child. Therefore, the governmental educational policy is made to enhance the equalization of educational quality. In fact, in this state that there are still many school-age children between 16 to 21 years olds who unable to continue their educations to Senior High Schools/Vocational High Schools/Islamic Senior High Schools due to various factors; the long distances between their homes to schools, the family economics matters, and the educational regulations formulated by the providers which unable them to continue their education to next levels.

Based on the Rough Participative Scores (RPC) gained from the RPC formula in Secondary School (SS) level = the number of Senior/Vocational Senior/Islamic Senior High Schools; citizens who ages of 16 to 18 X 100%. Data and information gotten from the central government and provincial government of West Java in 2013 showed that 32% or 720,000 or 230,000 school-age children between 16 to 21 years olds did not continue their educations to Secondary Schools (SS), it was relatively high in 2013. The Rough Participative Scores (RPC) of SS were still in 62.11%. It means that the national RPC SS of West Java for the school-age problems were at the second level after Papua province.

The government of West Java declared a target to achieve the RPC SS in the last of year 2018 was 83.18%. To achieve the target, the government of West Java via the provincial education authorities in West Java has released an innovative program through the Educational Devision for Specific and Service Needs (EDSSN) in fiscal year of 2016; the acceleration program of RPC SS through the Educational Devision for Specific and Service Needs (EDSSN).

The Education for Specific and Service Needs (ESSN) is an education offering for students who lives in isolated or remote areas, isolated custom society, and/or those who suffered from natural disasters, social disasters, and those whose low-economic incomes. On chapter 2, article 2 states about the goal and scope, mentioned in point one. The implementation of ESSN is aimed at providing educational access to school-age children in gaining their right for having proper education. (Ministerial education and culture regulation number of 72, year 2013, article 1, verse 1).

The Information and Communication Technology-Based Open and Distance Education is a government pilot project school. It is a government effort to accelerate the equalization of education quality in all areas. The government points the 2nd State of Senior High School in Padalarang as an opened education provider for distance ICT-Based learnings in the regency of West Bandung. The regency is chosen by the government to organize the distance ICT-Based learnings is that it has the lowest RPC scores based the yielded survey conducted by Central Bureau of Statistics (CBS) in 2013 which seated on number 22 from 27 regencies/municipals in West Java. **Picture 1** showed the model of distance learnings applied by the 2nd State of Senior High School in Padalarang. The distance learning model may reach West Bandung Regency whose students in specific needs in terms of time, distance, and economic so that they can not continue their formal education (interview with Bapak Ainun Ramdhan, S.Pd, 25 of November 2019).

The policy of distance learning implementation in the 2nd State of Senior High School is supported by a Decree of the Directorate General of Secondary Education Ministry of Education and Culture No. 1066/D.D4/Kep/DM/2014 about Determination of Distance Open Parent Senior High Schools. The school is eligible to conduct the policy in terms of managerial functions as planning, organizing, implementing and controlling to achieve the organizationa goals to equalize the education quality in the area of West Bandung regency, so that it may produce the equalization of education quality.

There have been an enhancement of Participative Market Scores (PMS) on the level of 21 from 27 regencies/municipals in West Java in 2014, then it went to the level of 19 in 2017. The success of the education quality achievement in West Bandung was influenced by the central and regency government policy to support the implementation of Distance learning ICT-Based in the 2nd State of Senior High School in

Padalarang and the following factors:

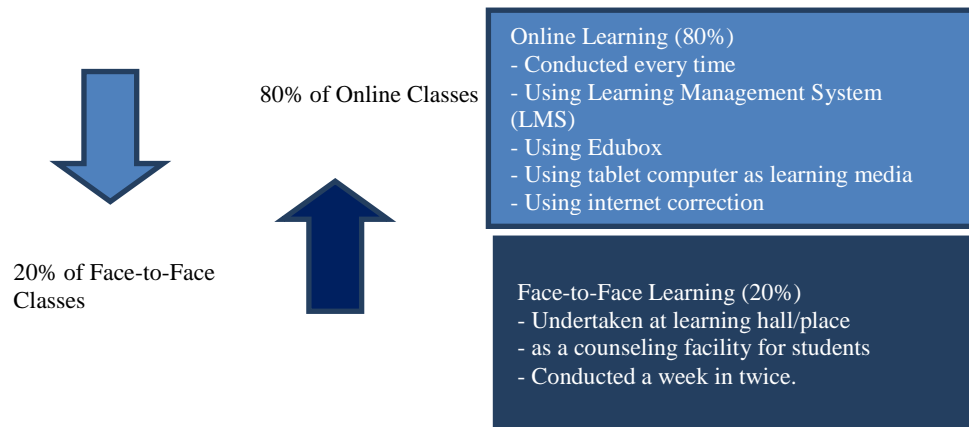
*Firstly*, there is a legal umbrella set as the instrument to influence the fruitfulness of undertaking the policy. The law instrument contains of rules that organizes the government itself to force its state apparatus to undergo its order. Then, it pushes all of the stake holders to obey it.

*Secondly*, in implementing the ICT-Based Distance Learning policy, the central and regional governments provide learners with training and coaching facilities, as well the tablet computers. In fact, providing the tablet computers may make the students enthusiastic to follow the distance learning process on the 2nd State of Senior High School in Padalarang.

*Thirdly*, the central and regional governments provide financial supports. The financial supports are the main sources to uphold the implementation of the ICT-Based Distance Learning policy.

### **Planning of Educational Quality Distance Learning Management**

The educational quality equalization through the ICT-Based Distance Learning Management is set to provide educational quality, access and relevance to learners in West Bandung regency. Then, they may get their rights to have proper educations based on the constitution. To achieve the goal, it is begun by making some plannings to manage systematic and concrete stages as follows: a. To form the managerial team for the ICT-Based Distance Learning program which consist of a chief executive, a bookkeeper, a deputy chief executive for student affair, a deputy chief executive for academic and facilities and ICT (Information, Communication and Technology), a chief executive who responsible to manage the place of learning activities. b. To collect the data relate to the equalization of educational quality is done by cooperating to locals, village and district apparatus in West Bandung regency. To register the school-age targets whose 16 to 21 years olds and those who left schools due to time, distance, economic, and culture and social matters. They will be offered to follow the ICT-Based Distance Learning Program undertaken by the 2nd State of Senior High School in Padalarang. c. To set the location for making face-to-face learning tutorial and learners' counseling in West Bandung, it is begun from the east, west, central, north and south directions. The use of learning spot set in distance learnings: 1. Learners' recruitment, 2. As central spot for making face-to-face learning tutorials, 3. To provide counseling services to students/parents (interview with Bapak Yudi Ahmad Jaenudi, S.Pd., 26 November 2019). d. To make and set learning programs by preparing learning moduls and media including facilities to administer Distance Learning Program for the open Senior High School learners in West Bandung regency (interveiw with Bapak Aif Syarif Hasan, M.Pd., a deputy of public relation in the 2nd State of Senior High School in Padalarang, 26 of November 2019). e. To set teacher/tutor to the distance learning, as follows; 1. The S1 academic qualified teachers are taken from the parent school and out of the parent school. 2. The teachers must have high commitment and determination to serve the learners. 3. They must be competent in their subjects in term of academic and qualification. 4. They are capable to organize learning materials digitally and printoutly. 5. They must understand how to use the electronic equipments into the learning activities. f. To prepare the *Learning Management System (LMS)*. g. To plan the operational funds to organize the open school and the ICT-Based Distance Learning. The financial supports can be coming from: 1. Central government assistance through the ministry of education and culture, directorate general of non-formal education in the form of operational fund and supported facilities for distance learning. 2. To use Central School Operational Fund (SOF) which the regulation issued by the ministry of education and culture. 3. To use Universal Secondary Educational Assistance (USEA) taken from Regional Revenue and Expenditures Budget (RREB) of West Java Province. 4. To use unbinding donation which coming from community (interview with BapakAifSyarif Hasan, M.Pd).



*Figure 1 Model of the Implementation of Distance Learning Programs at Padalarang High School 2*

Based on the outcome observation of the ICT-Based Distance Learning planning on the 2<sup>nd</sup> State of Senior High School in Padalarang, the organizing team which consist of a chief executive, a bookkeeper, learners, deputy of academic and facilities, deputy of ICT, and high commitment teachers in gaining the goal and result. To achieve the maximum result, it needs to make a proper planning by collecting the data relate to the number of the school-age children dropout in every district in Bandung regency by involving the district apparatus, village and people who lives around the parent schools. Secondly, to facilitate students, teachers and parents in order to have face-to-face classes in nearby places, such as a village meeting hall or at the nearby elementary school buildings, or junior high school building. Thirdly, to produce and to arrange learning programs. Fourthly, recruit teachers who have competencies and academic qualifications in their respective subject areas as well as competencies in making digital teaching materials as well as understanding the use of electronic devices for learning activities. Fifthly, in the planning of distance education must be supported by a good Learning Management System (LMS) as a medium for connecting students and teacher learning. Sixthly, operational / financial funds which are the main source for the achievement of the entire program. Therefore, finance must be available and clear sources and uses so that all operational distance education programs can reach the goal.

### **Implementation of Equitable Quality of Education**

Management of distance education is carried out by implementing independent learning using subject books that are complemented by self-study modules, digital or online media, and face-to-face / online tutoring services (tutorials).

Figure 1 shows the Learning model in Padalarang High School 2 for the Distance Education Program using an 80% online learning system 20% Face to face.



**Model of Implementation of Educational Equity Learning System** Distance learning at SMAN 2 Padalarang utilizes Information and Communication Technology Learning Management System or commonly abbreviated as LMS. It is a framework that handles all aspects of the learning process. LMS is an infrastructure that provides and manages learning content, identifies and assesses learning objectives, tracks all progress in achieving learning objectives and collects and presents data to oversee the overall learning process (Figure 2). Other Communication Media, Email, Whatsapp, Facebook, BBM, Line and others.



Figure 2 Learning Model Using Learning Management System (LMS)

The teaching and learning process in distance learning utilizes information and communication technology or Learning Management Systems. This includes: 1. Administration which facilitates matters relating to administration that are directly connected with Dapodikmen. 2. Learning can facilitate between teachers and students in terms of the delivery of learning materials, learning modules, individual and group assignments, counseling guidance and all activities related to teaching and learning. 3. Evaluation of the learning process related to Mid-Semester Assessment (MSA), Final Semester Assessment (FSA), End-Year Assessment (EYA), Computer-Based National Examination (CBNE), School Exams (SE) and National Standard School Permits (NSSP).

Distance learning curriculum uses the 2013 national curriculum or refers to the curriculum used in the parent school of Padalarang 2 Public High School. Learning material in online learning is made interactive, communicative, and interesting to improve the quality of learning, so the results can be the same or exceed the quality of learning that is carried out conventionally with face to face in class.

Utilization of Information and Communication Technology (ICT) in the world of education, has resulted in increasingly narrowing and even fusion of the dimensions of "space and time". The Distance Learning Process based on Information and Communication Technology at SMAN 2 Padalarang utilizes LMS, EDOBOX and VICOM.

**The Model for Equitable Quality of Education through Face-to-face Learning**

In the Implementation of Distance Learning at SMAN 2 Padalarang, face-to-face meetings are held 2 days a week with a time period that is not too crowded. The meeting does not have to be held at the parent school but it is held at a Learning Activity Site (TKB) that utilizes elementary, junior high school and community or village meeting centers. The functions of TKB are Administration, Meeting and skills training of students in the Distance Learning Program.

Face to face activities at the Teaching and Learning activities carried out by the tutor teacher which begins

with the orientation period of the Student Distance learning program which includes: 1. Guiding students in the implementation of distance learning activities. 2. Information tutorial activities both online and face to face. 3. Train and introduce a culture of utilization (ICT) in learning. 4. Motivating new students to grow and have confidence in learning at Open High School. Furthermore, when learning tutor assigned to teach at TKB to remind students in working on assignments and reading material from the teacher, as well as being a teacher guidance counseling for students.

### **Assessment of Equitable Quality of Education**

The assessment or evaluation of distance education programs at SMAN 2 Padalarang is carried out programmatically and continuously. The assessment revealed the facts of the obstacles and obstacles of the organization in carrying out management actions to achieve the goals of achieving the quality of education that had been previously planned.

The ICT-based distance education model emphasizes independent, structured, and guided learning. Prioritize the use of information and communication technology in the learning process in order to improve the quality of education in distance education programs. Assessment is carried out continuously based on the results of teaching and learning activities of students in distance education. Assessment of student learning outcomes in distance education programs includes assessing the attitudes of activities carried out by educators to obtain descriptive information about the social, cultural and religious behavior of students during distance learning takes place.

Knowledge assessment is carried out to measure students' knowledge mastery. Based on student learning outcomes in ICT-based distance learning. Skills assessment is done to measure the ability of students to apply knowledge in carrying out certain tasks. Examples are skills in mastering technology, art, sports.

ICT-based distance learning assessment is done by the teacher. Assessment of learning outcomes by educators is carried out on an ongoing basis to monitor the process, progress, and improvement of results, in the form of daily tests, midterm tests, end of semester tests, and class improvement tests. The assessment is used to assess students' competency achievement, and as material for preparing progress reports on learning outcomes, and to improve the learning process.

In the education unit the assessment of learning outcomes by the education unit is the final assessment carried out by the education unit to determine the graduation of students, taking into account the results of the assessment of students by educators. The assessment aims to assess the achievement of graduate competency standards for all subjects, which are carried out through the School Examination (SE). Students who take the School Examination must get a value equal to or greater than the value of the competency threshold formulated by the BSNP.

Assessment of learning outcomes by the government is carried out to assess the achievement of national competencies of graduates in certain subjects in the form of the National Examination (NE).

The achievement of the ICT-Based Long-Distance Learning Program can be measured on its quality, effectiveness, productivity, efficiency, innovation, quality of work life and work morale during the course of a process in an educational institution. Specifically relating to the quality of outputs, it can be explained that school output can be said to be of high quality if school achievement, especially learning achievement shows high achievement in academic achievement by students in the form of grades, scientific work and academic competitions, as well as non-academic achievements such as faith and piety, honesty, politeness, sports, arts, skills and other extracurricular activities.

The achievement of ICT-based long distance learning at SMAN 2 Padalarang relates to the quality of education itself. As for the results of the quality achievement, namely in the field of academics students of distance learning programs are able to show the achievement of the same learning outcomes as students who study face to face at the parent or regular school. (UN). Where 100% of students graduate can complete their education.

Student achievement in distance learning programs in race activities outside of school. 1. Joleta Budiman PON Athletes and Sea Games 2nd Field Tennis Court Forces Open High School At SMAN 2 Padalarang. 2. Participation in Science Olympiad Activities. 3. Participation in Self-motivation Motivation Competition Activities (LOMOJARI). 4. Participation in National Level Leadership Crater Activities. For graduates of open distance education programs, they can continue their education at State and Foreign Universities, 2 SMATER students have successfully continued their studies with the BIDIKMISI program at PGSD UPI and UIN, the rest are employed and are self-employed.

#### IV. CONCLUSION

This research concludes that the Equitable Quality of Education through Management of distance education is carried out by utilizing the Learning Management System (LMS) and the management of face-to-face learning is able to produce quality graduates. Equitable quality of education through the management of distance learning based on information and communication technology implements a number of management processes namely policy, planning, implementation, and evaluation of the implementation of learning, administration, and assessment carried out by utilizing technology as a media liaison between students and educators. The use of information technology makes it possible to improve the quality and equitable quality of education considering that many children aged 16-21 cannot continue schooling due to various obstacles including economic, distance, time, social and cultural factors to be able to continue their education to high school so that the presence of distance learning models far-based ICT in SMAN 2 Padalarang can answer the community's need for education that is more flexible and relevant to the times.

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