

Utilization of ICT in Online Education and Training to Enhance Academic Supervision of School Principals

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Abstract: The utilization of Information and Communication Technology (ICT) in online education and training for school principals is urgent. This ensures educational leaders have digital skills, enriches teaching methods, and improves managerial efficiency, keeping pace with rapid technological developments. For this reason, this research seeks to dig deeper into aspects of education and training evaluation, especially skills assessment for education and training participants. This qualitative descriptive research sought to describe the actual situation regarding the planning, implementation, and follow-up of skills assessment in the education and training for improving the Academic Supervision Competency of School Principals by utilizing Information and Communication Technology (ICT) at the Institute for the Development and Empowerment of School Principals and School Supervisors (LPPKSPS). The research subjects involved were instructors and principal education and training participants, with a total of six subjects. The results of this research revealed that the skills assessment in education and training developed by LPPKSPS has been designed and implemented in online education and training, and follow-up has been conducted to improve the academic supervision abilities of school principals. Through this research, it is expected that it can become the basis for similar education and training institutions when they want to integrate ICT into education and training activities so that learning outcomes can be achieved optimally.

Keywords: skills assessment, online education and training, academic supervision, school principal

Abstrak: *Pemanfaatan Teknologi Informasi dan Komunikasi (TIK) dalam diklat online bagi kepala sekolah mendesak. Ini memastikan pemimpin pendidikan memiliki keterampilan digital, memperkaya metode pengajaran, dan meningkatkan efisiensi manajerial, sesuai dengan perkembangan teknologi yang cepat. Namun penelitian ini berupaya menggali lebih dalam tentang aspek evaluasi diklat khususnya penilaian keterampilan bagi peserta diklat. Penelitian merupakan penelitian deskriptif kualitatif yang berusaha untuk mendeskripsikan keadaan sebenarnya tentang perencanaan, implementasi dan tindak lanjut penilaian keterampilan pada Diklat Peningkatan Kompetensi Supervisi Akademik Kepala Sekolah dengan Memanfaatkan Teknologi Informasi dan Komunikasi (TIK) di Lembaga Pengembangan dan Pemberdayaan Kepala Sekolah dan Pengawas Sekolah (LPPKSPS). Subjek riset yang terlibat adalah instruktur dan peserta pelatihan kepala sekolah dengan jumlah total subjek adalah 6 orang. Hasil penelitian ini menunjukkan bahwa penilaian keterampilan pada diklat yang di kembangkan oleh LPPKSPS telah di rancang dan diimplementasikan pada diklat dengan moda online, serta dilakukan tindak lanjut untuk meningkatkan kemampuan supervisi akademik kepala sekolah. Melalui riset ini diharapkan mampu menjadi dasar bagi Lembaga diklat sejenis ketika ingin mengintegrasikan TIK ke dalam aktivitas diklat, sehingga capaian pembelajaran dapat tercapai dengan optimal.*

Kata Kunci: *penilaian keterampilan, diklat online, supervisi akademik, kepala sekolah*

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INTRODUCTION

In this period of adapting to new habits, with distance learning and learning from home, school principals must still be able to carry out their duties. As is known, the new normal in learning and training is a change that occurred as a result of the COVID-19 pandemic (Erol & Danyal, 2020). This change requires all parties involved in the learning and training process to immediately adapt to the new environment and new technology. One of the most significant changes is the use of technology in learning and training (Gonçalves & Capucha, 2020)(Kabassi et al., 2016). Before the pandemic, learning and training were still mostly done face-to-face. However, the pandemic has forced all parties to switch to online learning and training (Syauqi, 2021). Based on data from the Ministry of Education, Culture, Research and Technology (Kemendikbudristek), in the 2022/2023 academic year, as many as 83.9% of schools in Indonesia used online learning (Pendidikan et al., 2021). This demonstrates that online learning has become part of the new normal in learning. Apart from the use of technology, the new normal in learning and training is also marked by changes in learning methods and approaches. Learning and training that was originally teacher-centered has now become student-centered. Students are expected to be more active and independent in learning (Bushati et al., 2012). This change requires all parties involved in the learning and training process to immediately adapt. This adaptation is essential so that educational activities can continue to run optimally.

To increase learning effectiveness, adaptation to the new normal can increase learning effectiveness by providing opportunities for students to learn independently and according to their respective learning styles (Ishaq et al., 2020). Therefore, all parties involved in the learning and training process need to immediately adapt to the new normal. This adaptation can be done by improving skills in using technology, developing new learning methods and approaches, and increasing understanding of the new normal.

As previously explained, the new normal era has brought significant changes in the world of education. This change requires school principals to carry out their duties more heavily and complexly. One of the increasingly difficult tasks of school principals is to ensure the health and safety of students, educators, and educational staff (Martines, 2021). This is crucial, considering that the COVID-19 pandemic is still not over (when the study was conducted). School principals need to ensure that all parties involved in the learning process at school strictly comply with health protocols. Another increasingly difficult task for school principals is to implement effective and quality learning. Online learning, which is one of the learning methods in the new normal era, requires school principals to develop new learning methods and approaches. School principals also need to ensure that all students have equal access to quality learning (Sabariah, 2021). Apart from that, another task of the school principal is to carry out academic supervision of the teachers in his school. Distance learning conducted in schools is not necessarily unsupervised or left to run its course (Maris et al., 2016)(Elshareif & Mohamed, 2021). The research results have shown that academic supervision has a positive and significant influence on teacher performance. In other words, good academic supervision will improve teacher performance (Haris et al., 2018). Adapting to distance learning requires school principals to be more creative and innovative in utilizing communication and information technology in carrying out their duties amidst various limitations (Fendi et al., 2021).

Under the mandate of the Minister of Education and Culture Regulation Number 36 of 2019 concerning the Organization and Work Procedures of Institutions for the Development and Empowerment of School Principals and School Supervisors, the UPT of the Ministry of Education and Culture under the Directorate General of Teachers and Education Personnel not only carries out the

preparation of school principals and school supervisors but also conducts the development and empowerment of school principals and school supervisors (Saleh et al., 2021)(Fendi et al., 2021). Therefore, LPPKSPS, as an institution providing education and training for school principals and school supervisors, is obliged to provide online education and training activities to improve the Academic Supervision Competency of School Principals by utilizing ICT.

As is known, online education and training for school principals is an effort to improve the competence of school principals in carrying out their duties and functions, which can provide the knowledge and skills needed by school principals in managing schools, developing teacher professionalism, and improving the quality of education (Zhang et al., 2021). In line with this, other research has also shown that online education and training using ICT is an effort to increase the competence of teachers and education personnel in utilizing ICT in learning (Pozo-Rico et al., 2020). This is because this education and training can provide the knowledge and skills needed by teachers and education personnel to use ICT to improve the quality of learning. Another study uncovered that research conducted by the Center for Development and Empowerment of Educators and Education Personnel (PPPPTK) Mathematics revealed that online education and training on the use of ICT could increase teacher competence in the areas of use of ICT in learning, development of ICT-based learning media, and use of ICT for research (Teeroovengadum et al., 2017). It can be seen that many benefits are provided by implementing online education and training at various institutions. In this case, the implementation of online education and training that took place at LPPKSPS was relatively good, but several things were not optimal in the use of ICT learning resources and learning outcomes.

Moreover, the use of ICT in school principal education and training is still being developed in Indonesia. This is done to improve the quality of school principal education and training so that school principals can carry out their duties more effectively and efficiently (Rahabav, 2016)(Ghavifekr et al., 2014). In addition to Indonesia, the use of ICT in school principal education and training has also been carried out in various countries, such as the United States, England, and Australia. In the United States, for example, the Educational Leadership Development Institute (Educational Leadership Institute) has developed an online principal education and training program. More than 200,000 school principals throughout the world have participated in this program (Lorensius et al., 2021). The utilization of ICT in school principal education and training is a trend that will continue to develop in the future. This is because ICT has become an important part of people's lives, including the world of education.

During the pandemic, education and training held using ICT in its implementation has its challenges. Unlike usual in its development, implementation, and follow-up, education and training are usually carried out face to face. As is known, online education and training are also considered effective in increasing competence, especially the competence of teachers (Misir, 2018)(Pozo-Rico et al., 2020). This is due to the fact that online education and training can provide teachers with the opportunity to learn independently and according to their respective learning styles (Nugroho et al., 2022). Aside from that, online education and training can provide a more interactive and enjoyable learning experience. Based on data from the Ministry of Education, Culture, Research and Technology (Kemendikbudristek), in the 2022/2023 academic year, 75% of teachers in Indonesia have taken part in online education and training (Kabassi et al., 2016). This indicates that online education and training have become a popular training method for teachers.

One of the interesting things for the researchers is how online education and training for improving the Academic Supervision Competency of School Principals by utilizing ICT is developed, implemented, and followed up. Many components/aspects of education and training can be explored so

that lessons can be learned from them. Hence, this research aims to describe aspects of education and training evaluation, especially skills assessment for education and training participants.

RESEARCH METHODS

The research method used was qualitative research (Sugiyono, 2016). The qualitative research method is based on the philosophy of positivism, used to research the condition of natural objects, where the researcher is the key instrument, data collection techniques are triangulated (combined), data analysis is inductive, and qualitative research results are more emphasizes meaning over-generalizations (Fadli, 2021).

This research was conducted at the Institute for the Development and Empowerment of School Principals and School Supervisors (LPPKSPS), Ministry of Education and Culture. The samples involved were four education and training participants, one instructor, and a learning development team, so the total number of subjects involved in this research was six people. Sample selection was carried out using a purposive sampling technique (Husein, 2019). Data collection techniques were performed using interviews and documentation (Matthew B. & A. Michael, 2009). Then, data analysis in the field in this research employed the Miles and Huberman model (Miles et al., 2016). Activities in data analysis included data reduction, data display, and conclusion drawing/verification (Matthew B. & A. Michael, 2009).

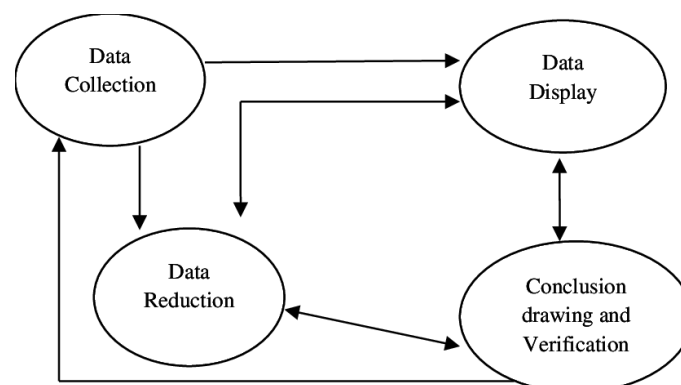


Figure 1. Data Analysis Techniques (Matthew B. & A. Michael, 2009)

RESULTS AND DISCUSSION

Among educational leaders, school principals are vital educational leaders. It is said to be vital because they are closer to the implementation of educational programs in each school. Whether educational goals are achieved or not really depends on the skills and wisdom of the school principal as an educational leader (Comim & Hirai, 2022). It can be concluded that the principal is the leader of the school. The principal is a teacher with additional duties as a principal. The role of the school principal is crucial in achieving the educational goals programmed by the government.

In this case, education and training are efforts to develop human resources, especially to develop intellectual abilities and human personality (Zainal et al., 2018). Education and training in an organization are often considered the same as the term training (*diklat*). In fact, both have different meanings. These differences can be seen in the following table:

Table 1. Differences in Education and Training

No	Aspect	Education	Training
1.	Capability Development	Overall	Specialized (specific)
2.	Areas of ability (emphasis)	Cognitive, affective, and psychomotor	Psychomotor
3.	Period	Long (long term)	Short (short term)
4.	Material	More general	More Special

From the table above, it can be concluded that education is broader than training in terms of capability development, ability development areas, and material. In addition, education takes longer than training. Based on the terminology above, it can also be inferred that the concepts of "education" and "training" cannot be separated, which are one unit. Its implementation in an institution or organization, especially in the education and training bureaucracy, is usually combined into "diklat."

Currently, the development of information and communication technology is growing very rapidly along with the development of internet technology. In this era, everyone can connect without being hindered by distance. Information that previously took a long time to reach distant places now takes only a matter of seconds for information, whether in the form of images, sound, text or video, which can be spread throughout the world easily. In this case, the development of information and communication technology has been widely used in various fields, one of which is education. "The learning process occurs because of the interaction between the person learning and the message packaged in various specific media" (Sudjana, 2010). By utilizing technological advances, educational problems continue to be solved.

In line with previous opinions, Shammam and Zahary (2020) stated that the pattern of internet use in the education sector is known as the e-learning concept. In general, e-learning can be defined as the delivery of learning, training, or educational programs using facilities such as computers or other electronic devices such as mobile phones. Many terms emerge from the e-learning concept, such as online learning, e-training, web-based learning, and blended learning. "e-learning is a general term covering many different approaches that have in common the use of information and communication technologies" (Purnama et al., 2023).

Meanwhile, the implementation of the internet in the education sector, one of which is e-learning, is defined as a distance learning concept where teachers/lecturers and students/college students can carry out learning activities outside the school/campus. By utilizing the internet, all existing routine activities can be conducted more easily. In line with that, Alam et al. (2021) define e-learning as a new learning method that combines network and multimedia technology with pedagogy and andragogy. In detail, e-learning is the delivery of learning, training, or education programs using electronic means such as computers or other electronic devices such as mobile phones in various ways (Yusriadi et al., 2022)

From several opinions that have been expressed previously, several similarities in opinion regarding the concept of online education and training were obtained. Education and training can also be called online learning, online training, e-learning, or computer-based training. All these terms refer to a concept, namely learning activities that utilize information and communication technology using multimedia via the internet network so that teachers/lecturers and students/education and training participants do not have to be in the same class.

Furthermore, online education and training cannot be separated from the need for a learning management system (LMS). LMS is a management system for providing learning services (Bervell et al., 2020). Generally, LMS is a system that is capable of developing and can be used to support all programs and learning in schools. In general, three main facilities exist in every LMS: asynchronous and synchronous communications, content development and delivery, and formative and summative tests.

All training programs basically aim to prepare employees to work effectively and efficiently in accordance with predetermined performance standards. For this reason, a training program needs to be evaluated. The purpose of this evaluation is to find out whether the program achieved its goals. A number of evaluation activities provide information about the effectiveness of a training program. Common activities carried out are as follows: evaluation in training (testing learning outcomes), evaluation of training facilitation, post-training evaluation, change actions, and comprehensive evaluation of training programs. This triangulation can be illustrated as follows:

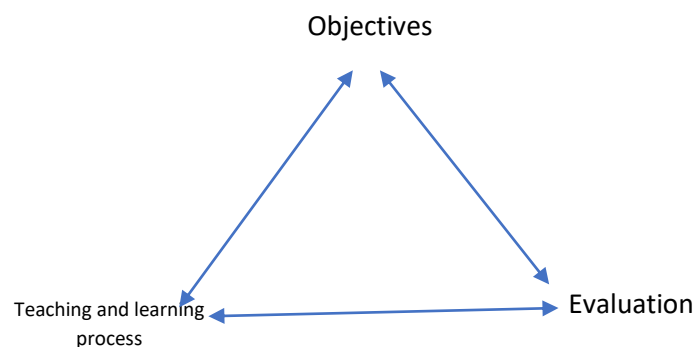


Figure 2. Evaluation Principles

On the other hand, a skills assessment is an activity carried out to measure the ability of students/education and training participants to apply knowledge in carrying out certain tasks. Suwandi et al. (2022) explain that assessment is a general term that is defined as a process undertaken to obtain information used to make decisions regarding students, curriculum, programs and educational policies, methods, or other educational instruments by an official body, institution, organization, or institute that organizes a particular activity (Sulistya, 2019).

In this case, LPPKSPS is a technical implementation unit under the Directorate General of Teachers and Education Personnel (Ditjen GTK), Ministry of Education and Culture, in the field of development and empowerment of educators and education personnel, which was established in 2009 under the name of the Institute for Development and Empowerment of School Principals (LPPKS). The organization and work procedures of LPPKSPS are regulated based on the following regulations: 1. Regulation of the Minister of National Education Number 6 of 2009 concerning the Organization and Work Procedures of School Principal Development and Empowerment Institutions; 2. Regulation of the Minister of National Education Number 39 of 2012 concerning the Organization and Work Procedures of School Principal Development and Empowerment Institutions; 3. Regulation of the Minister of National Education Number 45 of 2013 concerning the Organization and Work Procedures of School Principal Development and Empowerment Institutions; 4. Regulation of the Minister of Education and Culture Number 17 of 2015 concerning the Organization and Work Procedures of School Principal Development and Empowerment Institutions; 5. Regulation of the Minister of Education and Culture Number 36 of 2019 concerning the Organization and Work Procedures of Institutions for the Development and Empowerment of School Principals and School Supervisors; 6. Minister of Education

and Culture Regulation Number 26 of 2020 concerning Organization and Work Procedures of the Technical Implementation Unit of the Ministry of Education and Culture. Following Minister of Education and Culture Regulation No. 26 of 2020, LPPKSPS has the task of carrying out the development and empowerment of prospective school principals, principals, prospective school supervisors, and school supervisors.

This education and training program was motivated by the COVID-19 pandemic. The principal's task, especially in supervising schools, was hampered because learning was no longer face-to-face. Thus, supervision should also be implemented with the help of ICT. Efforts that can be made to improve supervision competence to present creative and innovative schools in the current context are optimizing the use of Information and Communication Technology (ICT). The utilization of ICT also provides the possibility of expanding access, which reduces the digital divide and further guarantees educational success. For this reason, LPPKSPS developed an online education and training program to improve the Academic Supervision Competency of School Principals by utilizing Information and Communication Technology (ICT). This education and training generally aim to improve the competencies possessed by school principals so that they perform as learning leaders to realize the Pancasila Student Profile.

This research is expected to obtain results that are in accordance with the stated objectives. The researchers attempt to explain the findings in the field obtained when conducting research through various methods, including interviews, observation, and documentation. From the data obtained, the researchers then carried out data reduction by taking the required data, which was then collected for analysis to obtain research results.

The research findings are divided into three parts: designing skills assessments, implementing skills assessments, and following up on skills assessments in online education and training for improving academic supervision competency of school principals by utilizing ICT organized by LPPKSPS.

Planning for skills assessment in online education and training to improve the academic supervision competency of school principals by utilizing ICT was built through five structured activity stages. The first stage was a needs analysis, followed by designing an education and training model for improving ICT competency in the supervision implementation of school principals, and then preparing education and training modules for increasing ICT competency in implementing supervision of school principals, followed by a trial of training for improving the academic supervision competency of school principals utilizing ICT, and the last one is the technical guidance for online education and training for improving academic supervision competency of school principals by utilizing ICT. During this series of planning activities, various aspects related to training development were identified. The skills assessment in the online education and training managed by LPPKSPS was designed with the aim of increasing the competence of academic supervision of training participants. The program development stage involved needs analysis by various parties to ensure its relevance and effectiveness. Evaluation of training learning outcomes was designed with an emphasis on skills assessment. The tasks given to training participants were also adjusted to the learning objectives to be achieved, in line with the theory proposing that training aims to improve the performance of school principals. This approach is also supported by research results, which confirm that training participants' awareness of the importance of training in improving individual abilities is an important key in adult learning (Jamil et al., 2023). This training was designed to be carried out fully online, but it can still be said to be blended training because it combined synchronous and asynchronous meetings in the education and training implementation. For this reason, during the design, the prerequisites for participants were also

determined so that they could participate in this training optimally. In accordance with the results of previous research, it was concluded that, first, participants who were successful in online professional development courses were in the age range of 25–34 years. Second, they understood that they had to complete the course. Third, the course login frequency was high. Fourth was "familiarity with technology," namely, participants who no longer frequently encountered technical problems (Pribadi, 2016)

Skills assessment is an important element in online education and training for improving the academic supervision competency of school principals by utilizing ICT organized by LPPKSPS. Even though it was carried out online, the assessment still included performance, products, projects, and portfolios. LMS Teams was utilized as an online learning and assessment platform because of its ease of use and has fulfilled essential features, such as asynchronous and synchronous communication, content development, material delivery, and formative and summative tests. The implementation of the online skills assessment went smoothly without any problems because participants had fulfilled the training prerequisites. This step was taken in anticipation of potential difficulties in independent learning, which could cause frustration and failure. Through a blended learning approach, combining synchronous and asynchronous learning flexibility, alternative communication channels, and active and constructive interactions were achieved in accordance with previous theories about blended learning benefits.

Regarding follow-up to skills assessments, the online education and training for improving academic supervision competency of school principals by utilizing ICT organized by LPPKSPS required participants to follow up on the results of the education and training. Participants were required to implement the results of the education and training and make practical videos regarding the implementation of online academic supervision at their school. In addition, participants also guided other school principals in their community.

The role of the school principal as a supervisor must be realized in the ability to prepare, implement, and utilize the supervision program results. School principals must also master and apply supervision principles and models. This aligns with regulations issued by the government regarding school principal competency standards, one of the competency dimensions of which is the supervision competency dimension (Rianae et al., 2020).

Supervision is the work of controlling and directing people whose positions are below them in an organization to achieve the goals (Harma & Afriasyah, 2019). If connected with the word education, educational supervision can be interpreted as supervision in the field of education. Supervision is an activity aimed at improving educational processes and achievements or providing assistance to teachers and all staff to develop better learning situations (Hardono et al., 2017). From several opinions, it can be concluded that educational supervision is a planned and continuous activity carried out to help educators improve the quality of learning so that learning objectives can be achieved.

Although this research provides valuable insight into the use of ICT-based online education and training for school principals, several limitations need to be acknowledged. First, this study only involved instructors and participants from one institution, so generalization of the results needs to be done with caution. Second, the research focus was mainly on the skills assessment aspect, with limited time and resources, which may limit a comprehensive understanding of the effectiveness of education and training. Additionally, technical aspects such as internet connectivity and ICT infrastructure elsewhere may have an impact on the reliability of the results. Therefore, further research involving a number of institutions and considering additional variables can provide a more comprehensive picture of the use of ICT-based education and training among school principals.

CONCLUSIONS AND RECOMMENDATIONS

Based on data analysis and previous discussions, it can be concluded that online education and training for improving academic supervision competency of school principals by utilizing ICT, which LPPKSPS developed, was designed with a focus on assessing skills in accordance with the education and training objectives and learning activities. The assessment process involved performance, products, projects, and portfolios, which could be done online through quality Learning Management System Teams. Participant requirements had been established to ensure optimal participation. Skills assessment was also adapted to the principal's duties in academic supervision, supporting the use of ICT. Follow-up involved various methods, including creating videos sharing good practices and ensuring that the results of the education and training could be applied practically. Suggestions for future research are that it is expected to examine in more depth the impact of implementing education and training results in the daily environment of school principals, taking into account contextual factors and situational variations. Evaluation of long-term effectiveness, ongoing support, and development of models that other institutions can adopt are also worth exploring.

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