Innovative Training and Learning Program for Future Teachers in Implementing Digital-Based School Administration in MAN Cirebon, Indonesia

by Farihin Innovation

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Abstract
The purpose of this research is to describe in depth, detail and integral the benefits of innovative training and learning programs in implementing digital-based school administration. The research approach is qualitative, especially ethnomethodology. Research locus in three State Madrasah Aliyah (MAN) in Cirebon City. Data was collected using observation guidelines and interview guidelines. During interviews, researchers are more focused on key informants, namely people who are trusted to provide valid information about the phenomenon or aspect to be studied. The results of the analysis found that education and training for teachers is needed in order to upgrade the ability of teachers to be in line with the developments in science and technology. Education and training will increase teacher innovation and creativity in all aspects, both learning tools, learning models, learning media, learning modules, textbooks, evaluation tools and follow-up. The more educational innovations, the more digital data that can be stored in school administration. The process of digitizing school administration data is very beneficial for schools, students, teachers, and all education stakeholders.

Keywords: education and training, innovation, digitization, school administration.

Introduction

The majority of educational administration programs are still low, as evidenced by the fact that there are still many schools that have difficulty providing various boring administrations made during monitoring from the education office and when monitoring from external agencies such as accreditation agencies (Mykhailyshyn, et.al, 2018). Schools are more focused on carrying out learning routines, but all files related to learning are not fully administered properly (Andrushchenko, 2000).

Many schools rely on the memory of principals and teachers, without any physical evidence in the form of well-archived hard files. As a result, lots of activity but nil in the activity file evidence (Smith, 2009). This happens because the majority of schools forget the importance of proper file (hard file) administration. Hard files that should be stored properly become scattered everywhere (Magablih, 2005), which results in all evidence of the learning process in class starting from schedules, attendance lists, learning program plans, syllabus, study contracts, questions, question papers, grades. students, and various other valuable archives are not well documented.

The teacher is just busy carrying out the learning process (Ng, 2009), so that the various separate learning administration archives are not collected into one (Serdyukov, 2017). The school principal is also busy with administrative tasks, so that the entire implementation of activities that have been planned properly cannot be properly documented (Shevchenko, 2013).

Data from The Cirebon Religious Office (2021) shows that, only 10.2% of madrasah school administration data has been made digital, 23.8% is in the process of being digitized, and the remaining 66% is still in manual data conditions. Data that is still hardcopy must be modified immediately into digital data, bearing in mind that hardcopy data has various

weaknesses, apart from taking up a lot of space, expensive maintenance costs, is easily damaged, easily lost, and carries many risks of fire, flood, natural disasters and other risks. .

Of the three Madrasah Aliyah Negeri in Cirebon City, all of them has the same problem in handling hardcopy data into digital-based soft copies. the majority of them experience difficulties in terms of: carrying out the process of migrating data into digital data (22.4%), limited storage space (24.2%), the number of human resources in the field of information and technology (IT) is still very limited (21 .4%), security factor from hacker attacks (12%).

Overall, the technology investment that must be made by each school (OECD, 2018) or by the district/city level Ministry of Religion offices should be 35% more compared to the absence of a madrasah data digitization program. If madrasas do not invest funds in procuring and maintaining servers, increasing high-capacity servers, training human resources in IT, and carrying out various data security measures, surely the data of madrasah students will always be under threat (OECD, 2016).

Currently teacher learning innovation is still low, it is proven that only 4.3% of teachers in Cirebon City are very creative and innovative, 6.2% are already creative and innovative, 12.4 are quite creative and innovative, 20.5% are not creative and not innovative, and the rest as much as 56.6% are very un-innovative and very uncreative (Cirebon City Education Office, 2021).

To increase teacher innovation and creativity in terms of developing active learning models, students can be involved using very varied learning media (Popescu & Crenicean, 2012). It will require a very large space. So far, teacher innovation is still low (Popescu & Crenicean, 2012), then with any capacity it will be enough, but when teacher innovation has increased (Safonova, 2014), then a larger space is needed.

The low level of learning innovation possessed by teachers in the city of Cirebon is inseparable from the lack of education and training attended by teachers. Data for 2022 shows that gugu who attended training between 7-10 times as much as 4.8%, 4-6 times a year as many as 6.4%, 1-3 times as many as 10.3%, and those who have never attended education and Exercise as much as 87.5%. This is very concerning, considering that there are actually a lot of education and training, but the majority are paid (Sahlberg, 2011), so teachers choose not to take part in the training on the grounds that they do not have sufficient funds for the registration process, accommodation and transportation costs while participating in education and training.

Various reasons for teachers not participating in education and training as surveyed by the Cirebon City Education Office can be seen in Table 1.

Table 1. Reasons for Teachers not participating in Education and Training

No	reasoning	%
1	Not interested	6,5
2	Don't know the practical benefits	12,8
3	Not assigned by the principal of the school/education office	18,2
4	Very busy with teaching assignments and additional duties as homeroom teacher, vice principal, head of the school level committee	8,5
5	There is no registration fee	4.0
6	There are no transportation costs to and from the training location	23,4
7	Do not have accommodation costs during the education and training process	25,6
	Total	100

Source: Cirebon City Education Office

The data in Table 1 actually doesn't need to happen because education and training certainly have great benefits in improving school administration, including in carrying out learning innovations which can ultimately improve teacher performance.

Various training related to digital-based school administration can be said to be still low (Sloman, 2005). Various types of training organized by the Cirebon City Education Office are relative to aspects of learning methods, meanwhile education and training that aims to improve teachers' abilities in carrying out learning innovations and digital-based educational administration abilities are very rare. Table 2 shows the lack of educational and training activities related to increasing the ability of digital-based education administration.

Table 2. Digital-based school administration implementation training for the last 5 years

Year	Type of Training	Participant
2022	Management of school administration	Teachers and principals
	Utilization of Educational Data	Teacher
2021	Management of school information systems	Teacher
	School Statistics data entry training	Teachers and principals
	Management of school performance data and reporting	Principal
2020	Utilization of Education Data and Reporting	Officer 'Dapodik'
	School Web Management	school admin
2019	Integrated School Administration Training	school admin
	Training on the use of national level education data	Principal
2018	School WEB management	school admin
	Increasing teacher capacity in managing digital-based school administration	Teacher

Source: Cirebon City Education Office 2018-2022

Reading the problems above, it is believed that the problems of digital-based school administration management that are owned by teachers, school principals, school education staff, and education data management and reporting officers are still very minimal. More serious and programmed efforts are needed so that the implementation of education and training in the context of increasing innovation and creativity in educational resources towards increasing the capacity of digital-based school administration management can be improved.

The novelty of this research lies in the role of education and training as an effort to increase innovation and creativity in educational resources which has implications for improving the quality of school administration on a digital basis. The novelty of this research seems very strong because so far, school administration has been done manually, or only using computer assistance, but through this research school administration has been carried out digitally which is connected to the national database center, so that the data contained in the data center and education reporting at the national level, it is real time, not dead data which is only updated once a year, but digital-based school administration data that moves all the time.

Research question

1. What is the education and training model that has been carried out by the Cirebon City education office in increasing teacher learning innovation and digital-based school administration?
2. What is the level of teacher innovation and creativity in relation to the learning process and management of digital-based school administration?
3. What is the impact of education and training for teachers in increasing learning innovation and its implications for improving the quality of digital-based school administration?

Theory

Digitizing school administration is the process of recording all school activities that are carried out in an integrated manner at the national level using a data reporting application

that is centered on a national education database that is able to provide data in real time (Smith & Fund, 2009). This database is able to provide data accurately at any time. This data is always moving dynamically which is able to provide information accurately and quickly (Kitson, 2003).

A data is said to be useful when it is presented quickly and precisely. Data that is quickly presented but inaccurate means that the data does not provide any benefit for decision making (UNESCO, 2013). Conversely, data that is accurate but presented slowly will also not be able to provide significant benefits for improving the quality of policies. Therefore, the process of presenting data must be fast and precise, so that it can be used as a basis for strategic decision making (Lee, et.al, 2013).

Education data is very important data for efforts to improve the quality of education. Complete, valid and accountable data will provide great benefits for leaders at the school level, district/city education offices, provincial level education offices, to the Ministry of Education and Culture in making the right decisions (Cirebon City Education Office, 2021) so that able to become a fulcrum for improving the quality of education nationally (Liffler & Tschiesner, 2013).

Education policies will be of high quality and be able to have a positive impact on the progress of education in a country when they are based on strong digital data, not based on manual data with a very low level of accuracy (Treven, 2003). Digital-based school administration data provides very good accuracy because it is updated at any time by all teachers and staff in the education data and reporting department in each school. Digital-based data that is updated all the time is the "heart" and lifeblood of quality education (Lippert, et.al, 2007).

Educational data related to an accurate learning process can be presented by teachers who have received education and socialization of digital-based school data management processes. Teachers who have not received education and training can be said to not have the capacity to properly manage digital-based school administrative data (Lutsan, et.al, 2015).

All learning innovations that have been carried out by teachers can be published and uploaded to the national level education database which will provide inspiration for other teachers to carry out various learning innovations (Wai, 2017). The more learning innovation data recorded in the education database, the better it will be at providing inspiration for other teachers in the region to carry out learning innovations in accordance with the capacity and local wisdom of each region where the teacher devotes himself to the educational environment (Khmelevska, et.al, 2012).

Education and training are very important things for teachers to follow, because they have a positive impact on increasing learning innovation and school administration (Jensen, 2001). Through education and training, teachers are trained to carry out practical, active, innovative, creative, effective and fun learning processes (PAIKEM). Innovative and cooperative learning will have a big impact on students' mastery of material, teacher performance, school performance, and improving the quality of teacher achievement records in school databases (Jayawardena, 2001).

Through education and training teachers are also trained to prepare for the learning process by compiling boring syllabuses, learning process plans, study contracts, daily test questions, sub-summative, summative, and final school exams. When all of this data is uploaded to the school database, it will have a very good impact on improving the quality of education nationally (Hoffman & Holzhuter, 2012).

The results of previous research (Herr, 2001) stated that through education and training, teacher learning innovation will increase. Through education and training the ability of teachers to prepare school administration tools is becoming more qualified. When teachers already have high learning innovation, it will have an impact on the quality of school

administration, because all learning innovations carried out by teachers will be properly recorded in the national education database.

Method

Research design

The research design uses qualitative. This study aims to describe in detail the understanding of teachers in the city of Cirebon regarding the benefits of education and training they have attended while serving as teachers in order to improve their teaching competence. Teaching competence is more directed at the ability to use learning methods that are practical, active, innovative, creative and fun. Furthermore, with a qualitative approach will be able to explore the meaning that is understood (Baxter, et.al, 2008) principals and teachers in terms of the ability of teachers to fulfill digital-based school administration.

Research locus

This study took the locus pthere is an educational environment (Creswell, 2012) in the city of Cirebon with the location setting of the state "Madrasah Aliyah" in the city of Cirebon, where there are only three schools. Taking the setting or research background of public Madrasah Aliyah, because this school has just made improvements to digital-based school administration in the last three years, so the effectiveness of these activities in supporting the national program in the form of developing a national education database for both public and religious schools is unknown.

Research informants

The key informant of this research is teacher Yag Suhave taught for at least one year, and have participated in teacher education and training in innovative learning, and have attended digital-based school administration training. teachers who do not meet the above criteria do not qualify as key informants (Bogdan & Biklem, 2003). Number of teachers at Madrasah Aliyah Negeri in Cilegon City, who have attended training on innovative learning and innovative learning, and have attended training on digital-based school administration.

Data collection

The data collection process uses observation guidelines dan interview guide (Crowe, 2011). The number of informants interviewed rolled like a snowball (Naderifar, et.al, 2017). Observation guidelines Table 3 is used to guide researchers in making observations so that none of the aspects to be observed are overlooked.

Table 3. Observation Guidelines

No	Observed focus	Locus
1	Teachers who are teaching	Class
2	Teachers who are utilizing innovative learning media	Class
3	Teachers who are guiding students to be creative in learning	class/outside class
4	Teachers who have just returned to attend education and training	Teacher office
5	Teachers who are uploading innovative work to the school web	Teacher office
6	Teachers who are creating learning video content	Teacher office
7	The results of learning administration are stored in the education data center and reporting	Administration room
8	The results of teacher writing related to innovative learning	Teacher's room

Observation guidelines in the form of a check list (Table 4) were also prepared to explore secondary data so that nothing was overlooked (Flyvbjerg, 2006). When the secondary data has been obtained, the checklist is marked (V) that the required data already exists, while if there is no (V) marked, it means that the data has not been found.

Table 4. Documentation data check list

No	Required documents	Classification (V)	
		Already	Not yet
1	Teacher education and training certificate		
2	Teacher learning administration files		
3	Files / products created by innovative teachers		
4	Papers/journals created by teachers		
5	Forms that have been uploaded to the school's website		
6	Files uploaded to the data center and reporting agency p		
7	School website		
8	Web Data and education reporting		

Instructions: put a check mark (V) in the specified column

Interview guidelines to guide researchers in conducting interviews (Forrest-Lawrence, 2019) so as not to get out of a predetermined theme. Interview guide Table 5 plays a very important role, because the data obtained through interviews will be used to answer research questions, so that all contents of the list of questions cannot be separated from the research themes and sub-themes.

Table 5. Interview guidelines

No	interviewed aspect	key informant
1	Have you attended education and training?	Teacher
2	If you have received any education or training, please explain	Teachers who have attended education and training
3	What aspects of innovation did you do while teaching?	Teacher
4	What methods have you used during the learning process?	The teacher is teaching in class
5	Have you ever prepared school administration documents?	Teacher
6	What aspects do you work on to fulfill digital-based education administration	Teachers and principals
7	What advantages does the Institute receive if fully digital data is uploaded?	Teachers and principals

Increasing the validity of qualitative data

To increase the validity and credibility of the data, the steps taken by the research were, first, to stay longer at the school which was the locus of research. in this case the researcher has been at school for 6-9 months. By prolonging their time in the field for 3-4 hours per day, it is hoped that all observation data will be complete, all findings related to the research theme will be complete, there will be no data that is felt to be lacking. Both do check, recheck, and cross check. This method is to filter data, so that only coherent data is used as data analysis dor field

Data analysis

This study uses an interactive model analysis model (Hox & Boeije, 2004) which includes four standard steps starting from collecting field data both primary data and secondary data, followed by data classification according to the theme or problem formulation (Meyer, 2001). After that, it is continued with data filtering, meaning that only data that is of high quality and has a high level of reliability is included in the analysis

process to answer the problem formulation (Miles & Saldaña, 2014). The final step is to make conclusions based on the typologies or themes raised in this study according to the problem formulation (Jamshed, 2014).

Result and Discussion

Education and Training for Teachers in the City of Cirebon

The results of observations on the education and training process attended by teachers, the majority were attended by junior teachers who were still poor in experience. It is they who are most often assigned by school principals to attend various trainings. The training that was attended included training on innovative learning, and training on fulfilling school administration that must be carried out by teachers, such as syllabus development, learning program plans, learning media, learning modules, developing learning grids and instruments, and learning success evaluation tools.

Based on the interview results it is known that teachers prefer to attend education and training at state expense or school fees, so they do not incur additional costs. Data 1 shows that.

> "Education and training are very important for increasing learning experience, innovation and creativity, teacher quality, and school quality. Moreover, the education and training that teachers participate in relates to educational issues, the learning process in class, educational assessment, development of teaching materials, preparation of school administration tools, learning media."

The data above is referred to by the results of previous research (Herman, et.al, 2016) which shows that, in principle, every teacher is very happy when given the task of participating in various education and training, because apart from being refreshing, they also gain knowledge and skills. The process of honing teacher skills can only be carried out through education and training, including training in fulfilling digital-based school administration.

In relation to the teaching materials that are most useful in education and training that teachers participate in, are materials that can improve the hard skills and soft skills of teachers. Data 2 states the various skills needed by teachers in developing teaching careers in schools.

> "The most appropriate learning material to be used as the basis for teacher professional development is material on hard skills including technical skills in preparing learning tools, compiling textbooks, compiling modules, compiling questions and evaluation tools, and compiling follow-up learning outcomes. Besides that, soft skills are needed such as leadership, communication, digital-based school administration literacy, and other soft skills."

Data 2 is in principle consistent with the findings of previous researchers (Grant, et.al, 2012) which says that, soft skills are far more important for teachers than hard skills, because hard skills can be learned quickly while soft skills are personalities that involve affection, adversity, and other soft skills.

It is also very important to provide education and training to teachers who so far have not received formal education either at the second or third levels. Data 3 shows that with non-degree education and training, it is hoped that teacher competence will no longer be left behind by the development of science and technology which is undergoing a rapid transformation.

> “Education and training are able to provide new knowledge that is truly in line with technological developments and the most up-to-date information. What happens, if it's been 10 years since graduating from bachelor's degree until now their knowledge has not been improved, then it is certain that their mastery of science and knowledge is

very behind so that education and training are needed to refresh and scientific adaptation based on the latest technology."

Data 3 is in principle in line with previous studies (Gibbons & Silva, 2011). Which states that, when teachers do not participate in various education and training it is certain, their level of competence will decrease drastically. Learning outcomes become inapplicable to the world of work. There is no link and match between educational outcomes and employment, as a result teachers do not keep abreast of developments in science and technology that develop outside of school.

When teachers can follow the development of science and technology, students will benefit more. Data 4 illustrates how important it is for teachers to keep abreast of scientific and technological developments to be applied in the learning process, and students will feel benefited because the knowledge gained is knowledge that is still up to date.

"Students will get various advantages when the knowledge obtained from school is the latest knowledge, so they are not left behind by the times, and when students do not continue on to higher education, the student will be able to quickly adapt to the world of work, because they have the provision of knowledge. up-to-date knowledge. It's appropriate, all teachers always update their knowledge in order to improve the quality of learning, damutu graduates of education."

Data 4 basically does not contradict the results of previous findings (Gansberghe, 2003) which states that, it is a must when teachers teach in class, the teacher teaches the latest science, which has not been left behind by the development of science itself.

Reading all of the description above, the proposition can be drawn that, when knowledge is not updated and does not receive refreshments in accordance with scientific and technological developments, this knowledge will be left behind and difficult to apply in the real world. When the competency refresher process is carried out, the competencies possessed will be able to assist in the process of solving the problems encountered.

Learning Innovation Owned by Teachers in the City of Cirebon

Based on the results of observations, the majority of teachers who are teaching them have used innovative and cooperative learning methods. The majority of the learning process is student-centered. Students have been active and skilled in expressing opinions when participating in discussions.

The results of observing the learning media used by teachers are relatively varied. The blackboard has been utilized to the fullest, the infocus has been utilized, the teacher has made PowerPoint very interesting. Learning media in the form of a laboratory has been put to good use.

Career guidance has gone well. Guidance and Counseling teachers teach career guidance in each class with one face-to-face intensity once a week for one lesson. There are also several teachers who make and upload learning videos to the school web and to the education data and reporting center, so that all students can use them according to their level.

The teacher's creativity can also be seen in the number of teacher's writings that are used for promotion rank to coach level I (group and class IVB). This creativity can be seen in the senior teachers who have occupied the rank and category of IVA, but they have to make scientific work if they want to go one level above it.

The results of interviews with teachers in carrying out innovations can be seen in data 5, where it was found that teacher innovation and creativity is largely determined by the education and training received. The more often teachers receive education and training, the level of competence of the teacher will increase, even the soft and hard skills of the teacher will also increase.

> “A good teacher is an innovative teacher. To be an innovative teacher requires well-programmed education and training. when the education office or school principals program in a structured way all types of education and training for teachers, of course the teaching staff at madrasah aliyah schools will become more efficient. Teachers become more confident in teaching, because they have knowledge that can be applied in the real world."

Data 5 is in line with the findings of previous studies (Foray & Raffo, 2014) which states that when teachers have a lot of knowledge, they will be able to innovate freely. Teachers can also be creative in carrying out their duties and functions as professional teachers. Professional teachers are teachers who are innovative and creative, have many works both in modules, textbooks, action research journals and others.

Teacher innovation can also be seen from the learning model applied in class. The more and varied learning models that are applied in class, the learning process becomes fun, not boring and the subject matter becomes easily accepted by students. Data 6 provides clues to this finding.

> "Innovative learning models can only be carried out by teachers who are creative and have a lot of literacy. Literacy is obtained by teachers from the education and training process followed. When teachers have never participated in education and training, they are far from being a source of knowledge. Like a machete, every time you want to use it, you have to sharpen it first. Likewise, knowledge must be re-sharpened when it is to be used.”

Data 6 is in line with the findings Findikoglu & Ilhan (2016) which states that, science is like a knife that must always be sharpened. A knife that is not sharp will be difficult to solve the problem. Knowledge that is sharpened at any time will be easy in solving various problems. Up-to-date knowledge will bring to a high level of welfare for the people who apply it.

Innovation is the key word for educational success. Education without innovation is like an inscription that remains unchanged. The teacher as a figure who is an inspiration for students, and as a source of knowledge should always be open to gaining new knowledge so that they are more capable of creativity.

Innovation will provide novelty for the teacher, and innovation will provide its own meaning for students. Teachers who always innovate will be liked by their students. Teachers who do not innovate will become static teachers who find it difficult to get criticism, feel most self-righteous, and are less open with others change. They find it difficult to adopt changes. Data 7 provides evidence for this finding.

"Teachers who are open will easily accept the process of change and development of science and technology. They will easily innovate and easily adapt when there are changes. The innovations made by the teacher become an inspiration for students and for other teachers. Innovations in terms of learning methods, learning media, learning outcomes assessment instruments, to innovations in dealing with students who are not quick enough to accept subject matter."

Data 7 in principle does not differ much from previous findings (Elmore, 2002). who said that, inspiration, dedication, innovation, and various things related to updating subject matter, learning methods, learning media, learning evaluation tools are things that must be done by teachers. At present it has become a necessity, for every teacher who wants to teach optimally (powerfully), they must always receive an injection of new knowledge that is able to provide enlightenment and prosperity for mankind.

Reading all the findings above, a second preposition can be formulated, in accordance with the second problem formulation: "When you want to make a change, the key word to do

is innovation. One's ability to innovate will be reflected in the ability to carry out various creativity. Creativity will only emerge when a person has sufficient up-to-date knowledge."

The impact of education and training in increasing learning innovation and strengthening the quality of School Administration Management

Based on the results of observations on school administration prepared by the teacher in the form of syllabus, learning program plans, question papers, questions with various uses, assessment guidelines, instructional media, and various other learning tools. All administrative equipment is uploaded by the teacher in the education data and reporting center. All of these files can also be used for teacher certification administrative files and teacher promotion. Certified teachers are required to prepare teacher performance forms in each semester, so that fulfilling school administration for certified teachers is very easy.

Based on the results of interviews with teachers who have attended education and training, have also carried out various learning innovations, it is known that allthe learning process requires documents that must all be archived in the data center repository and education reporting on a national scope. In a sense, all learning evidence is stored digitally in a special folder in the Ministry of Education and Culture. Data 8 provides evidence for this finding.

> "Digital-based school administration starts with complete teacher activities. The data will be meaningless when teacher performance and innovation are low. the data becomes monotonous, meaningless and only mechanical when the data reported is only daily activities, not creative innovation data from teachers both in terms of learning materials, learning media, textbooks, teacher research results in the field of learning."

Data 8 is in accordance with previous findings (Daft, 2010) which states that, teacher innovation in the field of learning provides empirical evidence of the high quality of the learning process. Data on the quality of the learning process will be collected by the school and internal and external stakeholders which will give meaning to the completeness of the school administration. When the data is neatly stored in a digital database, it will have a positive meaning for improving the quality of education in general.

The process of completing complete digital-based school administration data provides important meaning not only for schools, education offices and other education stakeholders, but can be used as a basis for the state in making decisions related to education policy. Even the quality of education in a country will be determined by the mastery of the data it has. Data 9 provides empirical evidence of the correctness of these findings.

> "Digitalization of school administration provides a broad meaning for the safety of the data itself. In addition, digitalization of school administration provides assurance to teachers, principals, students and all stakeholders that the data that has been stored will remain intact, neat and ready to be downloaded anytime and anywhere. In fact, the data can also be downloaded by anyone, so that it can provide strategic meaning for the advancement of education itself."

Data 9 as explained above is in accordance with the findings of previous researchers who (Campbell, 2001) stated that, digitizing school administration data is very urgent, because so far the majority of data is not organized and stored neatly, so when needed it is not found or even lost. With the digitization of school administration data, data on students since the school was first established until today is completely available.

Digitizing school administration data is non-negotiable. If a school does not digitize, it can be said that the school is ignorant of the security of education stakeholders' data. As is known, school data is not only needed by schools but also needed by many parties, especially

internal and external stakeholders. Data 10 explains how important it is to manage digital-based school administration data.

> "Digitalization of school administrative data has started to run well. They not only create digital data for editing from now on, but also create digital data for existing archives that have been stored manually in highly vulnerable safes. The digitalization of school administration data is a reflection of the school's ability to give confidence to the public in the quality of school processes and management."

Data 10 is reminiscent of previous research (Brewer & Tierney, 2012) that, a good and quality school can provide data quickly and accurately with the help of a good digitalization system. Digitizing school administration data starting from student registration, HR, curriculum, learning process, management, facilities and infrastructure, assessment, and financing are all stored digitally which can be accessed.

Teacher innovation in preparing learning tools, learning media, learning models, assessment tools and follow-up learning must contribute to the process of digitizing school administration. Learning innovations that are varied from various aspects will provide good variation in the process of digitizing school administration.

Based on the research findings and discussion, the third proposition can be formulated according to the research question, "When teachers take part in various educational and training activities that are appropriate to their duties and functions, this will have implications for the high level of teacher innovation in various matters including in preparing learning tools. When the two things above can be implemented properly, the process of digitizing school administration will also run well."

Conclusion

The results of the research and discussion led the researchers to conclude that, the education and training provided to teachers will be able to improve teacher competence in accordance with current developments in science and technology. Without going through education and training, teacher competencies are left far behind, and the learning outcomes absorbed by students cannot be applied to the real world, including the world of business and industry.

Education and training received by teachers and various knowledge that has been internalized in the teacher's mindset will provide encouragement for teachers to carry out creativity and innovation both in preparing subject matter, learning media, learning models, assessment tools and follow-up strategies. With these various innovations the learning process becomes fun and students don't easily feel bored.

All the results of learning innovations that have been created by teachers will be better utilized when teachers are able to carry out digital-based school administration. This means that all teacher products can be safely stored in deviation devices owned by schools and the education office, including stored in the Directory of the Ministry of Education and Culture.

From the series of three research themes, it can be concluded that when teachers receive education and training, the teacher's innovation level increases. When teacher innovation is stored both in the directories of the education office and the ministry of education and culture. It is this digitalization of centralized school administration data at the national level that can be used by the ministry in making policies that are bottom up, and not top-down policies.

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