Utilization of Information and Communication Technology in Learning by Elementary School Teachers

Lilis Badriah[1], Eigis Yani Pramularso[2]
[1]SDIT Nurul Fikri Depok, Indonesia
[2]Management, Universitas Bina Sarana Informatika, Indonesia
lilis.badriah@nurulfikri.sch.id[1], eigis.eyp@bsi.ac.id[2]

ABSTRACT

This research aims to know the utilization of information and communication technology of teachers in learning planning, learning process, and evaluation of learning at SDIT Nurul Fikri Depok. This type of research uses surveys with quantitative and qualitative descriptive data analysis. Sampling techniques use simple random sampling regardless of population level. Data retrieval techniques by giving questionnaires to teachers SDIT Nurul Fikri a number of 32 people. The results showed that the utilization of information and communication technology in learning planning is very high with a percentage of 86.63%, the utilization of information and communication technology in the learning process is very high with a percentage of 81.88%, the utilization of information and communication technology in the evaluation of learning is very high with a percentage of 86.67%. Overall the utilization of information and communication technology in learning by class teachers at SDIT Nurul Fikri is very high with a percentage of 85.06%.

———————————— ◆ ————————————

A. INTRODUCTION

In the current era of globalization, the rapid development of information and communication technology affects all areas of life. One of the areas related to the development of information and communication technology in the field of education. Advances in information and communication technology that are well optimized in their use by educators are expected to bring positive value in supporting more effective learning. In developing the learning process one of the right choices is to use technology as a medium or source of learning carried out (Idris, 2015).

One of the challenges related to technology is mastery of the technology itself. The willingness and ability of a teacher also determine the motivation in the use of technology as a medium in learning. Teachers must be able to keep up with the development of technology and be able to adapt to it. Teachers are expected to have a passion for facing the challenges of technological development by understanding and optimizing their utilization in improving the quality of learning in schools. Indonesia's human resource development goals can be achieved in line with indonesia's educational goals in the future with the joint development in the development of science, technology, art, and competencies that are certainly adapted to the curriculum developed (Puspita Sari and Setiawan, 2018).

Research by (Nugroho, 2013) shows in learning at SMK RSBI in the Field of Electrical Engineering Expertise in DIY utilization for information and communication technology in general including high. Research by (Iman, 2015) that the utilization of information and communication technology in planning, learning process, and evaluation of learning by teachers of SMPN 1 Ungaran generally has a very high category. Research conducted by (Restiyani, Juanengsih, and Herlanti, 2014) showed in the use of ICT as a medium in the study of the field of biology studies MAN in South Jakarta has been categorized sufficiently and achieved a very good category as a source of learning.

According (Budiana, Sjafirah and Bakti, 2015) to Communication Information Technology in learning as a medium in presenting during learning and as a learning medium conducted independently. According to (Hanafy, 2014) learning becomes the process of gaining knowledge, forming attitudes and beliefs, as well as mastery of skills for learners given by educators. According (Sugiyanto, Kartowagiran and Jailani, 2015) the learning process is the implementation or implementation of planned learning that includes preliminary activities, core activities, and closing activities.

The use of information and communication technology is a concern in learning. Therefore, the research was conducted to be a clue as to the extent to which teachers, especially in SD IT Nurul Fikri have been optimal or not to the utilization of information and communication technology. The potential and competence of existing teachers becomes important to know whether the existing potential has optimized information and communication technology or not.

SDIT Nurul Fikri is an integrated Islamic primary school that has a vision to become a reference school in the development of generations. One way to realize this vision is through the use of information and communication technology owned by the school. The use of information and communication technology appropriately by teachers is certainly expected to improve the quality of learning ranging from learning planning, learning process, to evaluation of learning.

The novelty of this research with previous research is a different object. This study tried to take objects at the elementary school level and private status. The collection of this research object is different from previous research that took learning objects at a higher level and all fall into the category of public schools, namely at SMPN 1 Ungaran for research (Iman, 2015), at the SMK RSBI level in the Field of Electrical Engineering Expertise in DIY by his research (Dwi Herlina, 2020) and MAN in South Jakarta by research (Rusi Restiyani, Nengsi Juanengsih, 2013).

Based on the above, researchers conducted research aimed at knowing about the use of information and communication technology in learning by class teachers at SDIT Nurul Fikri.

B. METHODS

In the research, one of them is certainly related to the time and location of the research. This research was conducted from January 2019 to April 2019. The research was conducted at SDIT Nurul Fikri which is located at Jalan Tugu Raya No. 61 Depok City.

The type of research used is survey research (Story and Tait, 2019). Survey research is usually conducted data collection at a certain point in time with the aim of describing the nature of existing conditions, or determining the existing relationship between certain events or identifying standards against existing conditions that can be compared (Ary Gumanti, Yunidar and Syahruddin, 2016). The approach taken in this research uses quantitative and qualitative descriptive.

The data retrieval techniques used in this study used questionnaires or questionnaires. instrument list of questions given in the questionnaire can be in the form of questions, ceklist, and

scale (Noor, 2013). The questionnaire is used to measure the utilization of ICT in planning, processing and evaluation of learning. The questionnaire used is designed based on the likert scale, which contains a number of statements about the object to be revealed. Likert scale in this study consists of 5 alternative answers that are very high, high, medium, low, very low.

In this study as a population are all teachers who serve as class teachers in SDIT Nurul Fikri. Samples are part or representative of the population studied or part of the population (Riduwan and Kuncoro, 2008). Sampling techniques use simple random sampling or use random means regardless of population level. The samples in this study were SDIT nurul fikri class teachers a number of 32 class teachers who were randomly encountered.

With regard to research instruments, this study includes descriptive research types. Arikunto in (Kamelta, 2013) explained that: "Descriptive research is a study aimed at collecting information about the status of a symptom that exists, the symptom in question is a symptom that is according to what it is at the time of research" . Ict utilization data in learning is known by calculating percentages (Kamelta, 2013):

$$P = \frac{f}{N} x \ 100\% \qquad\qquad (1)$$

Description: P = Percentage of answers; f = Frequency of respondents' answers; N= Total Frequency

After obtaining the percentage of answers respondents are then given an interpretation or assessment of the results of the study. Researchers use the method of interpretation according to Arikunto in (Kamelta, 2013) as in Table 1 below:

Table 1. Category Percentage Value

No	Percentage Interval	Limit Category
1	0 - 20 %	Very low
2	21 – 40 %	Low
3	41 – 60 %	Moderate
4	61 – 80 %	High
5	81 – 100 %	Very high

Source: Arikunto in (Kamelta, 2013)

C. RESULT AND DISCUSSION

The utilization of information and communication technology in learning by class teachers at SDIT Nurul Fikri from 11 indicators provided is used to know the level of utilization of information and communication technology, each indicator will be tabulated data to obtain the frequency and percentage of each learning planning, learning process, and learning evaluation. Then it will be described the results of the utilization of information and communication technology in learning by class teachers at SDIT Nurul Fikri Depok city as shown in Table 2, Table 3, and Table 4.

Here is a table showing the utilization of information and communication technology for learning planning:

Table 2. Learning Planning

No	Indicators	Frequency of Respondents' Answers	Total Frequency	Percentage	Category
1	I create learning tools such as syllabus and RPP by utilizing a computer	153	160	95,63%	Very high
2	I prepare teaching materials by utilizing multimedia	132	160	82,5%	Very high
3	I do the development of learning media such as videos and images by utilizing the internet network	140	160	87,5%	Very high
4	I use additional references such as online articles and e-books as a source of teaching materials by utilizing the internet network	117	160	73,13%	High
5	I store some learning archives such as Syllabus, RPP, Semester Program, and Annual Program using a computer	151	160	94,38%	Very high
	Average Total	138,6	160	86,63%	Very high

Source: Primary Data processed by researchers, 2019

Here is a table showing the utilization of information and communication technology for the learning process:

Tabel 3. Learning Process

No	Indicators	Frequency of Respondents' Answers	Total Frequency	Percentage	Category
1	I use a power point in delivering classroom learning materials by utilizing an LCD projector	141	160	88,13%	Very high
2	I use videos from the internet to clarify abstract learning materials by utilizing an LCD projector	137	160	85,63%	Very high
3	At the time of learning I provide assignment information through ms. word screen display or power point by utilizing lcd projector	115	160	71,88%	High
	Average Total	131	160	81,88%	Very high

Source: Primary Data processed by researchers, 2019

Here is a table that shows the utilization of information and communication technology for learning evaluation:

Tabel 4. Learning Evaluation

No	Indicators	Frequency of Respondents' Answers	Total Frequency	Percentage	Category
1	I give students questions	141	160	88,13%	Very high

	about prep exercises that have been typed to students using a computer				
2	I give students a typed daily replay using a computer	145	160	90,63%	Very high
3	I keep an archive of students' daily grades by utilizing a computer	130	160	81,25%	Very high
	Average Total	138,7	160	86,67%	Very high

Source: Primary Data processed by researchers, 2019

1. **Learning Planning**

   Based on table 2 above the results of respondents' answers to each statement submitted, the respondent's answer category is obtained about the utilization of information and communication technology in terms of statement-based learning planning, i.e. most of the respondent's answers are in the very high category. Statements with very high answer categories are in the statement of making learning tools such as syllabus and RPP by utilizing computers is 95.63%(very high), while the lowest statement of respondents' answers is in my statement using additional references such as online articles and e-books as a source of teaching materials by utilizing the internet network which is 73.13%(high). It can be concluded that as many as 86.63% stated that the utilization of information and communication technology in learning planning is categorized as very high.

2. **Learning Process**

   Based on table 3 above the results of respondents' answers in each statement submitted, the respondent's answer category is obtained about the utilization of information and communication technology in terms of the learning process based on statements, that is, most of the respondent's answers are in the very high category. The statement with a very high answer category is in my statement using power points in delivering learning materials in class by utilizing lcd projectors is 88.13%(very high), while the lowest statement of respondents' answers is on the statement I provide task information through the screen display ms. word and power point by utilizing the LCD projector is 71.88%(high). It can be concluded that as many as 81.88% stated that the utilization of information and communication technology in the learning process is categorized as very high.

3. **Learning Evaluation**

   Based on table 4 above the results of respondents' answers in each statement submitted, the respondent's answer category is obtained about the utilization of information and communication technology in terms of evaluation of learning based on statements, i.e. most of the respondent's answers are in the very high category. The statement with a very high category of answers is in my statement giving the daily reworked questions that have been typed to students by utilizing the computer is 90.63%(very high), while the lowest statement of respondents' answers is in my statement to keep an archive of students' daily grades by utilizing a computer that is 81.25%(very high). It can be concluded that as many as 86.67% stated the utilization of information and communication technology in the evaluation of learning is categorized very high.

   Based on the results of the calculation can be done recapitulation of the respondent's answer whose results can be seen in the following Table 5.

Tabel 5. Utilization of ICT in Learning by SDIT Nurul Fikri Class Teachers

No	Indicators	Percentage	Category
1	Learning Planning	86,63%	Very high
2	Learning Process	81,88%	Very high
3	Learning Evaluation	86,67%	Very high
	Total Average Percentage	85,06%	Very high

Source: Primary Data processed by researchers, 2019

Based on Table 5 above, it can be known that the utilization of information and communication technology in learning by SDIT Nurul Fikri Depok teachers both in learning planning, learning process, and learning evaluation falls into a very high category of 85.06%. This research is also in accordance with the research that has been conducted by (Nugroho, 2013), (Iman, 2015), and (Restiyani, Juanengsih and Herlanti, 2014) which in his research describes in general the utilization of information and communication technology used in high and very high categories, as well as very good in learning activities.

D. CONCLUSION AND SUGGESTIONS

Based on the results of research on the utilization of information and communication technology in learning by teachers at SDIT Nurul Fikri Depok, it can be concluded that the utilization of information and communication technology in learning planning is very high with a percentage of 86.63%, the utilization of information and communication technology in the learning process is very high with a percentage of 81.88%, the utilization of information and communication technology in learning as a whole is very high with a percentage of 85.06%.

Based on experience during research on the utilization of information and communication technology in learning by teachers at SDIT Nurul Fikri Depok, researchers can provide suggestions that teachers should continue to improve the use of ICT such as internet use to find additional learning resources and computer use to store daily value and other important data related to learning. Teachers should also equip and develop themselves to the ability to master information and communication technology, so that the utilization of ICT in planning, process and evaluation of learning can run well in accordance with the goals to be achieved. Then for schools are expected to continue to improve facilities and facilities that support the utilization of ICT in learning by teachers such as the availability of computers in each class and an adequate internet network, and schools can create training programs to improve the utilization of ICT by teachers so that the planning, process, and evaluation of the resulting learning can achieve the expected goals.

REFERENCES

Ary Gumanti, T., Yunidar and Syahruddin (2016) *Metode Penelitian Pendidikan*. Jakarta: Mitra Wacana Media.

Budiana, H. R., Sjafirah, N. A. and Bakti, I. (2015) "Pemanfaatan Teknologi Informasi Dan Komunikasi Dalam Pembelajaran Bagi Para Guru SMPN 2 Kawali Desa Citeureup Kabupaten Ciamis," *Dharmakarya: Jurnal Aplikasi Ipteks untuk Masyarakat*, 4(1), pp. 59–62. doi: 10.26858/pir.v2i2.10002.

Dwi Herlina, E. (2020) "Pemanfaatan Teknologi Informasi Dan Komunikasi Sebagai Media Pembelajaran Mata Pembelajaran Prakarya di MTS Negeri 5 Demak," *G-Couns: Jurnal Bimbingan dan Konseling*, 4(1). doi: 10.31316/g.couns.v4i1.462.

Hanafy, M. S. (2014) "Konsep dan Pembelajaran," *Lentera Pendidikan*, 17(1), pp. 66–79. Available at: http://103.55.216.55/index.php/lentera_pendidikan/article/viewFile/516/491.

Idris (2015) "Efektifitas Penggunaan Teknologi Informasi dan Komunikasi dalam Pembelajaran

Pendidikan Agama Islam," *POTENSIA: Jurnal Kependidikan Islam*, 14(2), pp. 175–190. doi: 10.1073/pnas.101304298.

Iman, F. N. (2015) *Pemanfaatan Teknologi Informasi Dan Komunikasi Pada Pembelajaran Oleh Guru-Guru Smp Negeri 1 Ungaran Dalam Rangka Implementasi Kurikulum 2013*, *Universitas Negeri Semarang*.

Kamelta, E. (2013) "Pemanfaatan Internet oleh Mahasiswa Jurusan Teknik Sipil Fakultas Teknik Universitas Negeri Padang," *CIVED*, 1(2), pp. 142–146.

Noor, J. (2013) *Metodologi Penelitian: Skripsi, Tesis, Disertasi, dan Karya Ilmiah*. Jakarta: Kencana.

Nugroho, E. (2013) *Pengaruh Persepsi Guru Tentang TIK Dan Motivasi Kerja Guru Terhadap Pemanfaataan Teknologi Informasi Dan Komunikasi Dalam*. Yogyakarta.

Puspita Sari, A. and Setiawan, A. (2018) "The Development of Internet-Based Economic Learning Media using Moodle Approach," *International Journal of Active Learning*, 3(2), pp. 100–109.

Restiyani, R., Juanengsih, N. and Herlanti, Y. (2014) "Profil Pemanfaatan Teknologi Informasi Dan Komunikasi (TIK) Sebagai Media Dan Sumber Pembelajaran Oleh Guru Biologi (Penelitian Deskriptif di MAN se-Jakarta Selatan)," *Edusains UIN Syarif Hidayatullah*, 6(1), pp. 49–66. doi: 10.15408/es.v6i1.1100.

Riduwan and Kuncoro, E. A. (2008) *Cara Menggunakan dan Memaknai Analisis Jalur (Path Analysis)*. Bandung: Alfabeta.

Rusi Restiyani, Nengsi Juanengsih, Y. H. (2013) "Profil Pemanfaattan Teknologi Informasi dan Komunikasi (TIK) Sebagai Media dan Sumber Pembelajaran Oleh Guru Biologi," *Journal of Chemical Information and Modeling*, 53(9), pp. 1689–1699.

Story, D. A. and Tait, A. R. (2019) "Survey Research," *Anesthesiology*, 130(2), pp. 192–202. doi: 10.1097/ALN.0000000000002436.

Sugiyanto, S., Kartowagiran, B. and Jailani, J. (2015) "Pengembangan Model Evaluasi Proses Pembelajaran Matematika Di SMP Berdasarkan Kurikulum 2013," *Jurnal Penelitian dan Evaluasi Pendidikan*, 19(1), pp. 82–95. doi: 10.21831/pep.v19i1.4558.