

Chapter Two

Literature Review

This chapter shows the literature review related to the teachers' point of view in implementing ICT for the special needs' students with hearing impaired. There are several important points mentioned in this chapter. For the first is the definition of ICT, the devices of ICT, ICT in education, then the explanation of special needs students, following by the explanation of hearing-impaired students, then the importance of ICT for hearing impaired students, and the last is the previous related research. The following part will be discussed below.

Definition of ICT

ICT is an acronym that stands for Information and Communication Technology. Information and communication technology stay to develop along with the eras. That is why, ICT is also playing an important part in this modern society. ICT grow so fast in this modern era and brings the significant changes in our life. ICT can use to be the key instrument for this daily life to process all the aspects in humans' life. Also, ICT can be the tool for this era to help the poverty as mentioned in Sustainable Development Goals by UNESCO, (Niebel, Kopp, & Beerfeltz, 2013).

ICT provides society with various information and also give a brand-new system in communication capabilities. According to Niebel, Kopp, & Beerfeltz (2013), ICT covers all of the technical tool and facilities that can save, progress, and also handover many categories of data in digital formula. The human being will automatically do the same thing. Furthermore, as mentioned by

Polla (as cited in Sukinah, 2011), Information and Communication Technology can be used as the media knowledge that is about convergence of computer, telecommunication, and learning process. It can be explained that all the needed by human being can be found in ICT because ICT covers all of the things. Therefore, ICT also can keep our needs, allocate where we want to place, etc. This statement is in line with the study by Munir (n.d) who said that ICT is the use of electronic tools, especially computers to keep, analyze and allocate any information, including words, numbers and images. Adding by Kadir (2003), information technology includes hardware and software to carry out one or a number of processing tasks data such as taking, conveying, storing, and recovering, also manipulate or display the data. Furthermore, as found by Yekini and Lawal (2012), ICT is a set of tough features consisting of computer hardware, software, telecommunications networks, which are the basis of information systems.

To sum up, from that kind of information and opinions by the expert above, the researcher can conclude that ICT is tool that everybody knows for creating, sharing, and looking for the information that humans' needs. ICT also gives the positive impacts to this life because ICT helps all the humans' life. A right way to think about ICT is that, ICT is useful to consider that all needs of digital technology that benefit to help individualism, business, and all aspects in this life.

ICT in Education

Education has spread widely into several fields, include education. Education makes a lot of changes, and one of them is the development of using technology to support the teaching and learning process. The technology that uses in education is using ICT for developing the learning process. In this modern era, almost all of the schools are integrating ICT in their teaching and learning process. ICT has brought the high development in educational field.

It is proven by Jenson, Taylor, and Fisher (2010), they stated that teaching and learning in modern era has enabled by and supported by ICT. ICT also becomes the vital role in teaching and learning process. It is in line with Maida (2015) who stated that ICT being a primary tool to increase the teaching and learning process. More than that, ICT is benefited for both teachers and students inside the classroom. It is proven by Meyer & Rose (2005) who stated that the integration of ICT and education served a differential instruction inside the classroom, and it will make both teacher and students are feel beneficial. The other experts also mentioned that by using ICT in teaching and learning process, it makes the information is not limited anymore, especially in school hours. Similarly, we can access it anytime and anywhere (Suryani, 2010). Moyle (2006) confirmed that ICT in education make the students can accept, learn, and implement in their learning process. Moreover, as stated by Adonis (2006), the use of ICT will make the students good at literacy and numeracy. Why? It is because if one of the devices (re: Microsoft Word) is using by the students, will automatically make the students love to write and they will enjoy while typing.

The other experts mentioned that the correlation between ICT and education is very close. The implementing of ICT in education clearly make students' achievement is raised, (Akram & Rather, 2019). Also, as stated by Youssef and Dahmani (2013), both teachers and students are feeling the same benefit.

In conclusion, there are many benefits that came up into the educational field. As mentioned above, both teachers and students are feeling benefited if ICT is implementing in education. However, the correlation between ICT and education cannot escape from the role of the teacher itself. Furthermore, the more explanation of the role of teacher in ICT and education are described below.

Special Needs Students

School education is the important part of this life that being expected by every student. In education with special needs students, new responsibilities and new recovery are needed here. In Indonesia, based on the data from BPS (2012), that number of children with special needs continues day by day, time by time, an over time. As data statistic below, we can see that the days left, the more numbers are increase.

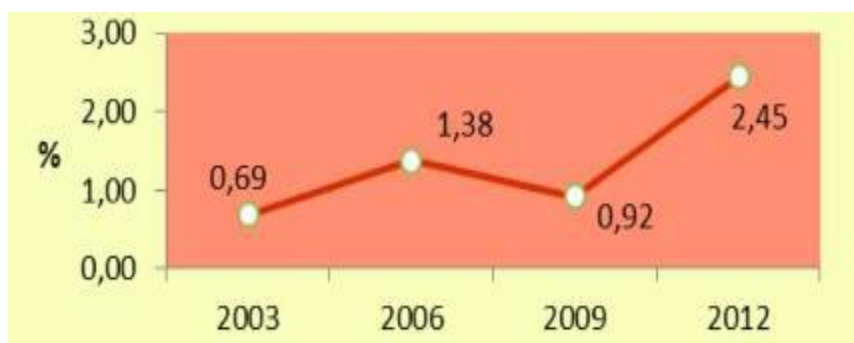


Figure 1. The data of SNS in 2012

Therefore, as mentioned by BPS (2012), there are around 9.9 million children in Indonesia are disabled.

Special needs students are divided into various categories which means that all that students cannot always be seen and/or answered the direction appropriately. Special Needs Students can be abbreviated to SNS have various opinions regarding the meaning and type of needs. Many experts are opined that will described below.

As what mentioned in laws of the republic Indonesia, Law Number 4 of 1997, Article 1, Paragraph 1 concerning Persons, as persons with disabilities (disability) is a person who has a physical and / or mental disorder can help or is a challenge and challenge for do accordingly, consisting of: a) physically disabled, b) people with disabilities, mental and mental disabilities. Students with special needs, according to Konieczna (2018), it cannot derived become one perspective, because all the special students have their own categories and various type, which means they cannot always be thinking, seen, or doing. Therefore, as mentioned by Winarsih (2013), stated that students with special needs are students who abnormal or irregularities (physical, mental-intellectual, social, emotional) in the process of growth or development compared to other students in their age.

Hearing impaired

Hearing is one of the five senses that human has. The word impaired closely related to the term of disability. The great challenge facing students with hearing impaired is communicating. In the other hand, the students with hearing impaired will also difficult to get the materials that come from the teacher because

they cannot hear what the teachers say. It will bother the learning process of the students. To reduce it, the teachers can use the other alternative media for teaching hearing impaired students, which can use ICT while teaching and learning process. The implementation of ICT for hearing impaired students will easier them when learning.

Hearing impaired is about impaired in hearing that can occur in either or both areas and may exist in only one ear or in both ears, (National Dissemination Center for Children with Disabilities, 2010). Hearing impaired is the broad term that related to hearing losses of varying points from hard-of-hearing to complete deafness. It is emphasized by Hallahan & Kauffman (as cited in Ahmad, 2013), deafness is a term for people who are unable or difficult to hear from mild to severe. A person is said to be deaf if he/she is unable to hear. Therefore, based on the opinions by the experts, the researcher can conclude that hearing impaired is about the inability to hear. Students who experience obstacles in hearing is caused by the broken part of the hearing device so that hearing impaired students need special guidance and education in order to develop language and potential that they have as optimal as possible.

Hearing impaired is divided into several categories. As stated by Mathers, Smith, & Concha (2000) that the categories of hearing-impaired ranges of no impaired to profound impaired. It is also emphasized by Soman & Hernawati (as cited in Hastuti, Amama, & Agustin, 2013), there are five categories of hearing impaired, as follows:

1. **Mild Loses.** A loss of hearing ability of 20-30 dB which hard to hear weak conversation.
2. **Marginal Loses.** A loss of hearing ability of 30-40 dB which can understand the conversation at a distance of one meter.
3. **Moderate loses.** A loss of listening ability 40-60 dB which can understand a loud conversation at a distance of one meter.
4. **Severe loses.** A loss of hearing ability 60-70 dB. This type of hearing impaired still can hear a loud sound from close distances, for example as a car horn.
5. **Profound loses.** A loss of listening ability 75 dB and above. They can hear loud sounds at a distance of 1 inch (2.24 cm) or not hear at all even when using a hearing aid.

ICT for Hearing impaired Students

It is crucial for all companies involved in supporting the hearing-impaired students to take possible benefits and also the challenges of using ICT. ICT will offer a safe, comfortable environment for hearing impaired students. They may seem more in power, be familiar with the functions needed, and there is much little need to interact with others, which may have a positive and negative implications. ICT will encourage hearing impaired students to grow more independent at business jobs and improve skills they can also have at home, Carlotti, 2014).

Special needs students especially hearing-impaired students do use the ICT for their learning process. The use of ICT even becoming a familiar thing for them. It is proven that the use of ICT has spread widely in every element of education includes the education for students with special needs, (Gardner, 2018). One of the studies conducted by Baglama, Haksiz, & Uzunboylu (2018), revealed that ICTs increased the hearing-impaired students' motivation in learning. They also found that ICT can make the positive effects to hearing impaired students on their literacy skills. The other experts also had the same finding, Yildirim & Saban (2014) found that the implementation of ICT even can affect students' geometric academic achievement positively.

From that studies above, the researcher can conclude that ICT is very important to be implemented for hearing impaired students. There are so many advantages that they will get when they are interact with ICT. Both the normal and the hearing-impaired students, they live in millennial era, which all of the aspects in this life are having a close relation with technology. Therefore, if they do not adjust themselves to the development of this era, they will be left behind.

Benefit of Using ICT for Hearing impaired Students Faced by Teachers

Information and Communication Technology (ICT) is widely utilized by our country and it impacts our lives every day. It makes a big effect in education for the learners and teachers. ICT has become the key driver in education choice, and it has been described by the variety of significant wider benefits of ICT on teaching. This positive effect of ICT on students' accomplishments and cooperation are included.

The benefit of using ICT for hearing impaired students faced by the teacher, according to Cassady (2011), said that students learn more independently simultaneously. They can get more responsibility for education activity. ICT will help both powerful and vulnerable students with hearing impaired. The other studies revealed that teachers become more enthusiastic for teaching because students are also passionate for learning, (Nordin *et.al*, 2013). Another benefit faced by teacher by implementing ICT for Hearing impaired Students comes from Alotaibi & Almalki (2016), they found that ICT greatly contributes to overall improvement of the learning and teaching processes and the social interaction skills of hearing-impaired students. Therefore, Sulaimani (2017) said that the teachers are benefited from the use of ICT, because role ICT plays in enhancing interaction in the classroom, increasing educational attainment, and comprehension.

From the statements that has been explained above, it can be concluded that, with implementing ICT in teaching and learning process for hearing impaired students, it makes them easier to interact with hearing impaired students. Besides, it also helps the teachers to improve their teaching process.

Challenges of Using ICT for Hearing impaired Students faced by Teachers

Education is important for students with hearing impaired to develop academic, cultural, and life skills needed for freedom. The situation as a teacher is to help them assimilate the students with hearing impaired into the classroom, balance the educational needs of more, and promote a positive society of

tolerance. The studies in education and job as the educator prepared them well for their life.

The implementation of ICT for educational field is very good and it can help both teacher and students to interact with. However, according to Alotaibi and Almalki (2016), they said that although the implementation of ICT in the classroom for hearing impaired students is very good and almost perfect, but some of the teachers argue that the use of ICT makes them feel intimidated. The other challenges faced by the teacher as studied by Coleman-Martin et al., (2005), they concluded that the teachers of hearing impaired illustrate the significant unwillingness towards the operation of PowerPoint presentations since they do not have the adequate knowledge about the program or they lack adequate time to create the presentations. Based on that explanation, the researcher agrees that there is a lack of knowledge that having by the teachers who implementing ICT for hearing impaired students.

The challenges that found by Alotaibi and Almalki (2016) also stated that there are many points faced by teacher when implementing ICT for hearing impaired students. The main point that has been highlighted there is the school financial difficulties. It is explained that the financial of the school is too low to apply the ICT for hearing impaired students. The other challenges appeared that teachers may find the technology intimidating; they may have trouble finding the time to gather content and become familiar with the software or to redevelop teaching aids given the lack of suitable commercially available resources (Stromer, Kimball, Kinney, & Taylor, 2006; More, & Taylor, 2000). The other

studies also show that some teachers prefer low technology strategies to high-tech strategies that are often considered difficult to implement, (Judge, 2006).

From that kind of explanation above about the challenges that faced by the teacher when implementing the ICT for hearing impaired students, the researcher conclude that what is needed by the teacher is facilities, financial of the schools, and a workshop for increasing their skills at computers. These may support them to have a good teaching for hearing impaired students.

Review of Related Studies

This research is supported by several researchers that has been conducted before. For the first research comes from Nordin et.al (2013) with the title “ICT in Education for Deaf Learners: Teachers' Perspectives”. This research told the reader about the teachers' perspectives while using ICT for hearing impaired students. This research has an aim to investigate the levels of knowledge, usage, satisfaction, and the perspective of the teachers. This research conducted with both qualitative and quantitative method. This research conducted at Selangor, Malaysia. The result of this research revealed that the implementation of ICT is mostly used in schools. All the teachers agreed that the implementation of ICT is beneficial for their teaching process. This research also showed that the teachers want ICT courses include at the curriculum. It is because ICT helps them for teaching and helps the students for learning.

The other previous studies also come from Zaharudin, Nordin, Yasin, & Embi (2011) with their research title “Exploring Teachers’ Insight on ICT

Education via E-Learning for the Deaf Learners”. This research interviewed 48 teachers who teach hearing impaired students in Malaysia. This research has an aim to investigate the levels of knowledge, implementation, satisfaction and interest of the schoolteachers in the use of computers tool and ICT for their teaching and learning process. The result showed that most of the teachers did not feel satisfied that the hearing-impaired students have no the same equality with the normal-hearing students out there.

The other research also compiled by Ghavifekr, Kunjappan, Ramasamy, & Anthony (2016). The research title is “Teaching and Learning with ICT Tools: Issues and Challenges from Teachers’ Perceptions”. This research conducted in Malaysia and has the aim to analyze the teachers’ perception of the challenges faced by using ICT in classroom. To collect the data, this research used quantitative method which choosing randomly from a sample of 100 secondary school teachers in the state of Melaka, Malaysia. The finding of this research showed the incomplete accessibility and system connection, inadequate technical support, nonexistence of effective training, and limited time and lack of teachers’ competency.

The other previous studies come from Nordini, et.al (2015) with their research title “Identifying the Challenges and Barriers Hearing-Impaired Learners Face with Using ICT Education Courses”. This research collected the data both from the students and the teachers. This research aimed to identify the problems and challenges from hearing impaired students in learning with ICT. This research will conduct with mix methods, which are survey questionnaires, interview

sessions, and observation. The finding of the research showed that ICT gives a benefit for the students, and ICT courses was needed to be developed for hearing impaired students.

These studies have similarities with the topic of this current research which is the use of ICT for hearing impaired students based on the teachers' point of view. The researchers above also use the point of view of the teachers as the result. The researcher of this topic can use these studies for the references so the research will be more complete. However, the researches above has been done in abroad. They have a very different context and also have a different culture. Then, the research that conducted in Indonesia, especially in Kulon Progo, Yogyakarta, is never been done. Therefore, in this research, the researcher wanted to investigate the teachers' point of view about the benefits and the challenges by using ICT for teaching hearing impaired students in Kulon Progo, Yogyakarta. This research used qualitative method which is interview to gather the data as rich as possible. The three teachers who teach hearing impaired students with ICT was become the participants in this research. With interview, the researcher got some finding related to the benefits and the challenges in using ICT for teaching hearing impaired students. This research found four benefits and four challenges in using ICT for teaching hearing impaired students as perceived by the teachers.

Conceptual Framework

The implementation of ICT in classroom nowadays not only given for normal students but also for the special needs' students too. Special needs students have the same rights to have a lesson with ICT, as same as the normal students, (Zaharudin, Nordin, Yasin, & Embi, 2011). Nowadays, the special school have already used the ICT tools as their media for teaching hearing impaired students, especially the special school at Kulon Progo, Yogyakarta. By knowing this condition, the researcher interested to collect the data about the teachers' point of view by using ICT for their teaching to hearing-impaired students, in terms of the benefits and the challenges. Therefore, to make it easier for readers to understand the focus of this research, the researcher wants to illustrate the focus in this research, as follows:

