



The Impact of Information and Communication Technology (ICT) Toward Learning Process and Students' Attitudes

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Information and Communication Technology (ICT) has been used in education to help students to get better learning process. However, the growth of ICT use in schools does not always give satisfactory impact as expected. This study aims to investigate the impact of ICT toward learning process and students' attitudes. Twenty students of a vocational school in Tangerang, Indonesia have been involved to be the participants of this study. The data was collected through a questionnaire adapted from Survey of schools: ICT and education developed by European Commission. The findings show that the use of ICT creates fruitful learning process and foster positive attitudes on the students. Teachers are encouraged to use ICT appropriately for optimum impact on the student's positive attitudes and better learning process.

Keywords: Impact of ICT; Learning process; Student Impacts; Student Attitude.

1. INTRODUCTION

The growth of recent technology has influenced all aspect of human life. Many human activities have been assisted by technological tools, such as computer, mobile phone and many others. Learning activities in many schools have made use of those technological tools. As defined by Beatty (2006: 7), "Computer Assisted Language Learning (CALL) is a changing nature" which means that the learning environment has changed into the new one which has been collaborated with technology such as computer. The term CALL is derived from "computer" and "language learning". It means that those words are the two points that are emphasized in this term. Stockwell (2012: 28) points out that those two elements 1 affect the way CALL is applied and the course given by using CALL. Bhatti (2013) also adds that CALL is applying computer hardware to learning environment. CALL has broadly considered as the new approach in language teaching and learning because it is adaptable and approachable. CALL contributes the progress in

teaching (Dudeney, 2007). Since CALL makes contribution to teaching approach, it also makes a movement from teacher-centered learning to students-centered learning because in learning with CALL the students have to operate the computer individually although under supervision of their teacher. This activity will trigger students to cooperate more with their classmates to share their ability. It is in line with what Wright (2011) states that academic learning assisted with technology such as computer can transform the students to be more confident in learning and gaining the new knowledge.

Lee (2000) proposes the reasons why CALL is mostly recommended to be applied in teaching learning process. He states that CALL will provide experiential learning, build students' motivation, enhance students' achievement, gives an authentic material for study, provide students to have greater interaction, increase individual improvement, give freedom to surf more than single source information and engage student to have global understanding.

Besides, the application of CALL itself benefits the students who want to take proficiency tests, such as: TOEFL, IELTS which has been in computer-based test nowadays. It is in line with Tzu's statement (2012). He argues that delivering assessment via computers is becoming more and more prevalent in domain of assessment because it reflects the practical change in pedagogical method. By applying CALL in teaching learning process, it will make students more familiar with this kind of test.

Applying ICT on teaching and learning process will reap the effect on teaching and learning outcome (Safitry et. al, 2015). As many teachers expected, this approach will make their work easier. Unfortunately, not all ICT application will give this such impact. For some cases, students will feel their concentration is destructed by the ICT use. Investigating students' response toward the use of ICT can help teacher to appropriately use ICT for making better learning process for their students.

2. IMPACT OF CALL USE

Every method or approach will have the impact whether it gives advantages or disadvantages. Some research have revealed these following issues related to the CALL application Pratibha (2010).

A. Advantages of CALL

- Computer provides wide chance to get the authentic source by using internet. The wide chance to get many sources will affect to their input in language acquisition especially in target or foreign language.
- It offers self-access activity. Since computer has become an important tool to help human's activity, every people can use and learn using computer individually. They are not bounded with learning time or school time so it is freely to learn whenever.
- CALL is an interactive method. It is known that teaching material is a passive thing. By using CALL the teaching material can be personalized to the characteristic of learner.
- Computer offers an opportunity for teacher to design their media as attractive as the teacher wants. It is supported by the ability of computer to show colorful outputs.

B. Disadvantages of CALL

- For indiscipline students, learning by using computer only destruct their concentration. They will more like to observe or find out the matter which is not related to the class discussion.
- Computer does not give some important features of real communication as what teacher can offer. So, for some point of view, traditional class will be better than

engaging computer in learning.

- The supporting teaching tool, in this case computer, needs maintenance. It has to be checked regularly. If it is not, the occurred errors in the middle teaching learning process will waste the time and destruct students focus.
- Computer reduces the cooperation of students and teacher. The students will not have more cooperative attitudes with their classmates.

3. ATTITUDE TOWARD COMPUTER USE

Since a new phenomenon brings two sides perspective whether it is positive or negative, the use of computer also gets them. Attitude is one of the important indicators whether the implementation is accepted or not by the target. Therefore, in applying CALL it is important to pay attention to students' attitude toward the use of computer in order to meet with the goal.

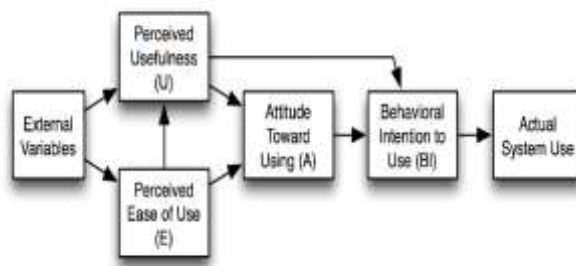


Figure 1. Technology Acceptance Model

Technology Acceptance Model (TAM) (Davis, 1989) as depicted in Figure 1, shows that attitude of technology acceptance comes from the perceived usefulness and the ease of use. The more useful the target thinks of the computer, the more positive attitudes will occur and vice versa. The extent of their belief will make the trust to technology even bigger. The use of computer in learning will be more intense and effective.

When the perception of ICT use is positive, the use of CALL is warmly welcomed by the students. The difference learning environment will show different opinions. For instance, in Taiwan, a prior research states that the positive attitude of students appearing toward computer use in teaching and learning process (Chiu; 2003). In contrast, another research in Korea reveals that Korean students did not show positive attitudes on computer use in learning (Min; 1998 in Chiu; 2003). The positive opinions about the use of computer is indicated from the positive attitudes of students toward computer.

The positive attitude comes from the students who believe that learning by using CD ROM is really effective to help them speak. Beside CD-ROM, the online chatting helps them to have conversation with native speakers, so

they can reduce their anxiety to talk in English. Then, the interactive role playing provided by computer reduces students' nervousness than they have to talk directly as the initial activity to speak. Related to the authenticity of material provided in computer, the students also feel free to browse as much as they want regarding the material given. For some learners who have interest to learn pronunciation deeply, they can take benefits from computer which can be consulted directly

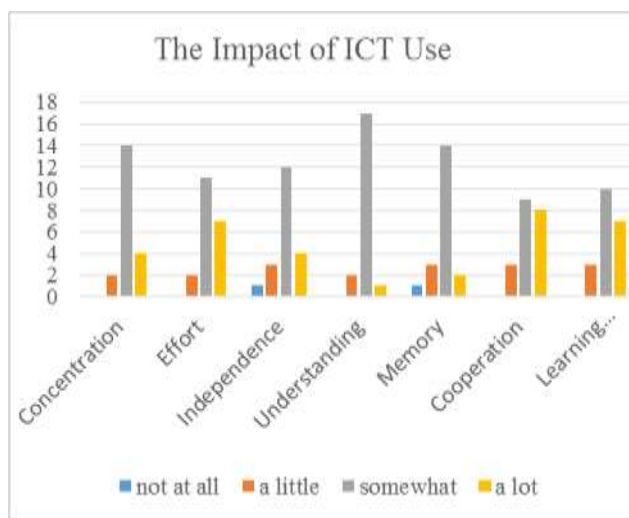
Some negative attitudes are indicated from the fear of using computer. The lack of ability to operate computer becomes the main reason why the students are self-conscious in learning with computer. Their clumsiness in typing on keyboard is also another reason of their negative opinion.

4. RESEARCH FRAMEWORK

This research is a descriptive qualitative study. The subject of this research is twenty students of a vocational senior high school in Tangerang. This school has applied ICT in their English learning. The students were familiar with using headphone for listening, a projector for material display and operating computer for some office works. The questionnaire adapted from Survey of schools: ICT and education developed by European Commission was used to collect the data. The questionnaire consisted of two parts. The first part, consisting of seven items investigates the impact of ICT use. This part provided the option of students' responses in the four options. They are "not at all", "a little", "somewhat", and "a lot". Those options will determine the range of agreement to the questions. The rest captured the influence of ICT toward students' attitude. This section had eight items of questions. The provided options were "strongly agree", "disagree", "agree" and "strongly agree". The data was processed by Likert scale with the range 1 – 4.

5. RESULT AND DISCUSSION

The result of the study is presented in two parts. The first part described students' response toward the use of ICT for the learning process and the second part explained the attitude toward ICT use



YES	%	NO	%
Students concentrate more on what they're learning	90%	Students do not concentrate more on what they're learning	10%
Students try harder in what they're learning	90%	Students do not try harder in what they're learning	10%
Students feel more independent in your learning (e.g. go over work again, find out more about things you are interested in)	80%	Students do not feel more independent in your learning (e.g. go over work again, find out more about things you are interested in)	20%
Students understand more easily what they're learning	90%	Students do not understand more easily what they're learning	10%
Students remember more easily what they've learnt	80%	Students do not remember more easily what you've learnt	20%
ICT enables you to work better with other students on tasks	85%	ICT disables you to work better with other students on tasks	15%
ICT improves the atmosphere in class (e.g. students are more engaged, there is less disruption)	85%	ICT improves the atmosphere in class (e.g. students are more engaged, there is less disruption)	15%

Figure 2. The Impact of ICT Use toward learning process

Table 1. The result of students’ respons about the comparison between the positive and negative impact given by the use of ICT in learning process

The diagram and table above showed the response for each question. The first question asked, the level of concentration when they were learning using ICT. Most of respondents answered that they had good concentration when ICT was implemented by their teacher with 14 respondents and 4 respondents stated “a lot”. It means that 90% of them agreed that the use of ICT boosts their concentration in learning. While, the 10% as the rest of respondents had difficulties to control their concentration.

The second question asked students about their work in learning. 90% or most of the students agreed that they were trying harder in learning. However, the answer varied. This variation of answers depended on students’ cognitive background and motivation. For some students with good level of cognition, they might not feel that they made a very hard effort in understanding their subject. Two respondents did not feel they had to give extra effort in learning.

The independence of learners was questioned in the third item. This question tried to figure out whether the students were independent when the ICT was implemented in their classroom. The result showed that 80% of respondents answered that they become more independent when the learning process is combined with ICT. They can go over work again, find out more about things they are interested in. While, the 20% of respondents said that the use of ICT did not improve their learning independence.

Their response toward the understanding of subject taught using ICT is also good. Eighteen students or 90% of respondents said “somewhat”, which means that they have good understanding when learning using ICT. Only two students or 10% of respondents said that they did not understand at all.

The ability of memorizing of what they have learnt was questioned in next item. Fourteen students or 80% of respondents said that ICT boosts their memory in remembering what the teacher explained. It might be caused by the attractive characteristics of ICT. ICT provides many facilities to the users for working together with their friends. In the other side, the 10% of respondents do not show the same argument that ICT boosts their memory.

Nine students have good cooperation with their friends and 8 others even have very good cooperation. It means 85% of respondents responded positively to this topic, in term of ICT can trigger students desire to work cooperatively with their friends. Only three students or 15% of respondents did not agree about that.

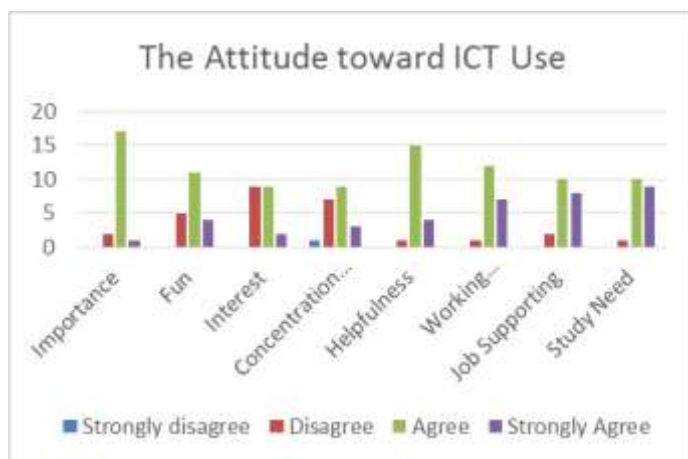


Figure 3. The Attitude toward Computer Use

ICT turns the learning environment to be more enjoyable in term of learning. It improves the atmosphere in class, for example , students are more engaged and the disruption is also lessen. Ten respondents agree and seven others were strongly agree. It means 85% of respondents said that the use of ICT will increase the learning atmosphere to be more interesting and interactive. The opposite response was shown by the rest of respondents or 15% of them that the use of ICT did not bring any changes in learning environment.

Based on the data display, it can be concluded that most of the respondents responded positively toward the impact given of ICT use in their learning process as shown in Figure 2 and Table 1.

The second finding dealt with the attitude toward computer use as illustrated in Figure 3.

YES	%	NO	%
It is really important to me to work with a computer for learning	90%	It is not really important to me to work with a computer for learning	10%
Using a computer for learning is really fun	75%	Using a computer for learning is not really fun	25%
I use a computer for learning because I’m very interested in computers	55%	I don’t use a computer for learning because I’m not very interested in computers	45%
I lose track of time when I’m learning with the computer	60%	I don’t lose track of time when I’m learning with the computer	40%
It’s really worth using a computer for learning because it will help me in my	95%	It’s not really worth using a computer for learning because it will not help me in my future life as an adult	5%

future life as an adult			
I use a computer to learn as it will help in the work that I want to do later on	95%	I don't use a computer to learn as it will not help in the work that I want to do later on	5%
I learn things using computers that will help me to get a job	90%	I don't learn things using computers that will not help me to get a job	10%
Learning with computer is important for me because I need it for what I want to study later on	95%	Learning with computer is not important for me because I don't need it for what I want to study later on	5%

Table 2. The students response on their attitudes in the use of ICT in learning process

Most of students agreed that the use of computer in learning process is important. It represented from 90% of respondents responses. However, there was 10% of respondents who said that computer is unimportant.

ICT might bring fun for learning. It is reflected from the answer of 15 students or 75% of respondents who got fun when the ICT is implemented or used in learning process. In the other side, the rest of them or 25% of respondents did not agree that the use of ICT brought the fun of learning.

Students' attitude might also be influenced by their interest of computer. The finding showed that nine students agree. It means that the 55% of respondents have interest in computer use in learning process. While, the 45% of respondents did not have much interest toward the use of ICT in their classroom.

Students were also asked whether they could concentrate more when ICT is used. Using computer usually makes the users surf too far that they tend to forget to go back to their main job. The 60% of respondents felt that way. It means that nine respondents agree that they might spend a lot of time in front of computer. In the other hand, the 40% of respondents said that they can control their track in using ICT in learning process.

The four last questions closely discussed the usefulness of computer. Nineteen respondents or 95% of respondents said that they found computer is helpful to them. The helpfulness occurs while they are working with computer. While the only 5% of respondents did not say that computer is useful enough.

Beside supporting the learning process, computer also provides the assistance in working. It can provide the users facilities to input, process and create an output of what you are working with. Nineteen respondents or 95% of respondents agreed that learning using computer will

train their ability to work. It means that the habit to involve the computer into learning process will also give them skills to work later in their future. However, there was 5% of respondents who did not agree with this statement.

The habit to involve computer in learning process then will give the students the skill to operate computer and thus will give contribution to their future in seeking job. The 90% of respondents were in the same opinion as this statement. However, two respondents or 10% of them disagreed.

The last item asked the respondents about their need in study. Most of respondents or 95% agreed, only one respondent or 5% who stated that he did not think ICT will give him the better opportunity for his life.

In short, most of the participants of this study showed positive attitudes toward the use of computer in their learning.

5. CONCLUSION

Computer has been unseparated thing from human daily life. It is unavoidably used for education needs despite its positive or negative impact. Based on the findings of this study, it can be concluded that teachers can adapt the computer use in language learning but it should be suited to students' characteristic, teaching material and learning environment. It is because the right use of ICT will affect the students' attitudes as well as the learning process. When students feel that they are comfortable in using computer in their learning process, they will show positive attitudes and have more interest to explore more.

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