ICT Impact on EFL Secondary Students' English Achievements

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Abstract—**The advanced ICT yields new paradigm in English teaching and learning practice. Instructional practice has shifted into technological oriented since technology offers abundant tools to optimize learning outcomes. Furthermore, Curriculum 2013 has proposed ICT implementation for all subjects at schools in all levels of education. This study mainly concerned on investigating the extent to which the students used ICT in learning English, its correlation and impact on their English achievement. 200 eleventh graders of secondary schools, chosen by purposive sampling, participated in this survey study. The data were gathered by using test and questionnaire. Based on data obtained, it was found that most of the students used ICT tools to aid them in English language learning both in and out of school. Meanwhile, correlational analysis result signified a low correlation between ICT usage and students' English achievements. The use of ICT out of school brought positive impact to students' English achievement. However, teachers' attitude and school support need to be considered in ICT-integrated ELT to mediate the improvement of students' English achievement.**

Keywords—ICT impact; secondary EFL student; English achievement

I. INTRODUCTION

The rapid emergence of Internet and various sophisticated information and communication technology (ICT) tools offers fruitful choices for improving educational quality both processes of instructional practice and the learning goal attainment. ICT is considered important for improving the effectiveness of teaching and learning in schools [1]. ICT infusion becomes a current phenomenon to be considered as one of the educational frameworks. Consequently, it leads into curriculum revitalization in developed and developing countries. Indonesian government has proposed that ICT is not only as a subject matter that need to be learnt, but also it should be incorporated by the teachers as teaching supports that mediate the process of teaching and learning [2].

It is a crystal clear that ICT innovations have brought enormous impacts on educational practices. UNESCO affirms that ICT has a marked effect on schools, on teaching and on learning [3]. At the institution level, ICT tools are making school administration more efficient and responsive to community needs. At classroom level, ICT is bringing about change in the way teachers teach and how the students learn.

Dealing with the teaching and learning process, technology innovations not only provide both teachers and learners abundant learning resources, but also, they have changed the learning mode into learner-centered. In addition, it is inevitable fact that ICT integration can generate students' learning participation, autonomy, and motivation that can accelerate the attainment of the learning goals when it is adapted in such a way. It is obvious that ICT adoption for teaching and learning process is imperative since it has many positive benefits toward the improvement of educational quality.

A. ICT Roles on Instructional Practices

English language teaching and learning nowadays has been revolutionized along with the emergence of ICT tools. Technology continues to grow as crucial tools to assist both teachers and learners in enhancing language learning. Dealing with the use of ICT in English language teaching and learning, it holds some significant roles, such as cultivating students' learning motivation and participation, providing the flexibility and availability of learning materials for both teachers and students, creating authentic learning context and environment for language teaching, promoting learner-centered learning and teacher-student interaction, promoting students' communication capacity, helping students to gain knowledge and understanding about western culture [4,5].

Furthermore, UNESCO suggest that ICT has shifted teachers and student's roles in the process of teaching and learning [3]. Figure 1 depicts the roles of ICT in changing the teacher roles in classrooms.
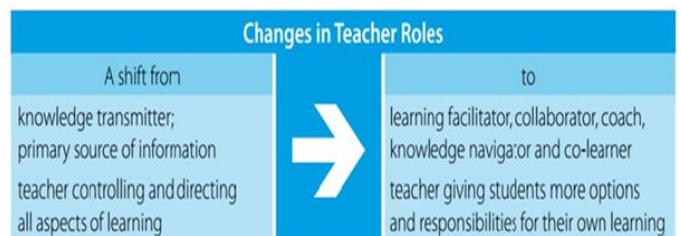

Fig. 1. The changes of teacher roles in classroom.

Meanwhile, the changes of student roles as the effect of ICT use in a classroom is shown in Figure 2.
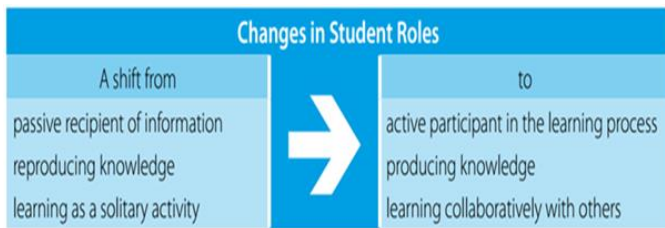
Fig. 2. The changes of student roles in classroom.

B. Student's Attitudes toward ICT Usage

It is no doubt that students have positive attitude toward ICT tools. ICT integration in English language learning can motivate the students to be more enthusiastic. It is in line with who affirms that students have positive attitude toward ICT integration in English language learning [4]. They become more motivated in learning when they are engaged with computer-based instruction since they feel free to control their own learning. Furthermore, Azmi found that the use of ICT in EFL classroom could enhance students' language acquisition and substantially motivate them to continue their learning and stimulate their creativity and passion [6].

Referring to the above explanation, this study aimed at investigating the use of ICT among the secondary EFL learners for both inside and outside the school, examining the association between ICT usage and students' English achievement, and finding the contribution of ICT usage toward students' English achievement.

Method

A survey research design was implemented in this study in order to investigate ICT usage among the secondary EFL learners. Ten public secondary schools in Palembang were involved in this study. There were 200 eleventh graders of secondary school participated as the participants. They were selected using purposive sampling. The considerations in choosing the sample were as follows: 1) the schools participated in this study has implemented Curriculum 2013 for two years or more; and 2) the participants were the eleventh graders. A questionnaire of ICT and achievement test were administered to obtain the data. The questionnaire was distributed to the participants to collect the data dealing with their usage of ICT in learning English adapted from European Union [7]. This questionnaire was adapted from European Union, consisting of 17 items which measured students' experiences in using ICT for both inside and outside the school and students' attitude toward the use of ICT and its impact toward their learning process. Next, the test was distributed to the participants to gather the data regarding to students' achievement of English subject. There were 35 items of

multiple choice, consisting of 8 items for measuring listening comprehension and 27 items for measuring reading comprehension. In analyzing the data, the analyses of percentage, correlation, and stepwise multiple regression were administered. Percentage analysis was administered to classify the ICT usage by the students for both in and out of school. Meanwhile, correlation analysis was run to analyze the association between students' ICT usage and their English achievement. Then, to examine how much the contribution of ICT usage inside and outside the school toward students' English achievement was, multiple regression analysis using step wise was applied.

II. FINDING AND DISCUSSION

A. Students' ICT Use Outside the School

Based on the data analysis, it was found out that most of students used ICT tools outside the school. The result of questionnaire showed that 186 students (93%) used their personal computer and 193 students (96.5%) actively used internet connection for the last three months. Meanwhile, there were 140 students (70%) used personal computer or laptop and 148 students (74%) were connected to Internet for the last 12 months. It indicated that most of the students frequently utilized ICT tools when they were outside the schools. Table 1 summarizes students' experience in using ICT tools (personal computers and internet connection) outside the school.

TABLE I. STUDENT'S EXPERIENCE IN USING ICT OUTSIDE THE SCHOOL

Experience	Time	Freq	Percentage (%)
Use personal computer or laptop	In the last 3 months	186	93
	In the last 12 months	140	70
Connected to Internet	In the last 3 months	193	96.5
	In the last 12 months	148	74

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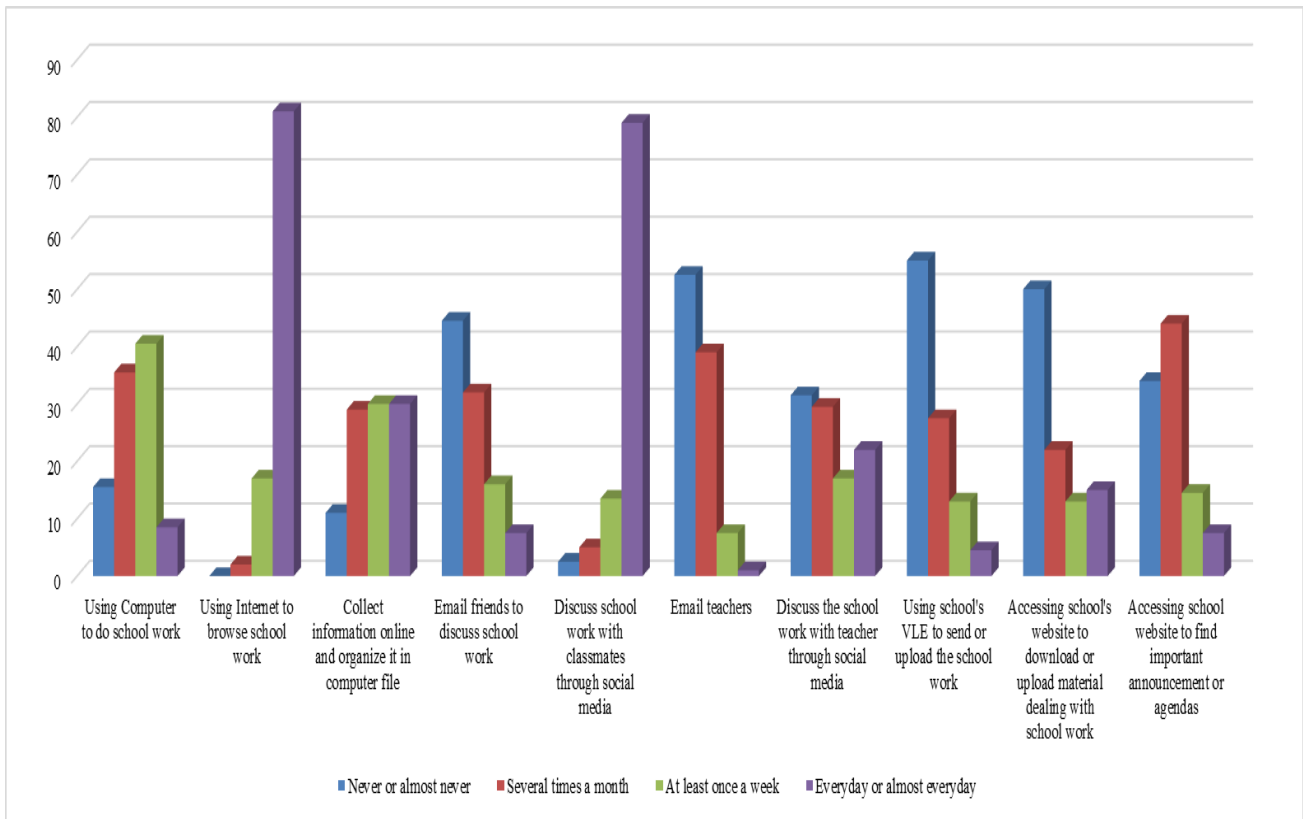
Fig. 3.   Student's activities related school work using ICT outside the school.

Based on Figure 3, it was revealed that the most common activities related school work done by the students were using ICT tool to browse learning material (81%), discussing with their classmates through online tools, such as Facebook or Messenger (79%), and collecting information online and organizing it in computer file (30%). It indicated that most of students used ICT tools as learning sources and learning aids. Meanwhile, it was also revealed that the students were almost never using Virtual Learning Environment (VLE) (55%), emailing the teachers (52.5%), and accessing school website to browse, download, or upload material dealing with school work (50%), emailing friends to discuss school work (44.5%), and discussing the school work with teachers through social media (31.5%). It might be caused that the school did not have any VLEs and website for school community. The activities that occasionally done by the students were using computer to do school work (40.5%) and assessing school website to find important announcement or agendas (44%).

B. Students' ICT Use at School

Based on the data analysis, it was found out that the students were frequently connected to internet. However, they did not too often use computer at school. Table 2 presents the data dealing students' experience of using ICT tools (computer and internet connection).

TABLE II.   STUDENTS' EXPERIENCE IN USING ICT TOOLS AT SCHOOLS

Experience	Time	Freq	Percentage (%)
Use school computer or personal computer	In the last 3 months	133	66.5
	In the last 12 months	111	55.5
Connected to Internet	In the last 3 months	164	82
	In the last 12 months	131	65.5

Based on the table above, it could be seen that 66.5% of the students (133) used computer at schools for the last three months and 82% of the students (164) used internet connection at schools for the last three months. Meanwhile, 55.5% of the students (111) used computer at schools and 65.5% of the students (131) were connected to internet for the last 12 months. It indicated that the students did not always use computer at school, but they actively used internet at school.
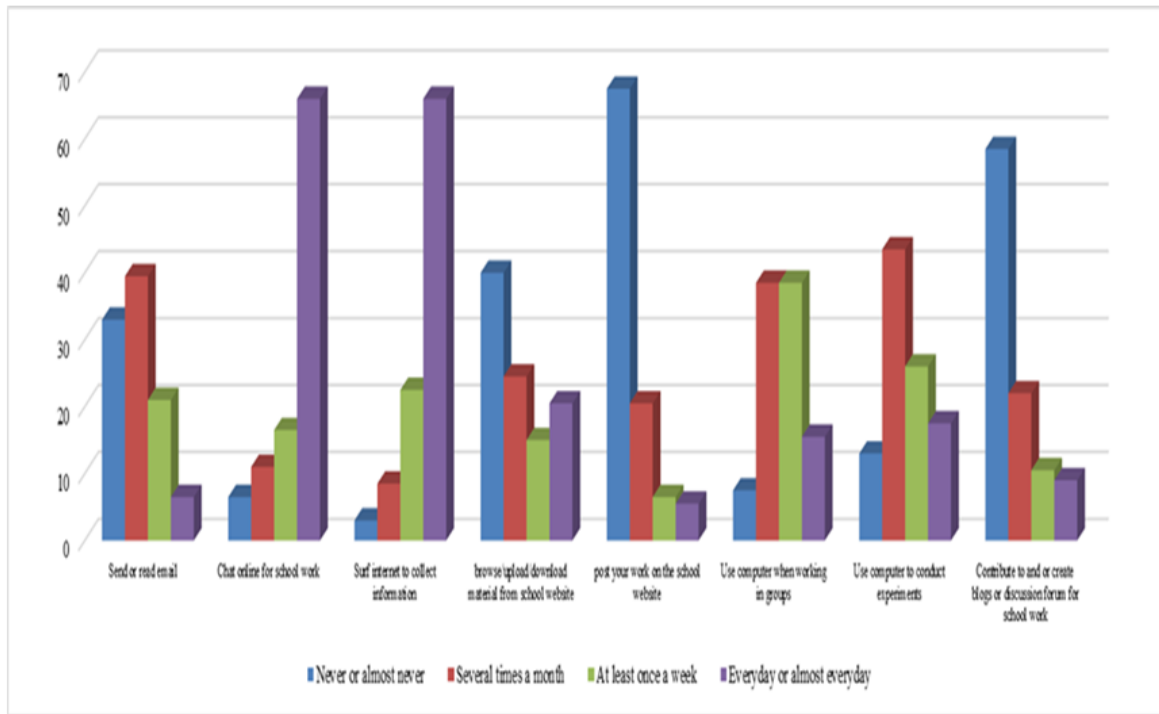
Fig. 4. Students' activities-related school work using ICT at school.

Based on Figure 4, it could be seen that the most common activities related school work done by the students at school were chatting online for school work (66%) and surfing the internet to collect the information (66%). These two activities were almost done by the students every day. Next, students occasionally used computer to conduct experiments (43.5%), sent or read email (39.5%), and used computer when working in groups (38.5%). Meanwhile, the least activities done by the students were posting their work on school website (67.5%), contributing to or creating online discussion forum for school work (58.5%), and browsing, downloading, or uploading material from school website (40%).

C. The Association between Students' ICT Usage and their English Achievement

Correlation analysis was administered to examine the correlation between students' ICT usage and their English achievement. Based on the data analysis, it was revealed that there was a slight correlation between students' ICT usage and their English achievement, with the r-$_{value}$ was 0.267 and sig. (2-tailed) was 0.000. It signified that students' ICT usage and their English achievement was significantly and positively correlated. Table 3 presents the summary of correlational analysis results between students' ICT usage and their English achievement.

TABLE III. THE RESULT OF CORRELATIONAL ANALYSIS BETWEEN THE USE OF ICT AND STUDENTS' ENGLISH ACHIEVEMENT

	ICT Usage	ICT Usage at School	ICT Usage out of School	English Achievement
Pearson Correlation	0.267	0.164	0.327	1
Sig. (2-tailed)	0.000	0.021	0.000	0.000
N	200	200	200	200

D. ICT Contribution toward Students' English Achievement

Regression analysis was run to examine how much the contribution of ICT usage at school and out of school toward students' English achievement. In this study, multiple regression analysis was done by using stepwise. Table 4 presents the result of multiple regression analysis.

TABLE IV. THE SUMMARY OF LINEAR REGRESSION ANALYSIS RESULTS

Independent Variable	Dependent Variable	R	R^2	F	Sig.
ICT usage out of school	English achievement	0.327	0.107	23.784	0.000

Based on the data above, it was revealed that only students' ICT usage out of school contributed toward their English achievement. It could be seen that the coefficient of R^2 was 0.107 or in other words it signified that ICT usage when the students were out of the school contributed as much 10.7% and other factors contributed their achievement as much 89.3%. In addition, the coefficient of F-$_{obtained}$ was 23.784 with significant value (ρ) was 0.000. It was higher than the coefficient of F-$_{table}$ that was 3.041. It meant that students' ICT usage out of school influenced their English achievement.

E. Discussion

There are some points that can be drawn from the research findings elaborated above. First, most of students have integrated ICT tools to assist them in learning English, both inside and outside the schools. However, they used the tools with different level of exposure. They mostly used their personal computers and were always connected to Internet when they were learning English outside the school, such as discussing about learning material and surfing the Internet to look for the information dealing with their learning material. In contrast, when the students were at school, they did not explore the use of ICT as much when they were outside the school. They were actively connected to internet through their smartphones. Second, the low correlation between students' ICT usage and their English achievement might be caused by the students considered using ICT only as a media that ease them to complete the school tasks or works given by the teachers. Students did not have any special discussion forums for teacher and students, such as a virtual learning platform designed by the teachers or the school did not have a school website that provides a space for the students to browse, download, upload, or even post anything related to the school work. Moreover, the teachers did not incorporate the ICT tools optimally in their teaching practice. Meanwhile, Roblyer and Doering suggest that ICT implementation processes can work best when optimal conditions take place to support them [8]. It was assumed that the teachers still had negative attitude towards the ICT implementation. It is not in line with Baylor and Ritchie who suggest that the success of technology use in educational settings largely depends on teacher's attitude toward technology use [9]. Furthermore, teacher's readiness and skill in using ICT are playing essential in the use of ICT in education [10]. Third, not only the teachers' attitude toward ICT implementation affected the low level of correlation and contribution of ICT toward students' English achievement, but also school facilities became one of the crucial factors that hindered the correlation and contribution of ICT.

III. CONCLUSION AND RECCOMENDATIONS

Incorporating ICT into English classrooms is reasonably important since it can affect both the processes and the products of teaching and learning English. Moreover, today's classrooms consist of present young generations who are growing up in the digital age. By implementing ICT, teachers can have many alternatives to ease the knowledge transforming process to their students and the attaining process of learning outcomes. Moreover, students have positive attitude toward ICT integration during English lesson since ICT can motivate them to have learning participation, curiosity, and autonomy as well. However, teachers' negative attitude and lack of support from school authority can hinder the process of ICT implementation that will affect the process of achieving the learning goals. To be successful in implementing ICT in English classroom, the teachers need to have positive attitude toward the ICT implementation. They need to raise their awareness toward the positive impacts that can be contributed by ICT usage in English lesson.

REFERENCES

[1] J. Lin, P.Y. Wang and I. Lin, "Pedagogy* technology: A two-dimensional model for teachers' ICT integration," British Journal of Educational Technology, vol. 43, no. 1, pp. 97-108, 2012.

[2] Kementerian Pendidikan & Kebudayaan, Konsep dan implementasi Kurikulum 2013 [Online] Retrieved from: https://kemdikbud.go.id/kemdikbud/dokumen/Paparan/Paparan%20Wamendik.pdf, 2014.

[3] UNESCO, ICT transforming education: A regional guide. UNESCO Bangkok: Asia and Regional Bureau for Education, 2010.

[4] A.M.I. Ibrahim, "Information and communication technologies in ELT," Journal of Language Teaching and Research, vol. 1, no. 3, pp. 212-214, 2010.

[5] S.D. Shyamlee and M. Phil, "Use of technology in English language teaching and learning: An analysis," Proceeding of International Conference on Language, Medias, and Culture IPDR 2012, pp. 151-153, 2012.

[6] N. Azmi, "The benefits of using ICT in the EFL classroom: From perceived utility to potential challenges," Journal of Educational and Social Research, vol. 7, no. 1, pp. 111-118, 2017.

[7] European Union, Student's questionnaire general upper secondary education (Grade 11). [Online]. Retrieved from: http://ec.europa.eu/information_society/newsroom/cf/document.cfm?action=display&doc_id=1814

[8] M.D. Roblyer and A.H. Doering, Integrating educational technology into teaching (5th Ed). New York: Allyn & Bacon, 2010.

[9] A.R. Baylor and D. Ritchie, "What factors facilitate teacher skills, teacher morale, and perceived student learning in technology using classroom?" Journal of Computer and Education, vol. 39, no. 4, pp. 395-414, 2002.

[10] S. Ghavifekr and W.A.W. Rosdy, "Teaching and learning with technology: Effectiveness of ICT integration in schools," International Journal of Research in Education and Science (IJRES), vol. 1, no. 2, pp. 175-191, 2015.