

## TEACHERS' ICT LITERACY AND ICT INTEGRATION IN ELT IN THE INDONESIAN HIGHER EDUCATION SETTING

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### ABSTRACT

The use of Information Communication Technology (ICT) in English Language Teaching (ELT) in higher education settings in Indonesia is still under research. This is a correlational study that investigates teachers' knowledge, experiences, ICT literacy levels, and to what extent they integrate ICTs in ELT. Numbers of 280 English lecturers of different universities in Indonesia completed the online questionnaires that are distributed through emails and social media messengers during December 2018. The result shows that more than 60 % of the respondents' ICT literacy levels are above average and they frequently use ICT in their daily teaching, although they still face problems in internet facility and lack of ICT training. The study also reveals that there is a significant correlation among teachers' ICT literacy levels with their training experiences, internet frequency usage, and ICTs integration in language teaching. The more frequent teachers implement the ICTs, the more literate they will become. Training experiences surely generate teachers' ICT literacy. The majority of English lecturers in Indonesia are ICT literate and ready to integrate their ICT skills in their teaching-learning activities. More frequent training and stronger policy support of ICT facilities from the institution and government would be advantageous to encourage greater ICT integration in education, especially in ELT.

**Keywords:** ICT Literacy, ICT Integration, ELT, Higher Education

### INTRODUCTION

Education in the 21<sup>st</sup> century era demands teachers and learners to be *Digital Literate* or *Tech-Savvy*, able to use ICT applications and procedures as teaching and learning tools. The term ICT was commonly used in the early 1990s when education started to facilitate the practices of the Internet, computer technology, and other telecommunication media into education settings, especially ELT. ICT Literacy Panel (2002) defines ICT literacy as the capability to practice digital technology, communications tools, and/or networks to access, integrate, manage, evaluate, and create information to function in a knowledge society. It is in line with Hockly (2012) who defines digital literacy covering information, media, and technology skills needed to face the 21<sup>st</sup>-century education era.

Previous studies suggest that teachers should perceive the benefits of technology, update the technology issues, equip themselves with the ability of teaching savvy-students, and more importantly make use of the technology by applying it in teaching to increase students' achievements and make them ready in facing the multimedia technological expansion and digital literacy era. (Ahmed & Nasser, 2015; Prinsloo & Sasman, 2015). ICT in many forms has demonstrated to give many advantages in English language teaching. ICT

becomes a global policy of education and give a massive impact on the changes of an education system in many developed countries, (Zhao, Yao, & Kong, 2016). Teachers, as well as students, are welcoming ICT as new ways to promote modern and efficient learning activities to enhance better achievement in English.

The Indonesian education policy has put digital literacy in the National curriculum as one of the skills, besides numerical and literacy skills, that students and teachers must acquire in 21<sup>st</sup>-century teaching and learning for the primary and secondary level of education. (UNESCO, 2003, 2010; UNESCO Institute for Statistics, 2014) As stated in the latest document of the P21 framework (Partnership for 21st Century Learning, 2015) that accounted for 4C: communication, collaborative, critical thinking, and creativity, students must fulfill all those skills in current educational settings. ICT competency is one of the main aspects of communication skills and has become the goals and learning outcomes of the Indonesian national curriculum. Computers and internet technology have become daily normal use in students' and teachers' activity because the internet and social media could easily be access by the citizens at a very reasonable price. However, there are still some problems with ICT implementation regarding the facility and literacy. Survey result of Technology Development; Internet users in Indonesia is 20.4 %, which is 53,236,719 people from the population of 260,581,100, however, their ICT skills are still below average compare to other OECD countries (OECD, 2015). Indonesian Students and Teachers still have problems with digital learning skills and implementations. (Harendita, 2013; Kusumo, Kurniawan, & Putri, 2012). Therefore, this study is conducted to reveal English educators' ICT literacy levels and to find out how far they have integrated ICT in language teaching in higher education settings in Indonesia.

Studies on teachers' perspectives of technology integration in English Foreign language teaching found that most English teachers in Indonesia believe the importance and the usefulness of technology for teaching all skills of English, but it contradicts with their teaching practices in class. It reveals that most teachers do not have the ICT pedagogy that they can implement in their classroom although they have a positive attitude toward the development of technology (ICT) for language learning. (Febriani & Hafifah, 2019; Inayati, 2014; Silviyanti, T. M., & Yusuf, 2015)"type": "article-journal"}, "uris": ["http://www.mendeley.com/documents/?uuid=f8dc8051-0bc3-494a-b046-529ac01766ef"], {"id": "ITEM-2", "itemData": {"abstract": "This study focused on identifying EFL teachers' perceptions on the use of ICT in their teaching. A number of 42 EFL teachers from two state universities in Indonesia were involved. A closed-ended questionnaire based on the Technology Acceptance Model (TAM. Indonesian teachers are newcomers of the digital era so that ICT expectations often conflicted with the pedagogical issue in the classrooms, therefore they need further training to improve their technological and pedagogical knowledge. It is also found that CPD in ICT and TPACK help teachers to improve their technological skills and ICT understanding as well as their attitude toward it (Hismanoglu, 2012; Olofsson, Lindberg, & Fransson, 2017; Tallvid, 2016) depending on the ways in which it is applied. In this study, parametric analysis such as Independent samples t-Test was utilized to explore any statistically significant differences between prospective EFL teachers' ICT attitudes before and after ICT-interwoven training. Moreover, the qualitative information was analyzed from the transcriptions of the interviews, and synthesized with the results from the quantitative study. A questionnaire made up of nine items and an interview consisting of nine questions were employed as data collection tools. (Contains 4 tables.. Teachers' knowledge and incapacity toward technology also affect their teaching practices of ICT (Deryakulu & Atal-Köysüren, 2018)

Other researchers also investigated the impact and result of teachers' professional development in ICT and TPACK. They found that the program helped the teacher to improve their technological skills as well as their understanding of ICT for enhancing education quality. (Goktas, Yildirim, & Yildirim, 2008; Kalogiannakis, 2010; Olofsson et al., 2017). Specific training is also done in comparing teachers' attitudes before and after ICT training for English Language Teaching. (Hismanoglu, 2012; Kalogiannakis, 2010; Luik, Taimalu, & Suviste, 2018). Most studies approve that training is important to increase teachers' knowledge and competence of ICT in teaching. Furthermore, the existence of specific courses related to ICT taught at university levels to support the importance of ICT literacy for language teaching and learning is not yet explores. Thus, this study figures out how ICT training and experience might affect teachers' ICT literacy and integration in ELT.

## PURPOSE OF THE STUDY

Based on the previous research, there are still limited studies investigating ICT literacy in higher education in the Indonesian context, especially in ELT. This study aims to explore further the teachers' ICT literacy lev-

els, knowledge, training experiences and the integration of ICT in English language teaching. The findings of this study are beneficial to map teachers' ICT literacy and readiness in implementing more ICTs using blended learning and the online course at a higher education level to support the higher education ministry policy. Based on the policy of the Ministry of higher education and research, Indonesia is enhancing the education system is facing the industrial revolution era of 4.0 by having a more online course (*SPADA-Sistem Pembelajaran Daring Indonesia*). (Direktorat Jendral Pembelajaran dan Kemahasiswaan, 2018). The result gives a full description of how far teachers integrate ICT in ELT context as well as identify problems of ICT implementation. At last, this will promote digital learning practices to support the 21<sup>st</sup>-century education framework and lead to a supplementary recommendation to improve the teaching and learning quality of ELT in the current era.

## METHOD

### Research Design

It's a correlational study using an online survey to investigate several aspects; ICT literacy (knowledge), training experiences, internet frequency, and kinds of ICT activities.

### Participants

The respondents of this study are lecturers with a master's degree qualification, who teach English Subjects at the university level. There are 280 respondents from more than 130 different universities located in 34 provinces in Indonesia. The sample represents most of the main islands of Indonesia as an archipelago country (Sumatera, Java, Madura, Bali, Lombok, Sumbawa, Nusa Tenggara, Papua, Sulawesi, and Kalimantan)

### Data Collection and Analysis

The validated questionnaire is converted into an online questionnaire using Google-form and distributed through 670 emails and 150 social media accounts to English lecturers who teach English in a higher education institution in Indonesia. The return rates were 330 respondents, but have been sorted to 280 respondents. The other 50 respondents do not fulfill the characteristic of targeted respondents who must be English lecturers teaching at the university level. The survey was done for a month during December 2018. The data collected then analyzed using chi-square to find the correlation between each aspect. Kinds of training experiences, ICT activities and problems of ICT implementation were described statistically.

### The Scale

The questionnaire was adapted from (Muslem, Yusuf, & Juliana, 2018; Son, Robb, & Charismiadji, 2011), consisting of 35 items and five scales of measurements. There are five scales of measurement for the variable of knowledge and ICT literacy skill; *Strongly agree, agree, neutral, disagree, and strongly disagree*. For the variable of Internet and ICT activities frequency, there are also five scales of measurement; *always, often, sometimes, rarely, and never*. The instrument is validated by some experts before applying it to collect the data and also undergone validity measurement using SPSS with the result of  $r > 0.113$  and reliability measurement using *Cronbach alpha* with the result  $r > 0.7$  (see the appendix of the questionnaire)

## FINDINGS AND DISCUSSIONS

Demographic data from the respondents are gained based on the following category: age, gender, educational background, academic position, and teaching experiences. The dominant age of the respondents (43.5%) 122 respondents are at the age of 31-40 years old, below 30 years old is 64, 41-50 is 60, 51-60 years old is 29, and above 61 years old is 5. Indonesia lecturer's minimum education requirement is a master's degree, the data gained 18 % of the respondents 50 lecturers own doctorate and the rest (82 %) of the respondents, which is 250 lecturers own master degree. Most respondents are still in the position of lecturers 115, assistant profes-

sors 86, associate professors 17, and Professors 6. Fifty-six (20%) of them are still new lecturers who teach less than 5 years and do not have any academic position based on the ministry of higher education. (32,5 %) of the respondents have 5-10 years teaching experiences, (20 %) 11-15 years teaching experiences, 13,2 % have 16-20 years experience, and the rest 14,3 % have experienced teaching more than 21 years. The respondents are representative of English educators from more than 130 universities in 55 cities around Indonesia.

### ICT Literacy Levels

Figure 1 explains that most lecturers are ICT literate and able to use ICT in their daily teaching activities. The figure shows that more than (61.4 %) 172 respondents have ICT skills above adequate, which are good and excellent. The rest (36.49 %) are just adequate and only 6 respondents (less than 1 %) admitted having poor ICT skills.

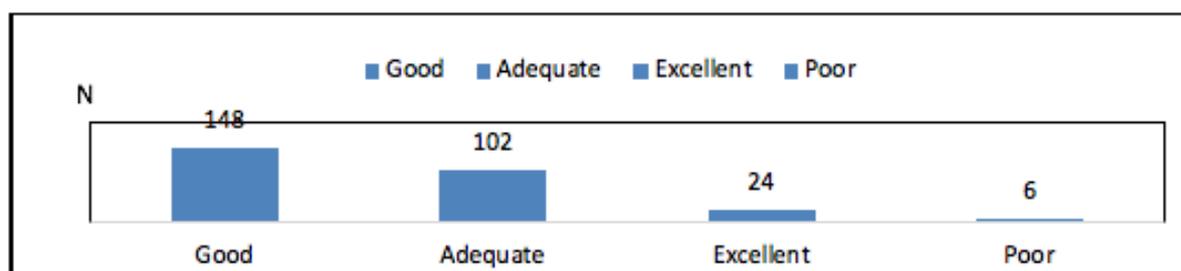


Figure 1. ICT literacy levels

The following data (table 1) describes more on teachers' knowledge of ICT in English language teaching. Less than (1%) teachers do not know how to access the internet and get some information from it. The other respondents (82.14%) are strongly agreed and (17.41%) agreed that they can access the internet and make use of the internet to find some information. (35%) of the teachers are strongly agreed and (45.71%) agreed that they have the knowledge of many various forms of ICTs tools and techniques that are accessible to be used for teaching. (15.71%) of them are neutral and only (3.57%) disagree, meaning only a few teachers do not have the knowledge of ICTs tools and techniques that can be used for teaching English. The majority of English teachers are able to make use of ICT to enhance language teaching and learning. (52.85%) teachers agree, (30.35%) strongly agree, and (40 %) teachers are not sure whether they can empower ICT to enhance language learning, less than (2%) of the respondents disagree and less than (1%) strongly disagree, only 2 respondents out of 280 feel they cannot use ICT to improve learning.

However, half of the teachers are not sure they have enough training and experiences related to the use of ICTs for instructional purposes; (31.42%) of them has neutral answers, (16.42%) of them disagree and (1.78%) strongly disagree. (13.92%) teachers strongly agree and (36.42%) teachers agree that they have enough experience and training on ICT and technology for language teaching and learning. More than half of the respondents have the competence of providing digital sources and ICT materials related to English subjects for their students, (28.21%) strongly agree and (43.21%) agree. The rest (21.78%) are not sure whether they can provide materials for their students from ICTs tools and activities. (5.35%) of the respondents, answer disagrees and (1.42%) strongly disagree.

This outcome renews previous findings by (Harendita, 2013; Kusumo et al., 2012) about the condition of Indonesian teachers who were lack of ICT skills. English teachers nowadays are proven to be more literate and willing to apply more ICT activities in teaching English. Most of the teachers know many various forms of ICTs tools and techniques that are accessible to be used for teaching. They can access internet and get some information from it, have the capacity to use technology/ICT tools to enhance language learning and teaching, provide digital sources and ICT materials related to English Language for their students, and have enough experiences and training on ICT and technology that can be used for teaching English in higher education setting.

Teachers' knowledge surely influences teachers' self-efficacy of ICT implementation in higher education settings. Teachers should equip themselves with digital literacy skills and update to the development of technology otherwise they will be left behind. In line with Parker (2010) who questions about the ideal teaching framework in the 21<sup>st</sup>-century era, how learning should be like, what literacy is, and what knowledge is.

Technology will surely change some teachers' roles in the future, therefore, teachers must be ICT literate and ready to teach in the digital era of technology.

**Table 1.** Knowledge of ICT

Knowledge of ICT	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
Teachers know how to access the internet and get some information from it	230 (82.14%)	48 (17.14%)	1 (0.35%)	1 (0.35%)	0 (0%)
Teachers know many various forms if ICTs tools and techniques that are accessible to be used for teaching	98 (35%)	128 (45.71%)	44 (15.71%)	10 (3.57%)	0 (0%)
Teachers know how to use technology/ICT tools to enhance language learning and teaching	85 (30.35%)	148 (52.85%)	40 (14.28%)	5 (1.78%)	2 (0.71%)
Teachers have enough experiences and training on ICT and technology for language teaching and learning	39 (13.92%)	102 (36.42%)	88 (31.42%)	46 (16.42%)	5 (1.78%)
Teachers able to provide digital sources and ICT materials related to the English Language for my students	79 (28.21%)	121 (43.21%)	61 (21.78%)	15 (5.35%)	4 (1.42%)

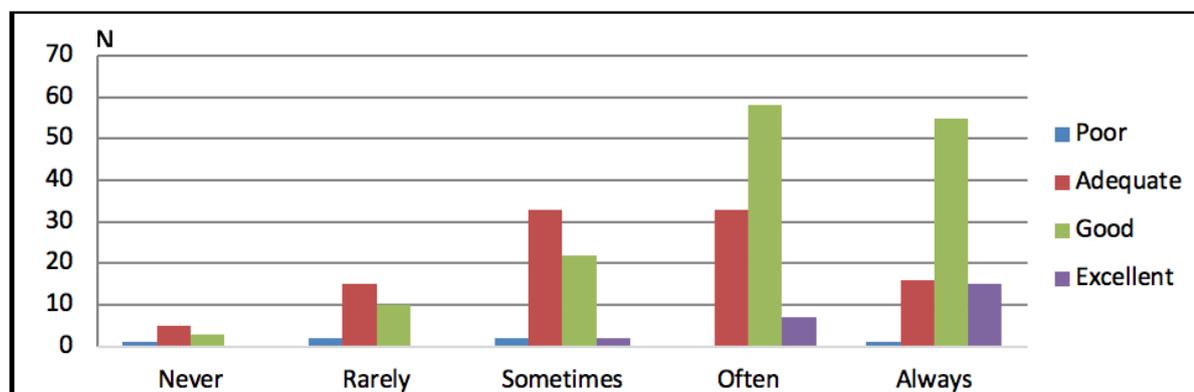
## ICT Literacy and ICT Activities

**Table 2.** Correlation between ICT literacy and ICT activities frequency use

	Chi-Square Tests		
	Score	df	P-Value
Pearson Chi-Square	47.489	12	.000
Likelihood Ratio	49.236	12	.000

Correlation is significant when P-value < α (0.05)

The statistic computation shows that the P-value is below 5 %, meaning there is a significant correlation between teachers' ICT Literacy and their frequency of doing teaching activities related to ICT. The better ICT Literacy teachers have, the more frequently they use ICT in their teaching-learning activities. Teachers with excellent literacy skills always use ICT for teaching students. They make use of ICT optimally in increasing students' understanding of the lesson. A teacher with good ICT skills often uses ICT and teachers with adequate literacy skills sometimes integrate ICT in their instructional activities. (Figure 2)



**Figure 2.** ICT Literacy and Frequency

## Kinds of ICT Activities Use

There are fourteen kinds of ICT activities teachers use in English language teaching. (Table 2). The most frequent activity is finding material resources related to the lessons taught. It is proven already that ICT gives teachers huge access to collect, download and use materials from the internet before teaching. Teachers can find all kinds of teaching audio, printed and visual teaching materials easily through the internet. Nowadays a teacher depends on some search engines that can give them answers to any problem they have related to teaching. 60% of the respondents believe the internet can provide them many teaching materials and 53.2 % of them always do surfing activities in some search engines or worldwide websites. Other frequent ICT activities are emailing and preparing a presentation. 46.8% of respondents always use ICT in preparing teaching presentation and emailing students or colleagues related to teaching matters and tasks. In this era of eco-literacy and global warming awareness, paperless- assignments are more recommended. 45.7 % of teachers prefer to give assignments online rather than manual or printed ones. In this rapid information era, the communication system is done more through online rather than face-to-face. 36.8 % of teachers prefer to have online chatting communication, via texting in short message service with students and other colleagues related to subject matters.

Other less frequent ICT activities that sometimes used by the teachers are using Learning Management System (LMS) as online classroom learning platform (26.4 %), Educational games and application (30.4%), online discussion board (26.1%), Social media such as Youtube, whats application, Line, Instagram for teaching (27.9%). Using social media for educational purposes is not balanced with the numbers of social media users in Indonesia that 40 % of 262 million Indonesians use them. (Direktorat Jendral Pembelajaran dan Kemahasiswaan, 2018).

Video conferencing is one of the activities, which is mostly never use for teaching-learning activities in an English course. (42.5%) respondents never use video conferencing with their students. It is probably because teachers use blended learning, so there is still face to face interaction in the classroom during the course. Video conferencing is more suitable to be used for distance learning, in which teachers and students are not at the same place. (32.1 %) Respondents never use Blogging as their teaching media, though there have been several studies about the effectiveness of Blogs as media to facilitate students learning. Even though the statistic shows that 62 % of Indonesians like to do shopping online, but (38.6 %) teachers answer never do online shopping for the sake of teaching.

Many studies have shown that ICT gives more advantages to education. Integrating ICT in English language teaching improves learning and support teaching (Tallvid, 2016; Wilkinson, 2016) several one laptop per student-initiatives (1:1. It is confirmed that students have to be prepared with digital literacy skills in the modern era of teaching and learning (Tri & Nguyen, 2014) limited research has been conducted to examine the use of ICT in terms of frequency of use, purposes, perceptions, and expectations among EFL students. Thus, the purpose of the current study was to address this research problem. The research used a convenience sample of 149 English major students who were invited to respond to the questionnaire survey. The findings indicated that the participants spent more time using ICT for private purposes than for English learning purposes. Most of them showed their positive attitudes towards ICT use to study English and expected that ICT should be used more frequently in the classroom in order to maximize language learning and teaching. Gaining an understanding of the way the learners employ ICT for their non-educational purposes may help “shed light on how best to determine their educational uses” (Fujimoto, 2012, p.165. ICT improves students’ thinking and practical skills of English and helps the teacher to teach effectively (Matukhin & Zhitkova, 2015; Pun, 2013; Shyamlee & Phil, 2012). Providing students with digital or online learning materials increase students’ motivation in learning (Floris, 2014; Shishkovskaya, Sokolova, & Chernaya, 2015; Zarzycka-Piskorz, 2016). Using social media and technology improves students’ English communication (Boonyopakorn, 2016; Buran & Evseeva, 2015). The ICTs activities provide flexibility and accommodate students’ different learning styles (Kranthi, 2017) and increase students’ English proficiency (Bilgin, 2013; Shishkovskaya, Bakalo, & Grigoryev, 2015). The implementation of LMS has replaced the traditional classroom learning activities and promoted students’ autonomous learning (Averkiewa, Chayka, & Glushkov, 2015; Bilgin, 2013; Fix, Kolesnikov, & Petrova, 2015; Sokolova, Rostovtseva, & Wasilewski, 2015).

More variations of ICT activities and tools need to be done to enhance language learning in higher education levels. Teachers’ capacity and attitude toward ICT determines the success of ICT integration in English

Language teaching. Teachers have important roles as the content developer and learning facilitator in implementing ICT in the education setting. Hence, teachers should maintain and improve their ICT literacy to be able to cope with the rapid development of technology used in teaching by adjusting teaching objectives, material, strategies engaged with ICT activities.

**Table 3.** ICT Activities Frequency

No.	ICT ACTIVITIES	FREQUENCY					Total
		Always	Often	Sometimes	Rarely	Never	
1.	Text chatting with students and other teachers on university/subject matter	103	106	50	8	13	280
		36.8%	37.9%	17.9%	2.9%	4.6%	100%
2.	E-mail and mail listing	131	92	41	14	2	280
		46.8%	32.9%	14.6%	5.0%	.7%	100%
3.	Online Classroom Learning Platform (Learning Management System)	43	71	74	38	54	280
		15.4%	25.4%	26.4%	13.6%	19.3%	100%
4.	Educational Games /Application that can be used for teaching	28	59	85	60	48	280
		10.0%	21.1%	30.4%	21.4%	17.1%	100%
5.	An online discussion board on language teaching	38	60	73	57	52	280
		13.6%	21.4%	26.1%	20.4%	18.6%	100%
6.	Social media (Youtube/Facebook/Instagram/Twitter) for language teaching	61	92	78	31	18	280
		21.8%	32.9%	27.9%	11.1%	6.4%	100%
7.	Shopping online for teaching tools and materials	16	36	52	68	108	280
		5.7%	12.9%	18.6%	24.3%	38.6%	100%
8.	Finding material resources related to lessons	168	87	21	3	1	280
		60.0%	31.1%	7.5%	1.1%	.4%	100%
9.	Preparing Presentation	131	108	31	8	2	280
		46.8%	38.6%	11.1%	2.9%	.7%	100%
10.	Giving task/assignment to students	89	128	44	13	6	280
		31.8%	45.7%	15.7%	4.6%	2.1%	100%
11.	Video conferencing and net meeting	19	30	56	56	119	280
		6.8%	10.7%	20.0%	20.0%	42.5%	100%
12.	Online Dictionaries	102	90	57	24	7	280
		36.4%	32.1%	20.4%	8.6%	2.5%	100%
13.	Blogging	32	39	65	54	90	280
		11.4%	13.9%	23.2%	19.3%	32.1%	100%
14.	World wide web surfing	149	76	30	9	16	280
		53.2%	27.1%	10.7%	3.2%	5.7%	100%

### ICT Literacy and Internet Use

There is an increase in internet use frequency in 2016 only (20.4%) of Indonesians use the internet and now 132.7 million (51 %) people of Indonesians use the internet at least three hours per day. (Direktorat Jendral Pembelajaran dan Kemahasiswaan, 2018). able 3 shows that the P-value score is less than 0.05 meaning there is a strong correlation between ICT literacy and internet frequency use. The more duration teachers use the

internet, the more ICT literacy they acquire. Teachers with excellent ICT skills mostly access the internet more than 7 hours a day, 3-4 hours a day for teachers who are good at ICT, 1-2 hours a day for adequate teachers, and less than 1 hour for teachers who are poor in ICT literacy. ICT literate teachers tend to optimize the use of the internet and depend on the internet more than less ICT literate teachers.

**Table 4.** Correlation between ICT Literacy and Internet Frequency Use

Chi-Square test			
	Score	Db	P-value
Likelihood Ratio	42.301	15	0.000
Pearson Chi-Square	44.971	15	0.000

Correlation is significant when P-value <  $\alpha$  (0.05)

### ICT Literacy and Training Experiences

There is a significant correlation between ICT literacy and ICT training experience. (see table 4) Numbers of teachers who are experienced in joining workshops and training related to ICT are more literate than those who never join. 5 from 6 respondents with poor ICT literacy never join any workshops about ICT application for teaching. 65 from 99 respondents with adequate ICT literacy never join ICT training either. Meanwhile, 78 of 147 respondents with good ICT skills have experienced training and workshops of ICT. 14 from 24 respondents with excellent ICT skills also join similar workshops and training before. The findings confirm the previous studies' results (Goktas et al., 2008; Hismanoglu, 2012; Kalogiannakis, 2010; Olofsson et al., 2017; Zhao et al., 2016) that training experience influences teachers ICT skills as well as their attitude toward ICT. The knowledge and experiences of applying ICT in their daily basis improve the teachers' competence of ICT literacy. The more training experiences, the more literate the teachers are in Information Communication Technology applications and the more they are challenged to apply ICT in their courses.

The study reveals kinds of ICT training and workshops experienced by the respondents, such as E-Learning, New Technologies, and Digital Learning, ITELL (Indonesia Technology-Enhanced Language Learning) workshop, TPACK ( Technological Pedagogical Content Knowledge) training, CALL (Computer-Assisted Language Learning)-MALL (Mobile-Assisted Language Learning) applications training, Coursera, Augmented Reality in ELT, and LMS (Learning Management System). Some of the respondents even experienced training and short-courses related to ICT conducted by international institutions. They are ICT (Integrated Computer Technology) in ELT Course from East-West Centre, Hawaii; BINGAR Application in testing speaking and Future Learn held by Ministry of Education of Malaysia; IMOOC (Indonesia Massive Open Online Course) held by RELO, the American National Education Foundation; Online teaching workshop by University of Oregon; Coursera; and MOOC SEAMOLEC. This finding shows that there have been enough variety of ICT training and courses provided in Indonesia and more teachers are interested in joining such kind of training to enhance their ICT literacy skills.

**Table 5.** Correlation between ICT Literacy and Training Experiences

Chi-Square test			
	Score	Db	P-value
Likelihood Ratio	12.249	3	0.007
Pearson Chi-Square	11.913	3	0.008

Correlation is significant when P-value <  $\alpha$  (0.05)

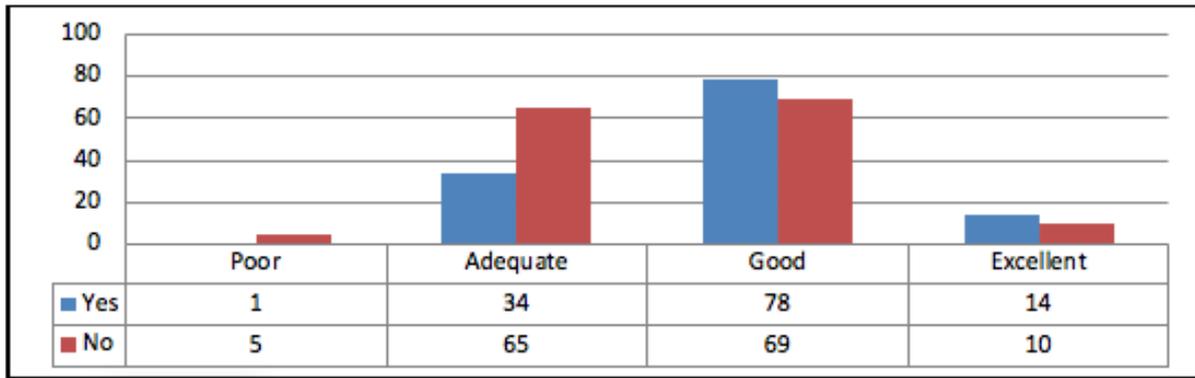


Figure 3. ICT Literacy and Training Experience

### Problems in ICT Implementation

The facility of ICT that covers internet access and technological tools availability becomes the main problem teachers have in the ICT integration. (41.66 %) respondents feel they don't cater with enough facility an infrastructure that can support them to apply ICT in English language teaching. Internet connection in many different areas in Indonesia has various qualities. Internet access is quite problematic in rural areas of Indonesia. The second problem is on the teachers' ICT skills, although most of them are ICT literate but only a few of them joined the training and update their skills. Regular training of ICT integration in language teaching is needed by most teachers. (19.79%) of the teachers feel a lack of ICT skills although they are quite ICT literate. Institutional support (19.53 %). Time limitation (16.49%). (1.3 %) feels the problem is on the student's ICT literacy skills and (1.3%) have no problems in implementing ICT. Problems in ICT is mostly in technical and internet facility matter, however many studies confirm that ICT literacy skills and teachers attitude toward it determine significantly to the practice of ICT in instructional contexts. The more problems they have will discourage teachers in integrating ICT in their teaching, (Abukhattala, 2016; Dashtestani, 2014; Hashemi, 2013; Mafuraga & Moremi, 2017; Safitry et al., 2015; Silviyanti, T. M., & Yusuf, 2015). To overcome this problem it is suggested the authority increase the facility and setting particular policies to have ICT more integrated into the education setting. More organized and frequent training of ICT applications needs to be done to increase teachers' ICT skills.

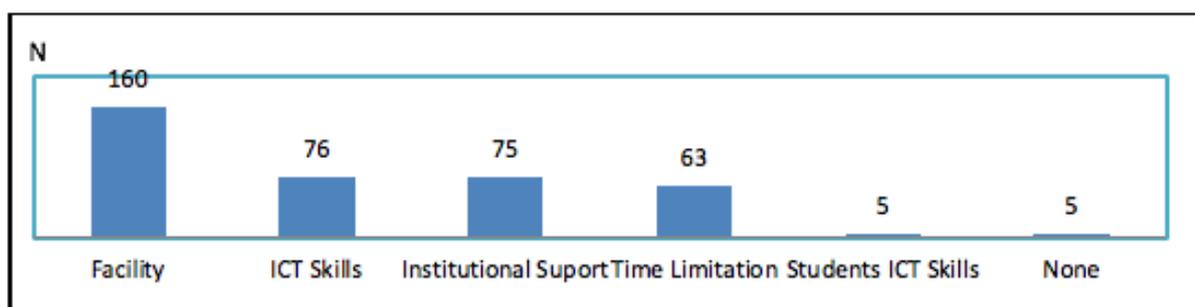


Figure 4. Problems in ICT Implementation

## CONCLUSION

There is a significant correlation among teachers' ICT literacy levels with their training experiences, internet frequency usage, and ICTs integration in language teaching. The more frequent teachers implement the ICTs the more literate they will become. English educators in higher education levels in Indonesia are ICT literate and ready to implement ICT in their instructional setting. Most of them have good ICT skills and have integrated technology to enhance students' achievement and motivation in learning English. It is in hand with the government policy on the disruptive technology of the industrial revolution 4.0 that supports the use of E-learning for teaching the subjects in higher education contexts. Currently, many technological innovations take the role of teachers as; material providers, learning facilitators, assessors, and reviewers. Therefore, teachers are demanded to be ICT literate as teaching sustenance to increase their professional works quality. Hence, teachers must equip themselves with ICT skills and update to technology applications to cope with the 21<sup>st</sup>-century teaching or they will be replaced by technology itself.

The correlation between teachers' ICT literacy and ICT training and implementation is also obvious, training experiences generate teachers' ICT literacy. For that reason, the government's policy and regulation of the use of ICT should be upkeep by conducting more frequent seminars and workshops of ICT to upgrade teachers' ICT literacy levels. More operational training and stronger policy support of ICT facilities from the institution and government would be advantageous to overcome the problems of ICT and encourage greater ICT integration in education, especially in ELT. Thus, this research suggests there should be a specific design ICT in ELT course be taught as one of the compulsory subjects to pre-service teachers (English Department students) at the university level. Further researchers need to conduct an in-depth study to what extent ICT in ELT course taught in the higher education setting and how it contributes to the improvement of English language teaching quality using technology.

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