ESL LECTURERS' DIGITAL COMPETENCE IN MALAYSIAN HIGHER EDUCATION INSTITUTIONS

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Abstract

The teaching profession is facing rapidly changing demands, which require a new, broader and more sophisticated set of competences than before. As a matter of fact, the incorporation of digital technologies in education has transformed the teaching practice which realizes the concept of digital learning. The fact that teaching with digital tools in the language classrooms increases the impact of learning, have been highlighted by various previous studies. However, to date, no study delved explicitly into the notion to evaluate the different factors that affect the digital competence among the English as Secondary Language (ESL) lecturers. Therefore, the purpose of the study is to examine the relationship of ESL lecturers' digital competence towards their basic digital skills, didactic ICT-competence, learning strategies and digital Bildung. The study used quantitative approach in order to obtain the data including questionnaires distributed to 233 ESL lecturers. The data collected was analyzed using description means and regression via SPSS 23 statistical analysis. The result revealed that the lecturers reflect a good level of basic digital skills, didactic ICT-competence, learning strategies and digital Bildung. All the domains showed significant positive and strong correlations with lecturers' digital competence while lecturers' didactic ICT-competence showed the strongest relationship with overall lecturers' digital competence (r=0.787, p=0.000. The findings are expected to promote the quality of digital skills among ESL lecturers in Malaysian Higher Institutions. In addition, this study contributes to the growing body of knowledge on ESL lecturers' digital competence.

Keywords*: ESL lecturers, digital competence, higher learning institution, digital role model.*

1. INTRODUCTION

Digital competence is not only important for social, civic, work, education in today's knowledge based economy (Aesaert, 2015), now Digital competence is also seen as the fifth basic skill, highlighted as important as reading, writing, speaking and mathematics (Ministry, 2018). Furthermore, a recent research by European researches has further situated the importance digital competence a transversal key competence that promotes other key competence. (Euro.comm, 2007). All of these draws focus to the significance of ensuring both students and teachers be digitally competent.

These rising concerns coupled with the fact that almost 200,000 fresh graduates are unemployed, INTI commissioned a landmark survey which revealed several gaps in expectations between employers and new graduates in terms of the competency deemed essential to excel at a job (Borneo Post). This concern is further highlighted by Fariza et al. (2018) the rising number of unemployment among Malaysian university graduates is associated to the lack of 21st century skills and it is imperative to find a pedagogical approach that could enhance these skills.

Bransford et al. (2000) discussed the vast prospects of the incorporation of digital technologies in the classrooms for all levels of education. However, their positive viewpoint on the effects of digital technologies towards these processes in the classrooms was contradicted by the realistic viewpoint

highlighted in OECD (2015) on the incorporation of digital technologies in the present education scenario. In this report, it was highlighted how due to an overestimation of the skills of educators as well as subpar technological tools available in the educational setting, 21st century teaching we are not yet ready for.

1.1. FOSSILIZED TEACHING METHODS

Specifically looking into the Malaysian context, a study conducted by the Ministry in 2010 found that, despite millions of ringgits being channeled into integrating ICT in the classroom, ICT usage was relatively limited. Approximately 80% of teachers spend less than one hour a week using ICT. Only a third of students perceive their teachers to be using ICT regularly. Further, the UNESCO review (2011) noted that "even when ICT is used in teaching, in most cases it has not gone much beyond the use of PowerPoint as an instructional tool. There is no evidence that ICT is being used to foster students' creativity, problem-solving, and critical thinking and communication skills" (Ministry of Education, 2015).

Therefore, in order to keep up with the trends, language teachers have to upgrade their existing digital competency to apply inventive approach to deliver effective teaching in the campus (Instefjord, 2014, Røkenes, 2014,Norizan et al, 2019)Besides that, these language teachers need to constantly enhance their digital competency for professional use during the course of their teacher education to keep up with the fundamentals of teaching languages in a borderless, digital learning environment (Lund et al., 2014); or else, they may not be familiar with the immense potential of ICT as well as the integration of digital technologies professionally in the classrooms.

After all, without solid groundwork, these language teachers may eventually rely on their personal patterns (of acquiring information online as well as entertainment and social media purposes) to use ICT (Lei, 2009). This results in "electrified old teaching methods", where instead of using transparent slides, teachers use PowerPoint and "chalk and talk" where ordinary blackboards become interactive whiteboards but without actual utilization of technology to enhance the teaching and learning process (Wood & Reiners, 2015). Thang et al. (2010) have shown that many Malaysian teachers are fearful of technology and when put in a position where they have to use technology they would do so half-heartedly without commitment. In addition, many still hold on to the view that technology is not necessary and the conventional approach is less complicated and more effective. This is similar to the findings of Drent (2008) who said that teachers tend to revert to the conventional ICT uses instead, such as ICT for administrative duties, content delivery, lesson planning, and teacher-centred instruction, thus remaining at "Adoptation" level of Krumsvik's Digital Competence Model. At this level the educator is only able to show a competence in handling administrative tools, such as the use of LMS, but is unable to integrate technology in order to improve the subject matter pedagogically which is categorized under "Appropriation", found at a higher level in the said model.

1.2. LANGUAGE TEACHERS AS DIGITAL ROLE MODELS

In principle, language teachers are regarded as digital role models for students (Krumsvik et al., 2013); thus, it is crucial that they are competent to inculcate digital competency among students of so-called "digital natives" generation (Prensky, 2005). Although this generation of "digital natives" may be technologically adept, studies have revealed that they are not adequately competent and experienced to make use of these skills they have for learning (Røkenes, 2014). Furthermore, a study by Thang (2010), Hamat (2012) and Shariman (2014) also highlighted that digital natives tend to use so-

cial media only for entertainment and most of Malaysian classes are still teacher centered. Hence, language teachers have the responsibilities to empower these students in this borderless, digital environment and prepare them for the workforce in knowledge- and competency-based economies (Voogt et al., 2013). Krumsvik (2014) revealed that educators with high digital competency have better classroom management in technology-rich environment, which significantly influence the students' overall successes in school (Krumsvik et al., 2013). This demonstrates the significance of digital competence among educators in delivering effective teaching in relation to the present need of 21st century skills.

Previous studies have heavily focused on the role of students in the learning environment (Cunningha, 2017; DiZio, 2017,). Meanwhile, Røkenes (2014), Krumsvik (2013), and Instefjord (2016) focused on the role of teachers in digital literacy environment and factors affecting their digital competency. However, the role of lecturers and their digital competency in classrooms are not comprehensively studied. Krumsvik (2013) and Instefjord (2016) examined lecturers' own evaluation of digital competency but the scope of these studies was rather broad; thus, lecturers of specific field of practice should be included for depth of findings. Apart from that, Razak et al. (2010), Shariman (2014) and Loh (2014) put emphasis on the utilization of digital tools in a learning environment among students, but studies on the digital competency of lecturers in Malaysia remain lacking.

Addressing that, this study will consider the aspects of digital competence, language teaching, and the utilization of digital technologies in the classrooms among these ESL lecturers. The primary basis of studies on the development of digital competency in education among lecturers requires specific subject discipline with the incorporation of ICT, which explains the crucial selection of ESL domain for this study. Therefore, the question guiding this study is:

1. What is the level of basic digital skills among ESL lecturers?
2. What is the level of didactic ICT-competence among ESL lecturers?
3. What is the level of learning strategies among ESL lecturers?
4. What is the level of digital *bildung* among ESL lecturers?
5. What is relationship of basic digital skills, didactic ICT-competence, learning strategies, and digital *bildung*) with lecturers' digital competence?

2. MATERIALS AND METHODS

This study utilized a quantitative design which is applied to gather in-depth information on a small number of people or subjects (Patton, 1990). Among other strengths of the quantitative method are: stating the research problem in very specific and set terms (Frankfort Nachmias & Nachmias, 1992), clearly and precisely specifying both the independent and the dependent variables under investigation, following firmly the original set of research goals, arriving at more objective conclusions, achieving high levels of reliability of gathered data and eliminating or minimizing subjectivity of judgment.

2.1. CONTEXT OF THE STUDY

The study aimed to look at independent privately owned university and university colleges to gain insight at how these institutions implement and support technology use in their own environment. The selection of private higher institution to be included in this research was made from the master list registered IPTS attained from MOHE in February 2019. In the list, 50 universities and college universities with main branches in Selangor and Kuala Lumpur was selected. These two states were selected

because it's home to the majority of higher institutions a; 33 out of 47 universities (70%) and 16 out of 34 (47%) college universities.

2.2. RESEARCH DESIGN AND INSTRUMENT

With respect to the digital competence model for teachers (Krumsvik et al., 2016), this study employed self-administrated questionnaires to examine the ESL lecturers' status of digital competence in universities. The questions were adapted and changed to suit ESL teaching in Malaysia.

In brief, the questionnaire was organized into seven sections. The demographic and personal characteristics section included gender, age group, years of teaching experience, and formal ICT education. The final four components were from the digital competence model, which were: (i) basic digital skills; (ii) didactic ICT-competence; (iii) learning strategies; and (iv) digital *bildung*. The questionnaire integrated the six-point Likert scale with the endpoints of "Strongly agree/Strongly disagree" for the respondents to select the level of their skills and agreement or disagreement with the provided items accordingly. A six-point Likert scale was used in the instrument of this study because the finer 6-point scale enables participants to sort out items in a manner closer to the structural pattern of the scale, resulting in higher reliability and validity (Chang, 1994).

2.3. SAMPLE POPULATION

A sampling frame for this study is constructed from lecturers from 40 private universities and college-universities in Selangor and Kuala Lumpur. A proportional random sampling technique is used to generate the samples. Senior lecturers, lecturers and junior lecturers constitute the strata of the samples. The total population of English Language Lectures in these two states is 379. As suggested by Krejcie and Morgan (1970, p. 291) in their statistical table to determine the sample size from a given population, for a population of 379, sampling of at 191 is required. Therefore, a total of 233 English language lecturers were sampled. The return rate of the questionnaire was at 61.4%.

The respondents are made up of a majority of female respondents compared to males (79.8% and 20.2% respectively), while the largest age group ranges between 31 to 40 years (48.5%), followed by 41 to 50 years (21.5%), 21 to 30 years (18.5%) and 51 to 60 years (11.6%). As an ESL lecturer, about 47.2% of the respondents owned 2 electronic gadgets for personal use, followed by 29,6% owned 3 electronic gadgets, 11.6% owned 4 electronic gadgets, 7.3% owned over than 4 electronic gadgets and 4.3% owned only 1 electronic gadget. Linking with the gadget they owned, average use or screen time of electronic gadget per day of the respondents are between 4 to 8 hours (46.8%), followed by 2 to 4 hours (18.9%), 8 to 10 hours (18.5%), 10 to 12 hours (9.4%), above than 12 hours (4.3%) and below 2 hours (2.1%).

In view of teaching English language, 43.8% of the respondents has above than 10 years of experience, 37.3% between 5 to 10 years of experience, 13.3% between 3 to 5 years of experience, whereas 5.6% of the respondents has below than 2 years of experience. On formal ICT education, surprisingly, about 46.8% of respondents do not have any formal ICT education, whereas, 45.9% of respondents have about 15 credits or lesser ICT education. Only 5.2% of the respondents have between 16 to 30 credits in formal ICT education, whereas 2.1% of the respondents have between 31 to 60 credits in formal ICT education. Even though 46.8% of respondents do not have any formal ICT education, about 84.1% of the respondents still don't have any plans to continue their ICT education compared to 15.9% who have the willingness to continue their ICT education.

Table 1. Lecturers' Demographic

	Demographic	Frequency	Percent
Gender	Male	47	20.2
	Female	186	79.8
Age	21-30 years old	45	19.3
	31-40 years old	112	48.1
	41-50 years old	49	21.0
	51-60 years old	27	11.6
Ethnicity	Malay	136	58.4
	Chinese	51	21.9
	India	26	11.2
	Others	20	8.6
Marital Status	Single	87	37.3
	Married	138	59.2
	Divorced	8	3.4
Salary	RM 1000-RM 3000	42	18.0
	RM 3001-RM 5000	122	52.4
	RM 5001-RM 7000	48	20.6
	RM 7001 and above	21	9.0
Gadgets	1	10	4.3
	2	110	47.2
	3	69	29.6
	4	44	18.9
Screen Time	0-2 hours	5	2.1
	2-4 hours	44	18.9
	4-6 hours	55	23.6
	6-8 hours	53	22.7
	8-10 hours	44	18.9
	10-12 hours	22	9.4
	Over 12 hours	10	4.3

3. RESULTS

3.1. The status of basic digital skills, didactic ICT-competence, learning strategies, and digital *bildung* among ESL teachers.

The mean score for each domain of digital competence was analyzed. A mean score of ≤ 2 was considered as low competency, a score of $> 2 - \leq 4$ was considered as moderate competency, and a score of > 4 was considered as good competency.

Table 2 shows the status of basic digital skills among the ESL lecturers. Based on the result, the respondents showed a good level basic digital skills competency. The highest mean showed respondents feel to most comfortable in using digital skills in their daily lives (Mean=5.326, SD=0.848), however the lowest mean reflected on the respondents' ability to fix technical problems arising in the classroom (M= 4.326, SD=1.237). The overall mean for basic digital skills is 4.86 and standard deviation is 0.792.

Table 2. Classification of Basic Digital Skills

Statement	SD	D	SD	SA	A	STA	Mean	SD
I feel comfortable using digital tools (e.g. online banking and social media) during my spare time (outside of the classroom)	1 (0.4%)	0 (0%)	8 (10.3%)	24 (10.3%)	80 (34.3%)	120 (51.5%)	5.326	0.848
I feel comfortable in using digital tools (e.g. learning management systems)in my English language teaching	0 (0%)	1 (0.4%)	10 (4.3%)	38 (16.3%)	97 (41.6%)	87 (37.3%)	5.111	0.858
I am able to use new applications without much guidance (Kahoot, PowToon, Prezi)	4 (1.7%)	13 (5.6%)	21 (9%)	59 (25.3%)	87 (37.3%)	49 (21%)	4.54	1.181
I know how to use presentational tools (e.g. PowerPoint, Prezi, PowToon) in my English language teaching	1 (0.4%)	1 (0.4%)	8 (3.4%)	45 (19.3%)	111 (47.6%)	67 (28.8%)	4.995	0.853
I can easily fix technical problems when being confronted with it (e.g. to adjust projector setting, the use of VGA/HDMI cables)	4 (1.7%)	16 (6.9%)	34 (14.6%)	71 (30.5%)	62 (26.6%)	46 (19.7%)	4.326	1.237
	Overall						4.86	0.792

Under the domain didactic ICT competence, as shown in table 3, the respondents show the highest mean on using digital tools in the teaching of listening and speaking subject (Mean=4.643, SD=1.105). Meanwhile, the lowest mean reflected that the respondents felt the least competent about using digital

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tools in the teaching of the writing subject (M= 4.326, SD=1.172). The overall mean for didactic ICT competence is 4.326 and standard deviation is 1.172. In conclusion the respondents have moderate didactic ICT competence with the most confident use of applications in teaching listening and speaing.

Table 3. Classification of Didactic ICT Competence

Statement	SD	D	SD	SA	A	STA	Mean	SD
I have used applications which are for the specific use of teaching the English subject	0 (0%)	10 (4.3%)	21 (9%)	77 (33%)	91 (39.1%)	34 (14.6%)	4.506	0.991
I give my students clear instructions related to ICT use at the beginning of class to enhance their potential English subject learning outcomes	2 (0.9%)	12 (5.2%)	26 (11.2%)	67 (28.8%)	101 (43.3%)	25 (10.7%)	4.407	1.046
My use of ICT helps the students to understand and apply the English subject better	2 (0.9%)	3 (1.3%)	23 (9.9%)	65 (27.9%)	111 (47.6%)	29 (12.4%)	4.575	0.935
I have used digital applications in the teaching of the Writing skills in the English language subject	7 (3%)	11 (4.7%)	30 (12.9%)	65 (27.9%)	91 (39.1%)	29 (12.4%)	4.326	1.172
I have used digital applications in the teaching of the Reading skills in the English language subjects	5 (2.1%)	13 (5.6%)	26 (11.2%)	63 (27%)	95 (40.8%)	31 (13.3%)	4.386	1.15
I have used digital applications in the teaching of the listening and Speaking skills in the English language subjects	4 (1.7%)	7 (3%)	22 (9.4%)	50 (21.5%)	102 (43.8%)	48 (20.6%)	4.643	1.105
			Overall				4.474	0.839

Table 4 shows that under the domain of leaning strategies, the respondents showed good competency in using online platforms to receive feedback from their students (Mean=4.609, SD=1.191). Meanwhile, the lowest mean was reflected as the respondents were less competent the utilization of digital applications to help students to develop on screen reading coherence (M= 4.064, SD=1.231). The overall mean for learning strategies is 4.267 and standard deviation is 0.995. In conclusion, the respondents reflect a good level learning strategies competency, with being the most comfortable asking for feedback online.

Table 4.   Classification of Learning Strategies

Statement	SD	D	SD	SA	A	STA	Mean	SD
I have used digital applications to help students to read screen-coherence	9 (3.9%)	18 (7.7%)	36 (15.5%)	81 (34.8%)	64 (27.5%)	25 (10.7%)	4.064	1.231
I can guide students to analyze (e.g. search. localize, and compare) information of different digital sources	5 (2.1%)	11 (4.7%)	37 (15.9%)	86 (36.9%)	63 (27%)	31 (13.%)	4.218	1.14
I use ICT to conduct assessments	12 (5.2%)	19 (8.2%)	32 (13.7%)	61 (26.2%)	71 (30.5%)	38 (16.3%)	4.176	1.364
I prefer to use the online platform (e.g. WhatsApp, Email, Kahoots, Survey) to receive feedback/ answers form my students	2 (0.9%)	14 (6%)	26 (11.2%)	46 (19.7%)	88 (37.8%)	57 (24.5%)	4.609	1.191
			Overall				4.267	0.995

Finally, under the last domain of digital *bildung*, as shown in Table 5, a majority of the lecturers showed good competency in teaching their students how to cite and paraphrase from online sources. However, the lowest mean showed the respondents being less confident when they teach the dangers of being online *(*M= 4.57, SD=1.176). The overall mean for digital building is 4.755 and standard deviation is 0.922. In conclusion the respondents show a good level of digital *bildung* competency.

Table 5.   Classification of Digital *Buildung*

Statement	SD	D	SD	SA	A	STA	Mean	SD
I teach student the ethical and moral awareness that comes with using ICT (e.g., cut and paste, illegal downloading)	3 (1.3%)	4 (1.7%)	19 (8.2%)	47 (20.2%)	89 (38.2%)	71 (30.5%)	4.836	1.082
I can guide students' digital judgement (e.g. what to/not to share online, cyberbullying) in their digital lifestyle within and outside of the campus	1 (0.4%)	14 (6%)	21 (9%)	57 (24.5%)	90 (38.6%)	50 (21.5%)	4.592	1.126
I teach students how to cite sources and paraphrase in my English class	1 (0.4%)	6 (2.6%)	9 (3.9%)	34 (14.6%)	104 (44.6%)	79 (33.9%)	5.021	0.971
I teach students how to deal with hazards related to negative behaviors such as cyberbullying, privacy, copyright violations and plagiarism in my English class	4 (1.7%)	10 (4.3%)	30 (12.95)	42 (18%)	99 (42.55)	48 (20.6%)	4.57	1.176
			Overall				4.755	0.922

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3.2. The relationship between basic digital skills, didactic ICT-competence, learning strategies, and digital building with teachers' digital competence

Table 6 displayed the results of relationship the basic digital skills, didactic ICT-competence, learning strategies, and digital building with the lecturers' digital competence. The Pearson correlation result showed that the lecturers' digital competence is moderately positive and significant with basic digital skills (r=0.699, p=0.000) and digital *bildung* (r=0.554, p=0.000). Furthermore, lectures' digital competence is strongly positive and significant with didactic ICT competence (r=0.787, p=0.000) and learning strategies (r=0.743, p=0.00).

Next, basic digital skills showed moderately positive and significant with didactic ICT competence (r=0.597, p=0.000), learning strategies (r=0.582, p=0.000) and digital *bildung* (r=0.488, p=0.000). Based on the didactic ICT competence, it showed as strongly positive and significant with learning strategies (r=0.747, p=0.000) and moderately positive and significant with digital *bildung* (r=0.491, p=0.000), Lastly the learning strategies also showed moderately positive and significant with digital *bildung* (r=0.547, p=0.000).

Table 6. Relationship of Basic Digital Skills, Didactic ICT-Competence, Learning Strategies, And Digital Building with Lecturers' Digital Competence

Variables	Teachers' Digital Competence	Basic Digital Skills	Didactic ICT Competence	Learning Strategies	Digital Building
Lecturers' Digital Competence	1	.699**	.787**	.743**	.554**
		0.000	0.000	0.000	0.000
		233	233	233	233
Basic Digital Skills		1	.597**	.582**	.488**
			0.000	0.000	0.000
			233	233	233
Didactic ICT competence			1	.747**	.491**
				0.000	0.000
				233	233
Learning Strategies				1	.547**
					0.000
					233
Digital *Bildung*					1

Table 7 represents the overall sample of basic digital skills, didactic ICT-competence, learning strategies, and digital *bildung* with lecturers' digital competence. Based on the multiple regression, it is showed that the values of basic digital skills (β=0.280, p<0.05), didactic ICT competencies (β=0.404, p<0.05), learning strategies (β=0.227, p<0.05) and digital *bildung* (β=0.095, p<0.05), are significant related on lecturers' digital competence. Based on the standardized beta, the didactic ICT competence is most influencing the effect lecturers' digital competence while the digital *bildung* is least influencing. R^2=0.857 showed 85.7% of the effect lecturers' digital competence is mainly due to basic digital skills, didactic ICT-competence, learning strategies, and digital *bildung*. The result showed all factors (basic digital skills, didactic ICT-competence, learning strategies, and digital *bildung*) has relationship with lecturers' digital competence.

Table 7. Multiple Regression Between Basic Digital Skills, Didactic ICT-Competence, Learning Strategies, And Digital Building with Lecturers' Digital Competence

	Beta	T	Sig
Factor			
Basic Digital Skills	0.280	6.209	0.000**
Didactic ICT competence	0.404	7.480	0.000**
Learning Strategies	0.227	4.137	0.000**
Digital Building	0.095	2.260	0.000**
R2			0.857
Adjusted R2			0.735
F			158.004
Sig			0.000**

4. DISCUSSION

Research on the digital competences among teachers are various compared to those focusing on the digital competence of lecturers who are those who will mould the students in preparation of the working world (Instefjord, 2014, Røkenes, 2014). A questionnaire assessing the four factors of lecturers' digital competency was constructed with the use of a 6 scale Likert and distributed across 40 higher education institutions.

In this study, it was found that the ESL lecturers had good basic digital skills in using presentation tools without much guidance, however, the lecturers had problems in resolving technical issues faced during the use of technology in their classroom. Furthermore, the lecturers also had a good level of didactic ICT skills in utilizing the latest online learning resources in the teaching of listening and speaking. On the other hand, the use of technology in the teaching of writing can still be improved. As for the learning strategies domain, the lecturers showed good level of skills within using ICT for feedback. The use of ICT for assessment and improving the students on screen reading coherence can continue to be improved. Meanwhile, the teachers showed good competency in digital *bildung,* especially in helping the students cite and paraphrase from online sources. However, lecturers can continue to learn how to help expose the dangers of negative behaviours online.

These findings highlight that lecturers do have a good grasp of using technological tool in the classroom, however if looked in detail, it shows a surface confidence of using digital tools. The lecturers still require to continue their ICT development especially to be able to fix minor technological issues, they should be able to use applications to help with the writing subject, as well as help guide the students' on screen reading coherence and expose the students to dangers that lurk in online platforms. This findings were consistent with those of the study conducted by Røkenes & Krumsvik (2014) which speculated that there is a need to increase teachers' digital competence because of challenges in keeping themselves updated with the latest technology to be adopted in their teaching in class.

Therefore, if the lecturers aim to keep their ICT skills updated, it will also increase the development of effective strategies in class (Jung et al., 2019). However, it is important to highlight that the lecturers also require continuous support from their respective academic institutions, to be able to integrate digital tools in their teaching at an even deeper level (Hussien, 2018). This support would transform the old methods into new interactive methods (Wood & Reiners, 2015), such as lecturers being able to confidently fix technical issues with their daily use of hardware in the classroom, being able to incorporate digital tools in more skilled subjects such as writing and on screen reading coherence as well as guiding their students towards a safer online social life.

5. CONCLUSION

The study aimed to explore the lecturers' basic digital skills, didactic ICT-competence, learning strategies, and digital *bildung* competency status and its relationship with the lecturers' overall digital competence. Through this study it was found that Basic digital competence, didactic ICT-competence, learning strategies, and digital *bildung* significantly contributed to digital competence among ESL lecturers. A majority of them had a good level of competence in relation to overall digital competence, as well as across the domains. The domain of digital *bildung* reported the second highest levels among the respondents, however it has the least significant relationship towards the overall lecturers' digital competence. Furthermore, the domain of learning strategies has a high significant relationship, however it reported the lowest level among the respondents.

The interpretation of the digital competences of lecturers and the digital competence of technology users varies where the digital competence of the former generally comprises educational strategies, whereas, the latter focuses on pedagogical-didactic aspects, the capacity to raise the knowledge acquired and the own thinking processes. Subsequently, it can be seen that the digital competence is largely understood as more than just the ability to use software or operate digital devices and involves "a large variety of complex skills – cognitive, motoric, sociological, and emotional – users need to have in order to use digital environments effectively" (Eshet-Alkali & Amichai-Hamburger, 2004, p. 421). Educators must focus on improving their teaching strategies in order to be able to help their students' learning process.

The limitations of the study are on the quantitative nature of the study; it would be a good suggestion to look deeper into the research context by including triangulation methods. Similar interventions should be conducted or implemented and could effectively improve lecturers' competency in ICT usage in teaching.

Academic institutions should provide continuous support to further develop the lecturers' digital competence especially in terms of fixing technical issues, integrating digital tools in the writing subject, the students' on screen reading coherence as well as being effective role models regarding digital safety. This study's specific findings will aid the process of enhancing the lecturers' digital competence by guiding institutions on areas to focus on support as well as areas for further research.

To sum up, in view of the digital transformation of the education system, which requires highly competent lecturers, the current study's result shows that ESL lecturers remain professionally trained in their utilization of pedagogical-based digital technologies. In addition, the result of this study also emphasized that the pedagogical aspects of digital technologies with respect to the curriculum or classroom setting has been addressed well. Thus, it is crucial that the Government maintain their policies focus on related professional development for lecturers, and these policies should fundamentally serve to highlight the significance of adequate funding provision as well as availability of resources for universities to attain the necessary digital tools and systems. Important to realize, research pertaining to digital competence development, specifically in the teaching of ESL among Malaysian teachers' lifelong learning had been scarcely done in Malaysian context. To enumerate, the present research objective had filled the gap by examining digital competence in the setting of ESL lecturers' digital competence on PDC in the Malaysian academic system.

Conflict of interests

The authors declare no conflict of interest.

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