Digital Native/Digital Immigrant Divide: EFL Teachers' Mobile Device Experiences and Practice

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Abstract

The purpose of this study was to examine how Thai EFL high-school teachers view and use mobile devices (such as smart phones) in educational settings, and if the age-based digital native/digital immigrant divide would highlight any differences in responses. The participants were 55 Thai EFL teachers in 8 schools of different sizes in Southern Thailand, who were split into digital-native and digital-immigrant subgroups during data analysis. Participants completed a 35-item Likert-type scale covering a range of topics related to mobile devices in the EFL setting including their ability, experience, school/personal policy, instructional utilization, and whether they supported mobile devices as a learning aid. The results showed that while digital native teachers consistently responded more positively towards the benefits/uses of mobile devices in EFL teaching/learning than the older digital immigrant teachers often at a significant level, all teachers -regardless of age- agreed on the benefits and promotion of mobile devices as EFL learning aids. Results of this study expand the knowledge base of EFL teachers' mobile device experiences and practice while raising awareness of significant differences between digital natives and digital immigrants, and recommendations are made for policymakers, schools, and teachers.

Keywords: Mobile devices in EFL context; Mobile assisted language learning; Digital native; Digital immigrant; Mobile learning; Bring Your Own Device

Introduction

Mobile devices -digital, easily portable, and internet accessible devices such as mobile phones and tablet computers which can facilitate many tasks (West & Vosloo, 2013)- are the most ubiquitous interactive Information and Communications Technology (ICT) in the world (West & Vosloo, 2013), holding huge potential as a multi-purpose learning tool and resulting in escalating transformations of the educational world (Alexander, 2014).

Learning English as a Foreign Language (EFL) in countries like Thailand can be challenging as there is very limited exposure to English in both daily life and in institutions (McCarty, Obari, & Sato, 2017). In Thailand, the grammar translation method of instruction -a traditional method where language is taught as an academic subject rather than a means of oral communication with a focus on grammar and rote learning- is claimed to still be very popular and successful among Thai EFL teachers (Sittirak, 2016). Thai students are often not willing to ask direct questions in class and tend to remain quiet (Gunawan, 2016), and allowing students to use mobile devices in class could possibly result in greater learning gains, providing the interactivity and immediate responses to their actions today's digital native students crave (Prensky, 2001).

The powerful learning possible aided with mobile devices is only viable when properly supported and managed by teachers (Aldrich, 2017). As Thailand moves toward a new economic model which

promotes among other things educational technology (Koanantakool, 2016), careful attention must be paid to mobile device use in school and the classroom by policymakers, schools, and teachers. In order for this transition to be possible, teachers must possess appropriate pedagogical and technological knowledge (Koehler & Mishra, 2008), and in an environment like Thailand where traditional teaching practices are followed by a majority of older 'digital immigrant' teachers who have immigrated to the digital world (Prensky, 2001) the ability to transition may be easier for some than others.

Selwyn (2010) contended that the 'real-world' educational contexts within which technology use (and non-use) is located requires 'vigorous' academic study (p. 3). However, at the time of writing there was little previous investigation in Thai EFL contexts and particularly in the southern region. Little was known about the extent to which teachers in Thailand believed mobile devices could aid teaching/learning EFL in the classroom and broader school setting, and there had been little previous investigation regarding the differences between how digital native and digital immigrant teachers respond to questions relating to experiences and practice.

Mobile Devices in Schools

There is much literature (Squire & Dikkers, 2012; Thomas & Muñoz, 2016; Thomson, 2009; West & Vosloo, 2013) highlighting the powerful learning that is possible using mobile devices -especially as an aid to language acquisition (EF EPI, 2017)- bridging between formal and informal learning providing students with the ability to easily access supplementary materials to clarify ideas introduced by a classroom instructor (West & Vosloo, 2013). For the American school students in Squire and Dikkers' (2012) study, learning with mobile devices took on an organic quality, as participants "followed their interests, learned, and became more powerful participants in the world" (p. 450). In a UK study meanwhile, nine out of ten college lecturers believed using mobile devices in the classroom improved their teaching by using these devices to support student's learning (Thomson, 2009).

Conversely, other studies have found mobile devices reduce students' ability to pay attention in the classroom, with 89% of the United States college students in McCoy's (2016) study indicating mobile devices caused them to pay less attention and subsequently miss instruction. Moreover, the ability to use personal and social functions is not necessarily a good indicator of students' knowledge of the educational functions mobile devices afford (Stockwell & Hubbard, 2013).

Teachers, schools, and policymakers are said to be often unclear of the ways these devices can enhance learning (Thomas & Muñoz, 2016). Pahomov (2015) claimed that a typical response from teachers as to why they restrict use is that students have not yet learned how to manage their technology responsibly, where an uncontrollable learning environment is caused if nobody manages student's development and gives instruction on how to manage technology responsibly.

The UNESCO policy guidelines for mobile learning believe negative social attitudes regarding the educational potentials of mobile devices to be the most immediate barrier to the widespread embrace of mobile learning, with this technology being dismissed as distracting or disruptive in school as people generally view mobile devises as portals to entertainment, not education (West & Vosloo, 2013).

Another prominent argument against allowing in-class usage of mobile devices is the inequality of a digital divide of access between affluent and not-so-affluent students, but UNESCO's mobile learning policy guidelines claim that mobile devices hold special promise for education due to the access to devices most people already have (West & Vosloo, 2013). Moreover, Thomas & Muñoz (2016) argue that a new divide has emerged between the low levels of access to technology schools have in

comparison to students. The Bring Your Own Device (BYOD) model, where learners supply their own device, is inexpensive for schools, easy to implement, and unlike a school owned piece of technology allows students to adopt such devices as a personalized learning tools and use them in informal contexts (West & Vosloo, 2013). Whilst schools may not be able to match the technological access students have outside of the classroom, by utilizing a BYOD model in-class they can help create an appropriate learning environment for the digital native generation which utilizes mobile devices as a learning aid at no cost and little effort (West & Vosloo, 2013). The drawback of this model lies in the aforementioned traditional digital divide in that not all learners own mobile devices, which may be exaggerated in environments such as rural areas in less-affluent countries.

For these reasons, despite the potential that learning facilitated by mobile devices presents, schools in Thailand and around the world often prohibit their use within the classroom (Beland & Murphy, 2015; "Cell phone-free Classroom", 2017). Thai Prime Minister Prayut Chan-o-cha expressed growing concern towards in-class mobile device use by students, prompting the Ministry of Education to encourage schools to consider restricting mobile phone use ("Cell phone-free Classroom", 2017).

Mobile Devices and MALL in EFL Context

Mobile Assisted Language Learning (MALL) is language learning that is assisted or enhanced using mobile devices (Valarmathi, 2011). There are many educational affordances unique to mobile devices including portability, the ability to exchange data and collaborate, context sensitivity, connectivity, individuality, enabling multiple modality, supporting student improvisation as needed within the context of learning, and supporting learning on the move (Klopfer, Squire, & Jenkins, 2002, p. 1; Liu, Scordino, Renata, Navarrete, Yujung, & Lim, 2015, p. 356). Moreover, previous studies have shown that students seem pro-MALL, with 67% of Saudi EFL students in Alsulami's (2016) study believing mobile devices can help improve their English language skills and 86% of students depending on the use of mobile devices to understand English words and sentences.

Mobile devices hold special promise in EFL contexts like Thailand as they can provide students with easy access to up-to-date materials and connect them to the real world and an authenticity of native English that is missing in classrooms led by non-native teachers. Studies have found that in EFL contexts technology can aid the learning of Grammar (Kilickaya, 2013; Saeedi & Biri, 2016) and highest reading proficiency is acquired by students who use online dictionaries (Dwaik, 2015). Moreover, technology and MALL can help teachers transform the language classroom, making English learning more personalized, more interactive, and more accessible (EF EPI, 2016). Phillips, Grosch, and Laosinchai's (2014) study found that Thai students are using mobile devices to assist their learning in many positive ways such as checking spelling using online and offline dictionaries, Google searching, translation, and taking photos. Moreover, their findings argued that instead of using new learning platforms, the technology that students already possess should be leveraged to help advance their learning.

Thai Context and Mobile Devices

Thailand was classed as having 'very low proficiency' of English skills in 2016 (EF EPI, 2017), with average English scores of 32% for 9th grade and 28% for 12th grade students (National Institute of Educational Testing Service, 2017). This far-from-satisfactory English language competence is a consequence of the few opportunities there are to use English in their daily settings (McCarty et al., 2017).

Former Minister of Education Somchai Wongsawat stated in the most recent Thai Basic Education Core Curriculum (Ministry of Education, 2008) that "innovative strategies must be identified to improve the quality of education… …and learners' capacities for competitiveness and creative cooperation in the world society" (p. 7). The tradition of teacher-directed rote learning in Thai classrooms is still very popular among Thai EFL teachers (Sittirak, 2016) and strengthens Thai cultural norms which put value on status and age. As a result, the learner-centered approach which has long been rooted in Thailand's educational reform (which also includes the adoption of ICT) has not been widely accepted by teachers, students, or parents (Kantamara, Hallinger, & Jatiket, 2006).

Ten years on from the publication of Thai Basic Education Core Curriculum the government is pushing Thailand 4.0, an economic model which promotes a 'smart Thailand' of creativity, innovation, and educational technology (Koanantakool, 2016). Whilst Thai policymakers have an agenda for incorporating technology and the promotion/utilization of learners' 21st century learning skills, vague policy and seemingly contradictory comments from the Prime Minister Prayut Chan-o-cha asking teachers to consider restricting mobile phone use ("Cell phone-free Classroom", 2017) seems to have left many teachers and schools unable or unaware of how to transition to MALL.

Despite this, the BYOD model to facilitate MALL appears feasible in the Thai context with mobile device use/ownership growing year on year (National Statistical Office of Thailand, 2017), 90% of Internet users in going online using smartphones, and 81% of Thai teenagers spending more than an hour a day on their mobile device (Kantar Millward Brown, 2017).

Digital Native/Digital Immigrant Dichotomy

A barrier to the widespread adoption of mobile devices as a pedagogy such as MALL is often attributed to Prensky's (2001) digital native and digital immigrant divide, a way to differentiate between those born into the digital world and those born before and have had to learn and adapt to new or emerging technologies.

While the native/immigrant analogy can help us understand the differences between those comfortable with technology and those not (VanSlyke, 2003), over fifteen years have passed since Prensky's dichotomy during which ICT adoption and assimilation has accelerated rapidly, providing many digital immigrants with increased exposure to digital technologies, increasing their digital literacy. Consequently, nowadays Prensky's dichotomy is not as clear-cut of a divide as it was before, with some considering the key to the native/immigrant divide being experience and not age (Jones, Ramanau, Cross, & Healing, 2010).

In his 2001 article, Prensky did not define a specific year or date in which he believed the digital age began and when the divide occurred. In this present study, Digital Native teachers (DNs) were categorized as those below 35 years of age (born from 1982), and Digital Immigrant teachers (DIs) were those above 35 years of age (born before 1982). The divide aimed to differentiate between those who were children/teens in the 1990's during the rapid development of the ICT (DNs), and those born prior (DIs). The year 1982 was designated as the divide after consulting literature including Palfrey & Gasser (2011) who arbitrarily named it as 1980 as the time when social digital technologies (such as bulletin boards) came online, and Jones et al. (2010) who considered 1983 to be a suitable place to differentiate.

The digital native/digital immigrant dichotomy can help understand whether any resistance, slow adaptation, or negative attitudes towards mobile devices belong only to digital immigrant teachers,

who are said to be slower to pick up new technologies than digital natives (Prensky, 2001) and in an unfamiliar culture of technology use, language, and behaviors (Toldeo, 2007). If a difference were to be observed between digital immigrant (who make up the majority of in-service teachers) and digital native teachers (who share the digital native characterizes of students) it could suggest a disconnect between two subsets of teachers operating in the same educational system, which looks headed towards increasing technological integration. Previous to this study there appeared to be little to no research on the native/immigrant divide in the context of EFL teachers, though Martin's study of (non-EFL) American K-12 teachers did not suggest a divide between the two groups' uses of technology (2012).

Research Questions

As the introduction hopefully highlights, there is already substantial evidence to show the powerful learning that is possible aided by mobile devices, but only when properly supported and managed by teachers. Previous to this study, little was known about the extent to which teachers in Thailand believed mobile devices could aid learning EFL, and whether comparing teachers in relation to Prensky's digital native/digital immigrant dichotomy would highlight differences. Thus, this study sought to answer the following questions:

1. What are Thai EFL teachers' practices and experiences of mobile devices in school and the classroom?
2. Are there any significant differences when comparing between digital native/digital immigrant EFL teachers' practices and experiences of mobile devices in school and classroom?

Methodology

This study followed a quantitative design using a cross-sectional survey in the form of a questionnaire. The use of quantitative methods for data collection and analysis make possible the generalization of interactions made with one group (Williams, 2007) and the interpretation of research findings need not be viewed as coincidence (May & Williams, 1998).

Research Setting and Sampling

Southern Thailand was chosen as the geographical setting for this study due to seemingly no previous related research having been conducted in the area, and its proximity to the author's university and expected ease of access. Purposive sampling of high schools for this study was based on the following criteria:
1. Schools of different sizes (as defined by the Ministry of Education, Thailand)
2. Schools in both urban and rural areas
3. Public high schools under administration of The Office of Education Area 16 (which covers two provinces in Southern Thailand)

All schools covered by the Office of Education Area 16 were initially invited by mail to participate, with teachers from 8 of the responsive schools making this studies' population. Of these 8 schools, 4 were Extra Large (> 1500 students), 2 were Large (600-1500 students), and 2 were Small/Medium (< 600 students) (as categorized by the Office of the Basic Education Commission, 2016). The 4 Extra Large schools were in urban areas, while the Large and Small/Medium schools were in rural areas, and these were purposively selected to reflect any potential lack of access to mobile devices or digital divide that

may be a consequence of the setting. Non-parametric testing was used to look for any significant differences in relation to urban/rural location. Backed by the National Statistical Office of Thailand data (2017), this research commenced on the basis that a large proportion of Thai's had access to mobile devices, but random selection of participants ensured that this was reflected honestly and accurately.

The population of 68 Thai teachers of English working within the eight schools were invited to participate in the study and sent questionnaires. Of these, 55 responded (81%) and thus the sample size for the quantitative data collection was 55 teachers. Of these 55 participants, 14 were aged under 35 years and when necessary will be referred to as DNs (Digital Native teachers), and 41 were aged over 35 years and will be referred to as DIs (Digital Immigrant teachers). Teachers were not informed of the two strata of age in this research to avoid it influencing their responses.

Instruments and Piloting

This study followed a quantitative approach, using a 35-item survey which mainly consisted of 6-point Likert-type scale questions of agreement from strongly agree [1] to strongly disagree [6] and five-point Likert-type scale questions of frequency from always [1] to never [5]. The survey was adapted from previous studies including Baker, Lusk, & Neuhauser (2012), Nalliveettil & Alenazi (2016), O'Bannon & Thomas (2015), and the Technological Pedagogical Content Knowledge (TPACK) framework (Koehler & Mishra, 2008). The items were presented as a list in no specific order as an effort to stop any strong themes having baring's on how participants responded, and a number of items testing similar constructs to check the reliability of responses were placed at different points in the questionnaire. A bilingual translator translated the questionnaire from English to Thai and worked closely with the researcher during the various incarnations of the instrument pre and post pilot.

A Thai government high-school in the same geographical area but not under administration of the Office of Education Area 16 was randomly chosen to participate in the pilot. Five Thai EFL teachers of different ages were randomly chosen to complete the survey and participate in an item by item discussion with the researcher and his Thai bilingual assistant, commenting on the clarity and content of each item and participating in a short focus group to identify any other relevant topics the survey did not already address. While the structure of the survey remained the same, some items were edited or removed for clarity before the final scale was assessed by three experts in the field for validity.

Data Collection and Analysis

The final survey consisted of 35 items and was distributed in December 2017 to teachers working in the 8 schools. All teachers, regardless of age or school size, received the same survey and participation was voluntary and anonymous to encourage honest responses.

The collected data were analyzed using a software package used in statistical analysis of data. The disproportionate 14 DNs to 41 DIs is reflective of a school environment dominated by digital immigrants and a majority of teachers working in schools over 35-years-old compared to under 35-years-old. Due to the two groups having different numbers of participants, non-parametric Mann-Whitney U test was used to assess for significant differences between DNs and DIs. The mean ($\bar{x}$) and standard deviation (SD) of the Likert-type scale responses are presented for all items. The Likert-type scale intervals are accepted as equal (0.8 on 5-point scale and 0. 83 on 6-point scale), as follows:

Frequency	Mean Range		Level of Agreement	Mean Range
Always	1.00 - 1.80		Strongly Agree	1.00 - 1.83
Often	1.81 - 2.60		Agree	1.84 - 2.66
Sometimes	2.61 - 3.40		Partly Agree	2.67 - 3.50
Rarely	3.41 - 4.20		Slightly Disagree	3.51 - 4.33
Never	4.21 - 5.00		Disagree	4.34 - 5.16
			Strongly Disagree	5.17 - 6.00

Findings

The findings are presented in relation to the two research questions. Several items first addressed participants' demographic details and the types of mobile devices they use to help describe the Thai EFL context of the study.

As previously mentioned, fourteen teachers were aged under 35 years (categorized as DNs in this study), and forty-one aged over 35 years (categorized as DIs). Regarding the types of mobile device(s) they owned/used, 56% reported using an Android phone, 27% iPhone, 4% other smart phone, 5% tablet/iPad, and 3% other devices. Crucially, only 2% of participants reported not owning a mobile device and 4% owning a mobile phone with no connectivity to the Internet, meaning the overwhelming majority of the sample owned and used mobile devices (93%). Teachers reported using mobile devices mostly in the office (89% of teachers), secondly in the classroom (56%), and least in other school situations (29%).

Q1: What are Thai EFL teachers' practices and experiences of mobile devices in school and the classroom?

The questions regarding EFL teachers' practices and experiences are presented in six groups; ability, student access/use, mobile device policy, promotion of mobile devices, distraction/banning, and use of mobile devices in EFL classes.

Table 1. Questionnaire Items of Agreement (6-point scale from strongly agree [1] to strongly disagree [6])

	DNs		DIs		All	
	x̄	SD	x̄	SD	x̄	SD
Ability						
I can use mobile devices with ease.	1.38	0.51	2.12	0.95	1.94	0.92
I feel confident at using mobile devices.	1.38	0.65	2.15	0.48	1.96	0.62
I use mobile devices in my free time.	1.46	0.66	1.97	0.78	1.85	0.78
Student access/use						
Most of my students have access to a mobile device.	1.77	0.93	2.12	0.95	2.04	0.95
Most of my students use mobile devices in class.	2.54	1.61	2.78	1.06	2.72	1.20
Students use mobile devices for educational means in school.	3.15	1.68	3.46	1.31	3.39	1.39
Students do not use mobile devices for educational means in school.	2.85	1.52	2.98	1.54	2.94	1.52
Mobile device policy						
I know my school's policy on mobile devices.	2.00	0.71	2.15	1.14	2.11	1.05
I agree with my school's policy on mobile devices.	2.08	0.76	2.39	1.00	2.31	0.95

I have my own policy on mobile devices in the classroom.	1.77	0.73	2.27	0.71	2.15	0.74
In-class mobile device policy should be decided by the teacher.	1.46	0.97	1.78	0.52	1.70	0.66
Promotion of mobile device use						
I am aware of the ways mobile devices can aid EFL learning.	1.77	0.73	2.10	0.66	2.02	0.69
Mobile devices should be promoted as learning aids.	1.38	0.51	2.05	0.80	1.89	0.79
I know ways to promote positive educational mobile device use.	1.83	0.94	2.31	0.80	2.20	0.85
I support the use of mobile devices in the classroom.	2.50	1.09	2.78	1.15	2.72	1.13
I trust students to use mobile devices in appropriate educational ways in the classroom.	2.92	1.50	2.98	0.96	2.96	1.10
Distraction / banning						
Mobile devices are a distraction in the classroom.	2.54	1.20	2.88	1.20	2.79	1.20
Mobile devices should be banned from the classroom	3.54	1.33	3.17	1.28	3.26	1.29
Mobile devices are a distraction in school.	3.00	1.63	3.05	1.36	3.04	1.41
Mobile devices should be banned from use in school.	3.46	1.66	3.49	1.23	3.48	1.33

Ability

Teachers rated their ability to use technology on a five-point scale from novice (1) to expert (5), which was interpreted using the Dreyfus model of skill acquisition (Dreyfus & Dreyfus, 1980). Overall participants regardless of age reported being 'proficient' ($\bar{x}$ = 3.40, SD = 0.89). Teachers either strongly agreed or agreed with the other three items related to ability in Table 1.

Student Access/Use

Using a 6-point scale from strongly agree (1) to strongly disagree (6), teachers agreed that their students had access to mobile devices ($\bar{x}$ = 2.04, SD = 0.95), but with a significant difference (U = 125, p<.01) in relation to urban/rural school location. This was the only of all 35 questionnaire items that highlighted significant differences of p<.01 when comparing between urban/rural school location.

Table 2. Mobile Device Access in Relation to Urban/rural School Location

	Group	N	Mean Rank	Sum of Ranks	Mann-Whitney U (U)	Z	Asymp. Sig. (2-tailed)
Most of my students have access to a mobile device.	Urban	42	24.48	1028.0	125	-3.00	.00*
	Rural	12	38.08	457.0			
	Total	54					

* p<0.01

Teachers partly agreed that most of their students used mobile devices in class ($\bar{x}$ = 2.72, SD = 1.20), and believed students used mobile devices for non-educational means ($\bar{x}$ = 2.94, SD = 1.52) in school more than for educational means ($\bar{x}$ = 3.39, SD = 1.39), although only partly agreeing with both statements.

Mobile Device Policy

Teachers agreed that they both knew ($\bar{x}$ = 2.11, SD = 1.05) and agreed with ($\bar{x}$ 2.31, SD = 0.95) their school's mobile device policy. They also agreed that they had their own policy on mobile devices in the classroom ($\bar{x}$ = 2.15, SD = 0.74). They were in strong agreement that the teacher should be the one to decide in-class mobile device policy ($\bar{x}$ 1.70, SD = 0.66).

Promotion of Mobile Device Use

Teachers agreed that they knew how mobile devices could aid EFL learning ($\bar{x}$ = 2.02, SD = 0.69) and that mobile devices should be promoted as learning aids ($\bar{x}$ = 1.89, SD = 0.79). However, they agreed slightly less ($\bar{x}$ = 2.20, SD. = 0.85) that they knew ways to promote positive educational mobile device use. Teachers partly agreed that they supported the use of mobile devices in the classroom ($\bar{x}$ = 2.72, SD = 1.13) and that they trusted students to use mobile devices in appropriate educational ways in the classroom ($\bar{x}$ = 2.96, SD = 1.10).

Distraction/Banning

Teachers partly agreed that mobile devices were a distraction in both the classroom ($\bar{x}$ = 2.79, SD = 1.20) and in school ($\bar{x}$ = 3.04, SD = 1.41), with the findings indicating they believed they were slightly more of a distraction in the classroom than the general school environment. They were neutral to the items regarding the banning of mobile devices, responding close to the mid-point of the scale they should be banned from use in school ($\bar{x}$ = 3.48, SD = 1.33) and partly agreeing they should be banned from the classroom ($\bar{x}$ = 3.26, SD = 1.29).

Use of Mobile Devices in EFL Classes

Table 3. Use of Mobile Devices in EFL Classes (5-point scale from always [1] to never [5])

	DNs		DIs		All	
	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD
I use mobile device(s) in EFL classes as a teaching tool.	2.07	1.07	2.85	1.00	2.65	1.07
I allow students to use mobile devices to check vocab.	1.71	0.99	2.48	0.91	2.28	0.98
I allow students to use mobile devices to translate text.	2.57	1.34	3.23	1.03	3.06	1.14
I allow students to use mobile devices to search for info.	1.93	1.00	2.70	0.99	2.50	1.04
I allow students to use mobile devices in any way they like in my class.	3.36	1.74	3.90	1.24	3.76	1.39

Using a 5-point scale of frequency from always (1) to never (5), teachers responded on the threshold of sometimes and often ($\bar{x}$ = 2.65, SD = 1.07) using mobile devices as a learning tool in their EFL classes. Whilst teachers often allowed students to check vocabulary ($\bar{x}$ = 2.28, SD = 0.98) and to search for information ($\bar{x}$ = 2.50, SD = 1.04), they sometimes ($\bar{x}$ = 3.06, SD = 1.14) allowed students to translate text. Teachers demonstrated they controlled the autonomous use of devices by students in their classes, with DNs sometimes ($\bar{x}$ = 3.36, SD = 1.74) and DIs rarely ($\bar{x}$ = 3.90, SD = 1.24) allowing students to use mobile devices in any way they like.

Q2: Are there any significant differences when comparing between digital native / digital immigrant EFL teachers' practices and experiences of mobile devices in school and classroom?

While DNs responded in more agreement/frequency than DIs for all questionnaire items (as previously detailed), the 11 items in the following table highlight those with significant differences between DNs and DIs.

Table 4. Items Which Highlight Significant Differences in Relation to DN/DI

	Group	N	Mean Rank	Sum of Ranks	Mann-Whitney U (U)	Z	Asymp. Sig. (2-tailed)
Rating of ability from novice (1) to expert (5)	DNs	14	34.79	487.0	192	-1.95	.05**
	DIs	41	25.68	1053.0			
	Total	55					
I can use mobile devices with ease.	DNs	13	16.96	220.5	130	-3.08	.00*
	DIs	41	30.84	1264.5			
	Total	54					
I feel confident at using mobile devices.	DNs	13	14.38	187.0	96	-3.93	.00*
	DIs	40	31.10	1244.0			
	Total	53					
I use mobile devices in my free time.	DNs	13	19.08	248.0	157	-2.29	.02**
	DIs	39	28.97	1130.0			
	Total	52					
I have my own policy on mobile devices in the classroom.	DNs	13	20.31	264.0	173	-2.10	.04**
	DIs	41	29.78	1221.0			
	Total	54					
The teacher should decide in-class mobile device policy.	DNs	13	19.38	252.0	161	-2.41	.02**
	DIs	41	30.07	1233.0			
	Total	54					
I use mobile device(s) in my EFL classes as a teaching tool.	DNs	14	20.04	280.5	176	-2.21	.03**
	DIs	40	30.11	1204.5			
	Total	54					
I allow students to use mobile devices to check vocabulary.	DNs	14	18.61	260.5	156	-2.58	.01*
	DIs	40	30.61	1224.5			
	Total	54					
I allow students to use mobile devices to search for information.	DNs	14	19.25	269.5	165	-2.38	.02**
	DIs	40	30.39	1215.5			
	Total	54					
Mobile devices should be promoted as learning aids.	DNs	13	17.96	233.5	143	-2.72	.01*
	DIs	41	30.52	1251.5			
	Total	54					
I know ways to promote positive educational mobile device use.	DNs	12	19.33	232.0	154	-1.95	.05**
	DIs	39	28.05	1094.0			
	Total	51					

$* p < 0.01$, $** p < 0.05$

While the two subgroups of teachers in this study were categorized by age in relation to Prensky's dichotomy (and the period with/without technology they were born in to), several items were

included to assess whether the assumed natural ability and characteristics of DNs occurred within the sample. There was a significant difference (U = 192, p<.05) between teachers rating their ability to use technology from novice to expert, with DN's responding as 'proficient' ($\bar{x}$ = 3.79, SD = 0.97) and DI's as 'competent' ($\bar{x}$ = 3.27, SD = 0.84). For the statement "I can use mobile devices with ease" there was a significant difference between DNs and DIs (U = 130, p<.01), and DNs felt significantly (U = 96, p<.01) more confident at using mobile devices than DIs. Moreover, DNs also reported to using their mobile devices in their free time significantly (U = 157, p<.05) more often than Dis.

DNs strongly agreed ($\bar{x}$ = 1.77, SD = 0.73) that they had their own policy on mobile devices in the classroom significantly more (U = 173, p<.05) than DIs ($\bar{x}$ = 2.27, SD = 0.71), and that the teacher should decide in-class mobile device policy (U = 161, p<.05).

DNs reported ($\bar{x}$ = 2.07, SD = 1.07) using mobile devices in their EFL classes as a teaching tool significantly (U = 176, p<.05) more often than DIs ($\bar{x}$ = 2.85, SD = 1.00). There were also significant differences between DNs and DIs regarding how often they allowed students to use mobile devices to check vocabulary (U = 156, p<.01) and to search for information (U = 165, p<.05).

Finally, DNs strongly agreed that mobile devices should be promoted as learning aids, which was significantly different (U = 143, p<.01) to DIs, with further significant differences (U = 154, p<.05) between DNs and DIs regarding whether they knew ways to promote positive educational mobile device use.

Discussion

The main goals of this study were twofold; to survey teachers on a variety of topics related to mobile devices in the EFL context to establish whether they saw them as advantageous and to see whether comparing between DNs/DIs provided different outcomes to the topics surveyed. The findings revealed two consistent trends which occurred in almost every survey item asked;

1. All teachers in varying levels of positive agreement towards the benefits and promotion of mobile devices in EFL teaching/learning.

2. A difference in response between DNs and DIs (with DNs always agreeing more, reporting higher frequency of use, and higher ability using mobile devices than DIs).

The significant differences between DNs and DIs in relation to confidence, ease of use, technological proficiency, and frequency of use in free time and in the classroom correlate with the general assumptions of both Prensky's 'born in to' definition and recent arguments that the digital divide is mostly about experience and not age (Jones et al., 2010). The results of this study showed DNs were indeed using technology more than DIs and were seemingly more proficient and confident for that reason.

While teachers agreed that they knew of and supported their school's mobile device policy and strongly agreed that teachers should be the ones to decide in-class mobile device policy, there was a significant difference between DNs and DIs actually enforcing their own policy in the classroom. The results showed DNs used mobile devices as a learning tool in their classes significantly more than DIs, which implies DNs own policy of mobile devices was to utilize them, going against the common school policy of banning mobile devices, a policy which is unsupportive of teachers' efforts to integrate technology into their teaching practice (Koehler, Mishra, & Cain, 2017). This could suggest that DNs were aware of the advantages of mobile devices and overruling school policy with their own, while DIs may have been unsure or unable to construct their own policy favoring instead school policy.

There were significant differences between DNs and DIs regarding how often they allowed students to use mobile devices in the various educational ways. Despite these differences, the findings indicated that DIs knew how mobile devices could aid EFL learning and that they were trusting of students to use devices appropriately in class, so the fact they allowed student use significantly less than DNs teachers highlights a contradiction between belief and practice. Prensky claimed that "digital immigrant teachers assume that learners are the same as they have always been, and that the same methods that worked for the teachers when they were students will work for their students now" (2001, p. 3), and the findings of this study suggest his claim may still be true.

Implications for Policymakers, Schools, and Teachers

Teachers partly agreed that mobile devices are a distraction and that students use mobile devices for non-educational means in school more than for educational means, confirming much previous literature and suggesting that negative possible uses of mobile devices are currently too much of a challenge for teachers to embrace in-class use. The fact that the responses regarding whether devices should be banned were so neutral (almost exactly in the middle of the scale) highlights perhaps the biggest issue; teachers are still unsure of their place in school and in the classroom, sitting somewhere between banning them and embracing a classroom that integrates mobile devices (as suggested by Pahomov, 2015). While teachers appeared to have technological ability and supported the promotion of mobile devices as learning aids, it seems they are not quite ready to embrace an environment which considers these devices as everyday learning tools, sitting on students' desks like traditional paper dictionaries. If there is resistance from teachers, especially DIs who currently make up the majority of in-service teachers in schools, the opportunities mobile devices present cannot be effectively utilized. Thus, it is recommended rather than prohibiting mobile devices and obstructing the full potential of students using mobile devices to facilitate learning, schools and policymakers construct policies which promote the use of mobile devices in the EFL environment. Technology such as mobile devices are now highly effective tools which learners are already more than competent in, requiring teachers to move away from the old pedagogies (such as grammar translation) to a method where students learn for themselves using these technologies. In schools which do not dictate a clear policy, it is arguably the responsibility of educators to carefully consider the affordances of mobile devices in the EFL setting.

Despite teachers agreeing that mobile devices should be promoted as learning aids and knowing both how mobile devices can aid EFL learning and ways to promote positive educational usage, they were in less agreement that mobile device use should be allowed in the classroom. If teachers really knew the advantages of promoting mobile device use, as highlighted in the introduction of this study, it is reasoned they would be finding ways to make more frequent use of devices in the classroom. Without full pedagogical knowledge of how to utilize devices in the EFL setting, it is impossible to expect teachers to be able to productively take advantage of them, even in schools with policy which allows their use. Thus, if schools or policymakers deem mobile devices appropriate learning aids it is essential teachers are given adequate training on how to manage and utilize them, as the effectiveness of integrating technology will depend on the learning activities that students encounter (Pheeraphan, 2013). If clear expectations and guidelines are laid out to students regarding how and when it is appropriate to utilize mobile devices, teachers (and students) may have a more positive experience and better attitude towards embracing MALL. Finally, due to the contradiction previously highlighted between digital immigrants beliefs and actual practice, in schools which accept mobile devices to be advantageous and allow and encourage the BYOD model and MALL it is recommended that careful attention be paid in particular to digital immigrants (and their inherent backgrounds of traditional

teaching methods) to ensure they are onboard with school policy to create a consistent environment for learners.

Limitations and Recommendations

Despite consistent differences between digital native and digital immigrant teachers in this study, the findings suggested both subgroups had a commonality of experience and ability to use technology, and it is recommended more precise and practical measurement of teachers' technical knowledge and ability is utilized in future studies. More detailed investigation into the way's teachers are using technology as a pedagogy (through instructional strategies and teaching methods) in EFL classes is also recommended. This could allow for more refined recommendations on the specific educating and training needed for EFL teachers to succeed in a classroom full of digital native students who are increasingly engaging with mobile devices. Finally, as the author of this study was unable to find clear nationwide mobile device policy (in the Basic Education Core Curriculum or elsewhere), a large-scale survey of policies in Thai schools would provide interesting insight into the general framework teachers are operating under.

The design of this study was quantitative, and the addition of qualitative interviews may have enriched the data, however it should be noted that Thais may not be as forthcoming in an interview session as in an anonymous questionnaire due to their passive and shy nature (Mann, 2012). Despite this, the benefits of mixed method research are well known (Creswell, Clark, Gutmann and Hanson, 2003) and it is recommended further research in this field use additional methods to gather data. Whilst efforts were made to make this study as relatable as possible to the general Thai context (by choosing public schools of different sizes in different urban/rural areas across two provinces), this study was carried out in two of Thailand's 77 provinces and thus it cannot be assumed that the results would be the same in other parts of the country. Given the significant differences relating to access in this study between urban/rural location it is recommended similar research is conducted in more extreme urban and rural areas where access to mobile devices may be substantially different to this studies' research setting.

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