Digital Natives in Higher Education Related to Language Learning

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Abstract

Mobile learning in higher education in Turkey is on the rise. University students use their mobile devices mostly for self-directed informal learning rather than in the formal academic context, creating challenges to acquire an accurate picture of academic use. In this study, we collected data about ownership of mobile devices among students using a diverse sample from various universities in Turkey. We also explored students' language learning practices with mobile technologies and focused on the interactions among technologies, contents, and pedagogies. The results indicate that learners need better access to academic-friendly devices such as tablets and additional support to integrate mobile technologies for language learning purposes. The findings also help shape future directions of faculty development. Instructors must integrate these innovative technologies into the curriculum with sound facilitation and assessment strategies, as well as be able to support the mobile practices of students.

Digital Natives in Higher Education Related to Language Learning

Mobile devices' role in young generations' lives are growing more and more important day by day. Today, an average university student has spent fewer than 5000 hours in his or her life to read book, yet has expended over 10,000 hours playing video games, Facebooking, Tweeting, messaging, emailing, and online gaming. These are unmovable parts of their lives now (Prensky, 2001). In this paper, the ownership and usage of mobile devices among university students in Turkey is determined in order

to guide future research in adopting and developing technology in language education. This research creates awareness for educators as to the characteristics of the new generation of digital natives.

International Telecommunication Union (2013) defines “digital natives” as young people born during the digital age and growing up using Information and Communication Technologies (ICT). While 30% of youth are digital natives today, the report shows that within the next five years, the digital native population in the developing world will double. Defining “youth” as young people aged 15 to 24, this means that 30% of the world’s youth have been active online for at least five years. However, less than a third of the world’s young people today are digital natives. Prensky, the first official user of the term "digital native", defines digital natives as “native speakers” of the digital language of computers, video games, and the internet (2001). Furthermore, he defines “digital immigrants” as those not born into the digital world but who will, at some point in their lives, become fascinated by and adopt many or most aspects of the new technology.

Prensky (2013) asserts that young people have invented new ways to spend their lives online. They communicate via instant messaging and chat, they share on blogs and social networking, they buy and sell through eBay, they learn through Wikipedia and YouTube, they meet in Second Life, they game online on their cellphones, etc. As educators, we must be acquainted with this online life where an increasing number of youth are involved and engaged.

As immigrant educators, we should believe that this new generation of students, can learn through watching TV or listening to music and that learning can be fun. If we do not believe in these approaches to learning, it may be because we have not learnt this way previously, such as spending our formative years watching Sesame Street (Prensky, 2001).

Many students claim that they use keyboards more than pens. With children and teenagers moving towards the internet and away from television for their recreational and informational needs, the next generation of digital citizens is already here. According to (Pew Research Center (2012) 95% of all teens from ages 12 to 17 are online; eighty percent of those use social media regularly. Prensky states, “Our students have changed radically. Today’s students are no longer the people our educational system was designed to teach” (2001). Students now want to be digital and active learners.

Methods

Devices that are most helpful for academic use were determined via survey because technology develops daily, affording new opportunities and devices to both learners and educators. However, unless new technology is used effectively, it will not enhance learning (Chen & Denoyelles, 2013).

Effective usage requires digital literacy of both learners and educators. Educators should be able to manage and evaluate digital contents. This research has shown that the number of digital native students increases the awareness of using digital contents. This research has also shown that the more the students are digitally literal, the more they ask their instructors to engage them with mobile technology. Unfortunately, many of the instructors, since they are not familiar with it, are not prepared to engage technology and education.

The survey questionnaire by Chen & Denoyelles (2013) about ownership and use of mobile technologies was adopted for university students in Turkey. Questions focused on students' access and use of mobile technologies, paying particular attention to their use of mobile devices and applications, language learning practices, and demographic characteristics. Closed and open-ended questions were included in the

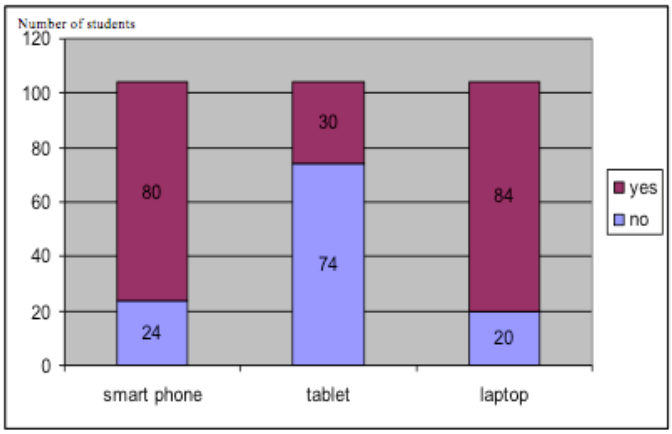
questionnaire, and it was distributed via Google docs form through an online lms platform schoology.com.

The questions included in the survey are:

1. What mobile devices do students in higher education have for accessing and engaging with digital content?
2. How do students in higher education use mobile technologies (devices and apps) for language learning?

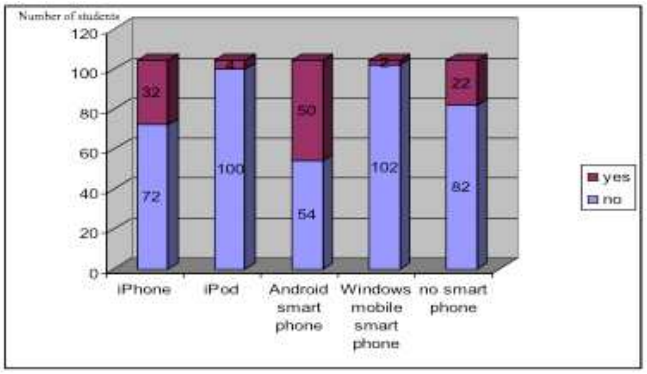
Results and Discussion

Figure 1. Mobile devices ownership



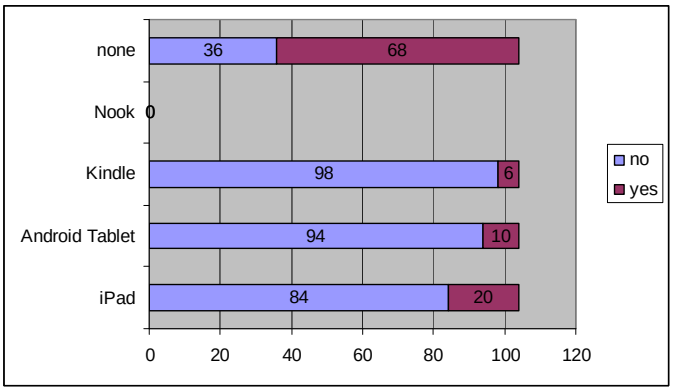
Eighty students (76.9%) student own a smartphone; eighty four students (80.8%) own a laptop. In contrast, only 30 students (28.8%) report owning a tablet.

Figure 2. Ownership of smartphone, by brand



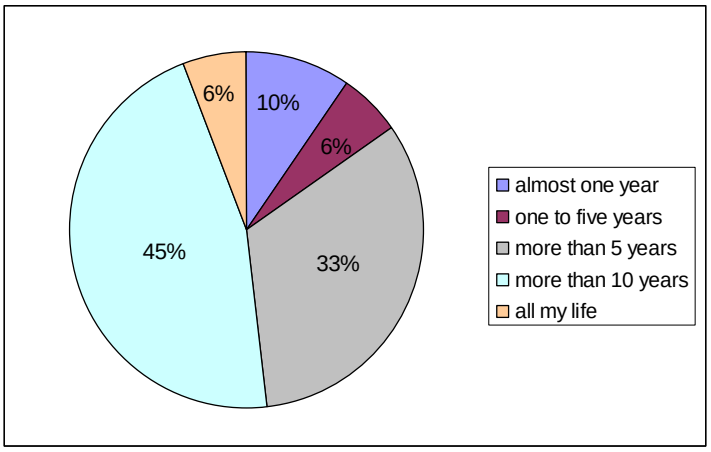
Of those surveyed, most (50) own an Android smart phone (48.1%). Thirty-two participants have iPhone (30.8%) Four students (3.8%) own iPods and two of them (1.9%) own Windows mobile smart phones. Twenty-two of our participants, (21.2%), do not own a smart phone.

Figure 3. Ownership of tablets, by brand



Of those surveyed owning tablets, most have iPads (20 students, 19.2%). The next most commonly owned tablet is the Android Tablet (10 students, 9.6%). Six participants (5.8%) own Kindles. No students surveyed owned Nooks. Sixty-eight participants do not own any type of tablets, (65.4% of our sample).

Figure 4. Length of use of devices



Most participants have used digital technologies more than 10 years (48 students, 45%). Thirty-four students reported using digital technologies for fewer than ten but more than five years (33%) and ten students reported using them for almost one year (10%). An equal number of participants said that they use these devices one to five years or all their life (six students, 6%).

Next, three clusters of analyzed answers were linked to questions on using apps and devices in learning process.

Table 1. Number of respondents using mobile apps to complete assignments for language classes by frequency

	Number of respondents	Percent
Always	6	5.8
Often	18	17.3
Sometimes	34	32.7
Rarely	42	40.4
Never	4	3.8
Total	104	100

Most students rarely use mobile applications to complete assignments for their language classes (42, 40.4%). Few students never use mobile apps to complete their assignments (4, 3.8%).

Table 2. Number of respondents using devices to complete assignments for language learning by frequency

	Frequency	Percent
Always	2	2.0
Often	6	5.9
Sometimes	56	54.9
Rarely	32	31.4
Never	6	5.9
Total	102	100

Most students in higher education sometimes use devices for language learning (n = 56, 54.9%). Only two participants (2% of the sample) always use them. Two participants did not respond to this question, decreasing the total number of answers to 102.

Table 3. Frequencies of instructors' assigning projects to be completed with devices

	Frequency	Percent
Always	8	7.8
Often	14	13.7
Sometimes	40	39.2
Rarely	36	35.3
Never	4	3.9
Total	102	100

Forty students (39.2%) report that they have been asked by their instructor to use devices in order to complete assignments. Four of them (3.9%) have never been asked by their instructors to use devices for assignments. Two

participants failed to respond to this question, lowering the total sample size to 102.

Every cluster of answers was correlated to the all aforementioned questions. We have used Spearman's rho coefficient for rank correlations, because all these variables are ordinal. The results are shown in Table 4.

Table 4. Correlational matrix between using mobile apps, devices, and instructor's asking for their use

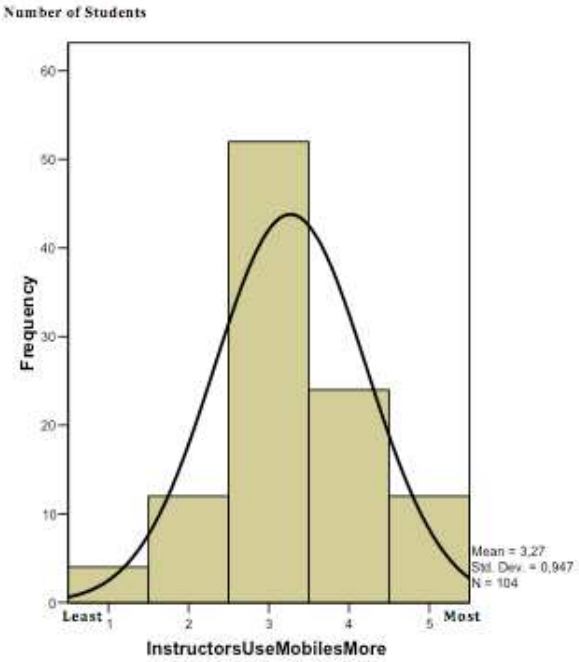
	using mobile apps	using devices	instructor's asking for their use
using mobile apps	1	.542**	.776**
using devices	.542**	1	.691**
instructor's asking for their use	.776**	.691**	1

**correlation coefficients are significant at level .05*
*** correlation coefficients are significant at level .01*

Table 4 shows us that the habit of using mobile apps is correlated with using devices for language learning, and this coefficient is statistically significant (rho = .542, $p < .01$). The frequency of using mobile applications for completing assignments is also in a statistically significant high correlation with instructor's asking to apply them (rho = .776, $p < .01$). Finally, the habit of using devices for language learning is significantly correlated with instructor's asking for their application in completing assignments (rho = .691, $p < .01$).

Participants were asked to rate the statement: "I would like my instructors to use more mobile apps or devices in coursework." Figure 5 shows the distribution of their answers (rates).

Figure 5. Do students want their instructors to use devices more?



The histogram (Figure 5) reveals that this distribution is slightly negative asymmetrical, i. e. more participants want their instructors to use more apps and devices in coursework. In accordance with previous findings, Kolmogorov-Smirnov test shows that the distribution differs significantly from normal (K-S $Z = 2.710$, $p < .001$).

How participants use their mobile device(s) to improve their language learning study was also examined. The eight categories of use are ranked and displayed in Table 5.

Table 5. How participants use their mobile device(s) to improve their language learning study?

Rank	Category	Frequency	Percent
1.	Chatting on Facebook or another social networking sites	78	90.7
2.	Watching movies	65	75.6
2.	Listening to songs	65	75.6
3.	Websites	64	74.4
3.	Watching serials	64	74.4
4.	Reading e-books	61	70.9
5.	Subscribing to forums	53	61.6
6.	Other	8	9.3

Most participants chat on Facebook or another social networking sites (n = 78, 90.7%) of total valid cases. Watching movies and listening to songs share the same rank (n = 65, 75.6%). Websites and watching serials are ranked the same (n = 64, 74.4%). Category named "Other" is the lowest ranked option (n = 8, i.e. 9.3% of valid cases). Eighty-six participants responded to this question.

Table 6 shows ranks, frequences and percentages of answers for the question on using mobile devices and mobile apps to different learning purposes.

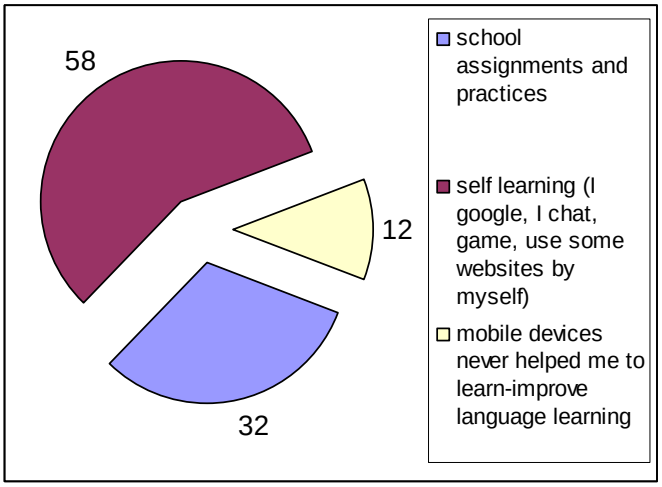
Table 6. For what learning purpose(s) do participants use mobile device(s) and/or apps?

Rank	Category	Frq.	%
	Increase my knowledge in language learning	70	67.3
	Make it easier to access my coursework	64	61.5
	Make it easier to complete my assignment	58	55.8
	Increase communication with other students	54	51.9
	Increase my motivation towards completing my coursework	52	50.0
	Improve my quality of work	45	43.3
	Increase my communication with my instructor	32	30.8

Table 6 shows that most students use these devices and applications for increasing their knowledge in language learning (n = 70, or 67.3% of the sample). Only 32 of them (30.8%) use devices or applications to increase their communication with their instructor. All participants (104) answered this question.

Figure 6 shows the distribution of answers to question on usefulness of these devices in learning/improving foreign language learning.

Figure 6. How do your mobile devices help you to learn (improve) a foreign language?



Referring to Figure 6, it is clear that these devices help most of students in higher education in self learning (n = 58, 56.86% of valid cases). They chat, google and use some websites by themselves. Thirty-two of them (31.37%) use these devices and applications for school assignments and practices. Finally, only 12 participants (11.77%) responded that mobile devices never helped them to learn or improve language learning. The total number of respondents for this question was 102.

Which categories of apps participants used most frequently for personal use was also examined. The results are ranked in Table 7.

Table 7. Frequencies of using different categories of applications

Rank	Category of apps	Frequency	Percent
1.	Social networking (Facebooking, Tweeting, etc)	94	90.4
2.	Games	80	76.9
2.	Education	80	76.9
3.	Lifestyle Apps	64	61.5
4.	Reading book newspaper	46	44.2
5.	News	31	29.8
6.	Weather forecast	6	5.8
7.	None	2	1.9

All participants answered the above question. The highest ranked application is social networking (n = 94, 90.4%). Games and education share the same rank (n = 80, 76.9%). Only six participants (5.8%) use weather forecast app and two participants (1.9%) do not use any application.

Participants were asked if they use their mobile devices to improve their language learning process. In order to determine if a statistically significant difference exists between those who do and do not use mobile devices, a chi-squared test was conducted. Its results are displayed in Table 8.

Table 8. The results of chi-squared test between those who do and do not use mobile devices for language learning

using mobile devices for language learning	Observed	Expected	χ^2	df	p
yes	86	52	44.462	1	.000
no	18	52			
total	104	104			

Table 8 shows that significantly more participants used devices than did not use them (χ^2 (1) = 44.462, p < .001). All participants answered this question (n=104).

Conclusion

The results of the survey suggest that the type of device does not impact the students in regards to language learning purposes. Tablet ownership was uncommon in the surveyed students; most of the students had laptops and smartphones. This might be because some universities are supplying laptop computers for their students during their educational periods in Turkey. Owning a smartphone has become a status symbol for some young people, even if some students only use them for calling and text messaging.

The results of the survey also indicate that students still need assistance to use mobile technologies for language learning purposes. Educators should encourage students not just to become technologically literate but also to use mobile devices to improve their learning, motivation, and performance. Although our survey results do not infer a direct causal relationship between mobile device use and student language learning, educators and researchers must figure out why innovative technologies do not fulfill the promise of enhancing teaching and learning language.

Integrating Technologies into the Curriculum

There is a gap between students owning mobile devices and actually using them for academic purposes. Our survey results showed that 82% of small mobile device owners, 83% of laptop owners, and 87% of tablet device owners reportedly use these devices for language learning purposes on their own, even in the absence of their instructors' guidance.

To help bridge the divide between device ownership and language learning, educators must discover the apps and software related to language teaching and integrate them into the curriculum. However, instructors should be trained about how to use those apps since most of them are not digital natives but digital immigrants. Because most students are familiar with Facebook, it maybe suitable to find a Facebook like LMS platform such as schoology.com to use as a kind of teaching time and teacher-student interaction extender and blend the learning environment.

When integrating an app into the curriculum, instructors should consider relevant technical limitations and poll their students to see what devices they own. For example, most students own either an Android or iPhone device, so instructors should make sure that any academic app works on both systems. Although, none of our respondents indicated that they do not own a mobile device, instructors must poll their current students and adapt curriculum in the event of a student not owning a mobile device. If an instructor requires the use of a mobile app in a class, he or she must inform students of this requirement at the beginning and provide university resources or other options for students who lack access to a device.

In addition to technical aspects, instructors should consider using sound pedagogical practices to support their mobile learning activities. These activities should be designed to support meaningful learning purposes, such as sharing current events and resources via Twitter and using polls conducted via text message to engage students in large classes. Integrating mobile technologies in the curriculum could start with designing an assignment. Instructional designers can help instructors deliver professional development training on innovative technologies and work with them individually to incorporate mobile technologies into learning.

Meanwhile, it is important to train both the educators and the learners on how to be a good digital citizen in the virtual world; all of them

must be warned about the possible dangers of digital life.

Further research in this field will help guide other initiatives to encourage effective use of mobile devices in teaching and learning.

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