

## Digital Native (ness), Mobile Technologies and Language Proficiency in Rwanda

Valentin Uwizeyimana

Stellenbosch University, Department of General Linguistics, South

[vuwizeyimana@outlook.com](mailto:vuwizeyimana@outlook.com)

DOI: <http://dx.doi.org/10.18326/rgt.v11i2.121-138>

---

### Submission Track:

Received:

25/09/2018

Final Revision:

25/11/2018

Available online:

01/12/2018

### Corresponding Author:

Valentin Uwizeyimana

[vuwizeyimana@outlook.com](mailto:vuwizeyimana@outlook.com)

### ABSTRACT

*Various studies have elaborated on the concept of 'digital native(ness)', i.e. (an identity of) the generation of students who were born during the digital technology era, i.e. from the 1980s onwards (Prensky 2001). Those studies claim that digital natives have been exposed to modern technologies, and thus are familiar with using them in their everyday activities (Dang 2013; Jacobson & Turner 2010). Those studies do not go beyond the access to and the general use of technologies. They ignore the fact that the ability to use technologies for personal purposes does not represent the ability to use them for educational and other specialized purposes (Stockwell & Hubbard 2013:4). Furthermore, there is a gap in terms of technological devices and geographical locations which were considered by those studies (Burston 2014; Thinyane 2010; Brown & Czerniewicz 2010). In these regards, by using a proficiency test and a survey with 60 digital natives from Rwanda, this study investigated the effect of mobile technologies in language learning (MTLL) on English proficiency. In terms of English proficiency, this study found no significant difference among the participants, although some of them were making use of MTLL whereas others were not. With the fact that MTLL have the potential to improve the language proficiency (Park & Slater 2014; Alotaibi, Alamer & Al-Khalifa 2015; Stockwell & Liu 2015), this article recommends how teachers should provide guidance and assistance to the learners in order to benefit from modern technologies.*

**Keywords:** *Digital native(ness), Mobile technologies in language learning (MTLL), English proficiency test (EPT)*

---

## INTRODUCTION

Once upon a time, “there was a time when it was important to learn to write nicely and develop [a] good handwriting. Despite the cognitive benefits of practicing good handwriting, its emphasis as an important skill has changed significantly. Learning has moved to a digital realm and writing is realised using digital software tools” (Grigoryan 2018:2). In the past, it was indeed important to practice good handwriting, everything was paper-based, and things like ‘pen names’ were fashionable for the old generation. But nowadays, the use of individual handwriting was surpassed by the use of fancy-looking graphics, and things like ‘pen names’ are being replaced by ‘user names’ for the young generation.

As a way of differentiating between these two generations, Prensky (2001) coined two terms, namely ‘digital immigrants’ (i.e. the generation of people who grew up before the digital technology era) and ‘digital natives’ (i.e. “the generation of students who have grown up surrounded by technology” (Thinyane 2010:406). In more specific terms, ‘digital immigrants’ include people who were born before 1980, whereas ‘digital natives’ are ones who were born in 1980 onwards (Prensky 2001; Margaryan, Littlejohn & Vojt 2011). By focusing on the use of mobile technologies in language learning (MTLL), the study being reported in this article investigated this digital nativeness of university students in Rwanda, and its effect on their proficiency in English language.

According to Brown & Czerniewicz (2010:357), the proponents of digital native(ness) argue that the current generation of students who enter universities have been exposed to various types of digital technologies, the specific kind of “technologies which did not previously exist”. As a result of this exposure, the “proponents of this idea claim that, not only does this generation have sophisticated skills in using digital technologies, but also that, through their exposure to these technologies, they have developed radically new cognitive capacities and learning styles” (Margaryan, Littlejohn & Vojt 2011:429). Because of their new cognitive capacities and learning styles, the proponents of digital nativeness conclude that these students – referred to as ‘digital natives’ – “are therefore all technically proficient using a range of these technologies” (Brown & Czerniewicz 2010:357), and that the way they do everything is different from the way it was for the previous generation (Prensky 2001). Due to this specific between-generation difference, “the [digital native(ness)] proponents

claim that the current education system is not equipped to accommodate the changing needs of this new generation of learners” (Margaryan, Littlejohn & Vojt 2011:429), and they urge the higher learning institutions to invest “in physical plant, technical infrastructure, and professional development” in order to cater for the current generation of students (Margaryan, Littlejohn & Vojt 2011:429). The next question is whether all the universities are equipped enough to do this and therefore to benefit from this digital nativeness status of the current generation of their students. In order to address this question, various studies were conducted on different topics related to digital nativeness in the context of different universities and countries. However, scholars such as Thinyane (2010:407) found that there is still a gap in the related literature, primarily due to the fact that most of the published studies in this regard were conducted in technologically-advanced “countries where we would expect to see more technology-savvy students”. What these published studies have found in common is that the so-called digital natives are “very confident with certain core technologies, but less comfortable with other specialised technologies” (Thinyane 2010:407). More specifically, this generation of students was found to be able to use different types of digital technologies for general and personal purposes, with the lack of enough skills to use these technologies for educational purposes (Thinyane 2010:407).

It is important to note that a digital native is a person who was born in 1980 onwards (Prensky 2001), and who meets the following requirements: “one who has grown up with digital technology; one who comes to university familiar with computers; and one who is purported to learn to use computers informally – either teaching themselves or through social networks such as family and friends – rather than needing to be taught” (Brown & Czerniewicz 2010:361). With reference to these requirements, it can be implied that only the person “who comes from a media-rich household, who uses the Internet as a first port of call for information, multi-tasks using [different information and communication technology (ICT) tools,] ...and uses the Internet to carry out a range of activities particularly those with a focus on learning” is a digital native (Helsper & Eynon 2010:515). Therefore, it becomes clear that “contrary to the argument put forward by proponents of the digital native concept, generation alone does not adequately define if someone is a digital native or not” (Helsper & Eynon 2010:515). In contrast to the case in technologically-advanced countries, there is a possibility that the current generation of students from other countries does not meet the above-mentioned requirements for being really attributed the digital nativeness status. For

example, from their survey conducted with 3506 students from six South African universities, Brown & Czerniewicz (2010:361) “found that only a small percentage of students [indeed] met the criteria of the ‘digital native’”. It was found that in South Africa, it is only “a small group of elite students who share the basic characteristics of the ‘digital native’” (Brown & Czerniewicz 2010:366). This seems to be the case for other countries. Similarly to Brown & Czerniewicz (2010)’s study of digital nativeness in South African, the study of 560 digital natives from Turkey and Kyrgyzstan by Akçayır, Dündar & Akçayır (2016:439) also “provide empirical evidence to dispel the popular belief that all people born after 1980 are digital natives”.

According to Akçayır, Dündar & Akçayır (2016:439), “a more important factor [for being attributed the digital nativeness status] is where you were raised (e.g., in which country)”. In this regard, they specify that the more technologically-advanced countries are, the higher the chance “to have more students who are digital natives” becomes” (Akçayır, Dündar & Akçayır 2016:439). However, it is important to note in this regard that “it is also possible that the percentages of digital natives, even within the same country, may vary according to differences between states or regions” (Akçayır, Dündar & Akçayır 2016:439). In order to really understand this phenomenon, the study being reported in this article investigated the digital nativeness in Rwanda, a country which is located in the central eastern part of Africa.

In terms of languages, Rwanda has Kinyarwanda as its only one national language towards which its entire population express the high level of loyalty, and it has Kinyarwanda, English and French as its three official languages (Republic of Rwanda 2015; Uwizeyimana 2018; Niyomugabo & Uwizeyimana 2018; Gafaranga, Niyomugabo & Uwizeyimana 2013). English language is taught as a compulsory subject, it is used as a medium of instruction at all levels of education of Rwanda, and there are far more motives for the Rwandan students to learn it such as the fact that it is considered as a global lingua franca, the language of science, technology and business (Samuelson & Freedman 2010; Gafaranga 2015; Rosendal 2009; Crystal 2003; Kagwesage 2013). In terms of technology, the National Institute of Statistics of Rwanda (NISR) stipulates that the ownership of a mobile phone is at 63.6% whereas the ownership of a computer is at 2.5% of the total population (NISR 2015:81). Only 33.2% of the households in Kigali – the capital city of Rwanda – have access to internet, compared to 4.4% in the other parts of the country (NISR 2015:67). Uwizeyimana (2018:4)

describes these figures as “unsurprising given the fact that only 19.8% of the households in Rwanda have access to electricity, one of the basic infrastructures required for the use of the internet from a home computer, and given the high price of computers and the computer literacy required in order to operate and maintain them”.

The next question is which technological tool to be considered when one wants to investigate the concept of ‘digital native(ness)’ in such a context. To answer this question, Thinyane (2010:406) found that the only “one tool that students had high levels of access to (98.1%), and use of is the mobile phone”. In addition to access to and use of these mobile technologies, Thinyane (2010:406) notes that “out of all uses of technology surveyed, tasks involving the mobile phone were ranked in the top two positions. [Furthermore,] ...when [the so-called digital natives were] asked to rank different uses of technology particularly for their studies, three of the top five uses relied on a mobile phone”. It is important to understand why mobile technologies are being considered as the favourite and most valuable tools by digital natives. According to Grigoryan (2018:20), “many students face difficulties meeting their needs within the limited class hours during their education. To overcome these challenges, many learners are implementing mobile technologies in their language learning as well as in other discipline areas”. Grigoryan (2018:20) specifies that one of the main “reason[s] of using mobile technologies is that they provide facility to access to authentic materials”. In order to address the challenges faced by the current generation of students in the teaching-and-learning process, Brown & Czerniewicz (2010:366) state “that the term ‘digital’ which has to date connoted computers needs to extend to concepts and affordances of mobility”. Therefore, “further studies could be undertaken to identify how students are currently using mobile phones to support their learning, and how they would like to use them further” (Thinyane 2010:413). In the same regard, Brown & Czerniewicz (2010:367) recommend that scholars “need to fully understand the ways that students are exploiting the affordances of mobility as they use [their mobile] ...phones for access and use in unanticipated ways”. These calls from different scholars form the purpose of this article, which reports on an investigation into the effect of digital nativeness and the use of MTLT on Rwandan university students’ proficiency in English.

## RESEARCH METHOD

This article reports on the quantitative data which were collected in Rwanda, under the project entitled “An Investigation into the Effect of Mobile-Assisted Language Learning on Rwandan University Students’ Proficiency in English as a Foreign Language” (Uwizeyimana 2018). These data were collected in two stages. The first stage involved collecting data related to the study’s participants’ technological, language, and individual backgrounds, and the second focused on the participants’ progress in terms of English language proficiency. At the first stage, different data collection instruments including online questionnaire, observation, semi-structured interview, and an English proficiency test (EPT) were used, whereas at the second stage, only the focus-group discussion and EPT were used. This article reports on the data which were collected at the first stage by using the online questionnaire and EPT. The data were collected from 60 first-year undergraduate students, among whom 35 (58.3%) were male and 25 (41.7%) female, and whose age was ranging from 19 to 28 years, i.e. they were indeed “digital natives” according to Prensky (2001)’ claim and its proponents. It is important to note that all the 60 so-called digital natives who participated in this study were majoring in mathematics and physics at University of Rwanda, and that they were based at the Kigali campus of College of Education, in the capital of Rwanda where the percentage of the households’ access to modern technologies is the highest in the country (NISR 2015; Uwizeyimana 2018).

These science students were chosen over their peers from humanities with respect to Margaryan, Littlejohn & Vojt (2011:429) who found that “‘digital natives’ and students of a technical discipline [such as applied sciences and] ... engineering..., used more technology tools when compared to ‘digital immigrants’ and students of a non-technical discipline [such as humanities and] ... social work”. According to Margaryan, Littlejohn & Vojt (2011:429), it makes more sense for anyone who really wants to investigate the digital nativeness to consider the university students who are majoring in applied sciences since the latter “require... more intensive and extensive access to technology than social [sciences]”.

Back to the data collection instruments, an online survey was used to collect the data related to the study’s participants’ access to and general use of mobile technologies in order to understand their digital nativeness status. Beyond the general use of technologies, the survey was also used to collect the data on the participants’ use of MALL. The so-called digital natives were asked whether they were making use of their mobile devices in English

language learning or not, and if yes, which specific mobile tools and how frequent they were using them. Afterwards, an English proficiency test (EPT) – an English proficiency testing tool which was developed by Uwizeyimana (2018) – was used to identify the participants’ English proficiency levels, and thus to determine whether the participants’ digital nativeness, i.e. their access to and use of modern technologies, might have had an effect on their English proficiency. It is important to note that EPT is a one-hour-long proficiency test which is made of 50 question items grouped into listening and reading sections (Uwizeyimana 2018:82-83). According to Uwizeyimana (2018:86), the maximum score for the test is 50, and the test takers’ proficiency levels -which are classified according to the Council of Europe (2001)’s common European framework of reference for languages (CEFRL) – are shown by the total scores in the test which are converted into percentages as illustrated in Table 1 below:

<b>Total Score Percentage</b>	<b>Proficiency Level</b>	<b>CEFRL Equivalence</b>
0 – 25%	Basic proficiency	A1
26 – 40%	Elementary proficiency	A2
41 – 60%	Elementary proficiency plus	B1
61 – 78%	Limited working proficiency	B2
79 – 90%	Working proficiency plus	C1
91 – 100%	International professional proficiency	C2

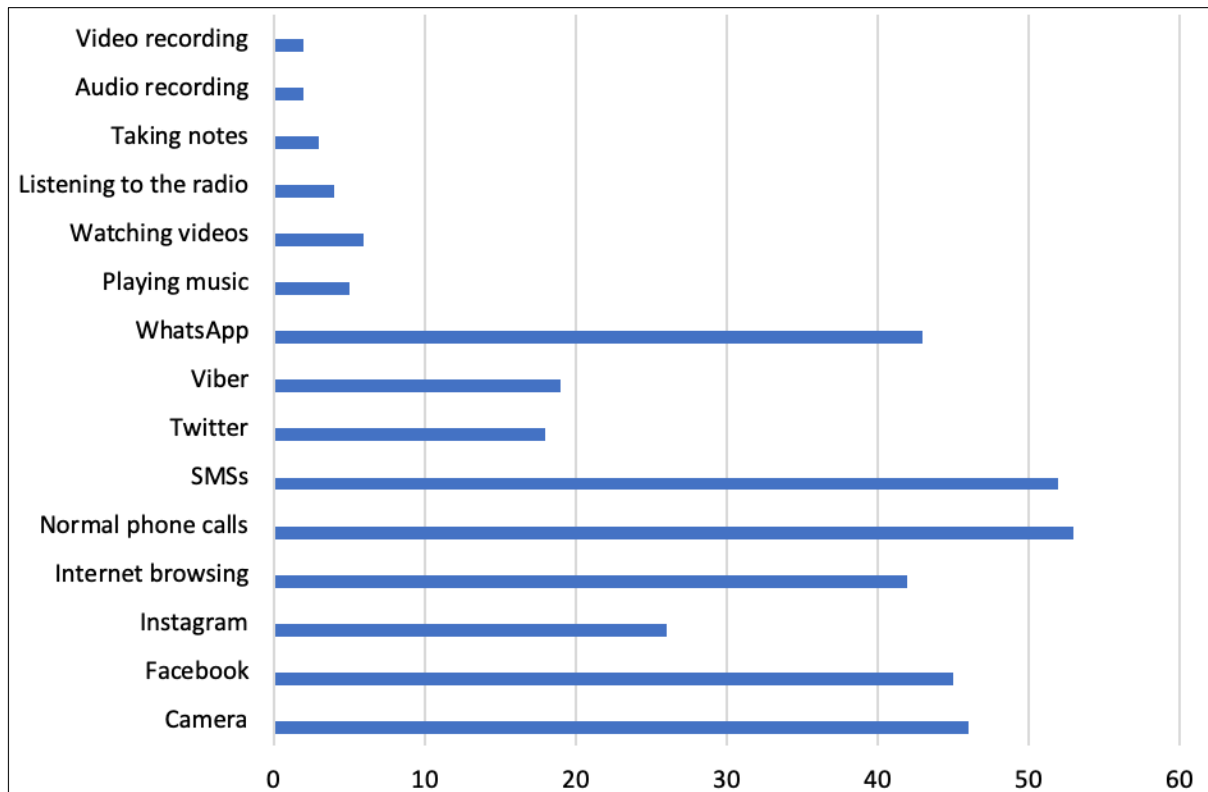
***Table 1: EPT and CEFRL proficiency level classification models***

## **RESULTS & DISCUSSION**

### ***The Access to and the Use of Mobile Technologies***

In the survey, the 60 so-called digital natives were asked whether they had their own mobile technological devices. To this question, 53 participants (83.3%) responded that they had their own mobile device, and only seven (11.7%) said that they did not. Among those 53 participants who had their own devices, 41 reported that they had one device each, specifically a smartphone in the case of 31 participants, and a classic phone in the case of 10 participants. The remaining 12 participants who owned mobile technological devices, indicated that they owned both a smartphone and a classic phone. Regarding other types of mobile devices, only one participant had a tablet, and nine participants reported that they had laptop computers.

In addition to collecting the data related to the access to mobile technologies, the participants were requested to provide details about what they were using their devices for in general. Figure 1 presents the participants' responses.



*Figure 1: General use of mobile devices*

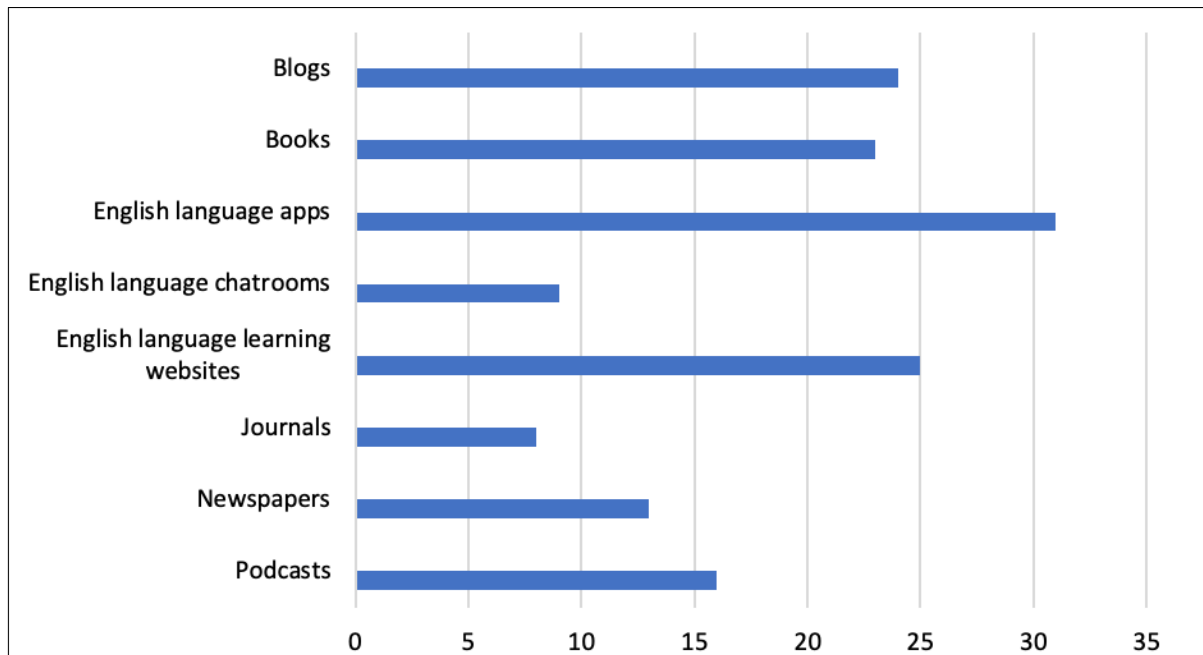
As Figure 1 above shows, the most common use of mobile devices was to make phone calls (reported by all participants), and to send SMSs (reported by all but one participant). The other popular uses of mobile devices included taking photos with the device's camera (46 participants, 86.8%), internet browsing (42 participants, 79.2%), and communicating through social network tools such as Facebook (45 participants, 84.9%) and WhatsApp (43 participants, 81.1%). Only a small number of participants reported using their devices to take notes, watch videos, or listen to music and different radio stations. These features were not found to be popular among the research participants, probably because of their devices' limited capabilities.

### ***The Use of Mobile Technologies in Language Learning (MTLL)***

After providing details on their mobile devices and indicating their general use, the participants were asked whether they were making use of their mobile devices in English language learning. Among the 53 participants who owned mobile devices, 31 (58.5%) said



that they were making use of their devices for English language learning purposes, whereas the other 22 (41.5%) said that they did not. Those 31 participants, who reported using MTLL, were asked to specify which English language learning tools they were using on their devices, as well as how often and where they were doing so. Figure 2 and Table 2 below present the participants' responses.



**Figure 2: English language learning tools used on mobile devices**

As Figure 2 above shows, all 31 participants said that they were making use of different mobile apps specifically designed for English language learning. The majority of the participants reported that they also accessed English language learning websites (25 participants, i.e. 80.6%), and that they read electronic English language books (23, i.e. 74.2%) on their mobile devices. The use of generic blogs for English language learning purposes was found popular among the participants (24, i.e. 77.4%), but only nine participants (29%) said that they made use of English language chatrooms, even though the latter may be regarded as more useful than blogs in terms of their potential contribution to language learning. Other materials which were found to be used by the participants included podcasts (16 participants, i.e. 51.6%), newspapers (13, i.e. 41.9%), and journals (eight participants, i.e. 25.8%). Table 2 below presents how often these 31 participants reported using MTLL.

	Once an hour (1)		Once 2 to 3 hours (2)		4 times a day (3)		At least once daily (4)		Once every 2 days (5)		Once a week (6)		Only when I have a piece of homework or a task that I have to complete (7)		Never (8)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Blogs	11	35.48	8	25.81	1	3.23	4	12.90	-	-	1	3.23	2	6.45	4	12.90
Books	1	3.23	2	6.45	3	9.68	7	22.58	1	3.23	1	3.23	9	29.03	7	22.58
English language learning apps	3	9.68	1	3.23	7	22.58	3	9.68	1	3.23	1	3.23	15	48.39	-	-
English language chatrooms	1	3.23	-	-	2	6.45	4	12.90	1	3.23	2	6.45	-	-	21	67.74
English language learning websites	1	3.23	1	3.23	-	-	2	6.45	2	6.45	1	3.23	18	58.06	6	19.35
Journals	1	3.23	-	-	-	-	1	3.23	1	3.23	4	12.90	3	9.68	21	67.74
Newspapers	2	6.45	-	-	-	-	4	12.90	1	3.23	4	12.90	4	12.90	16	51.61
Podcasts	3	9.68	-	-	5	16.13	7	22.58	-	-	1	3.23	1	3.23	14	45.16
Others: Dictionary	1	100.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-

**Table 2: Frequency with which different apps are used**

As Table 2 above shows, blogs are the tools which were reported to be used more often than any other apps. Among the participants who were using blogs in EFL learning, 11 (35.48%) reported using them once an hour, eight (25.81%) once every two to three hours, and four (12.90%) never. Some apps and materials were found to be used by many learners only when they had a task to complete. These include different types of English language learning apps, which 15 participants (48.39%) indicated as only using when there was a task to complete, and English language learning websites, which 18 participants (58.06%) indicated as only using when there was a task to complete. On the other hand, there are apps and materials which were found not to be used by many learners at all, including English language chatrooms, journals, newspapers, and podcasts, which 67.74%, 67.74%, 51.61% and 45.16%, respectively, of the participants reported as never using.

### ***Digital Nativeness Categories and English Language Proficiency***

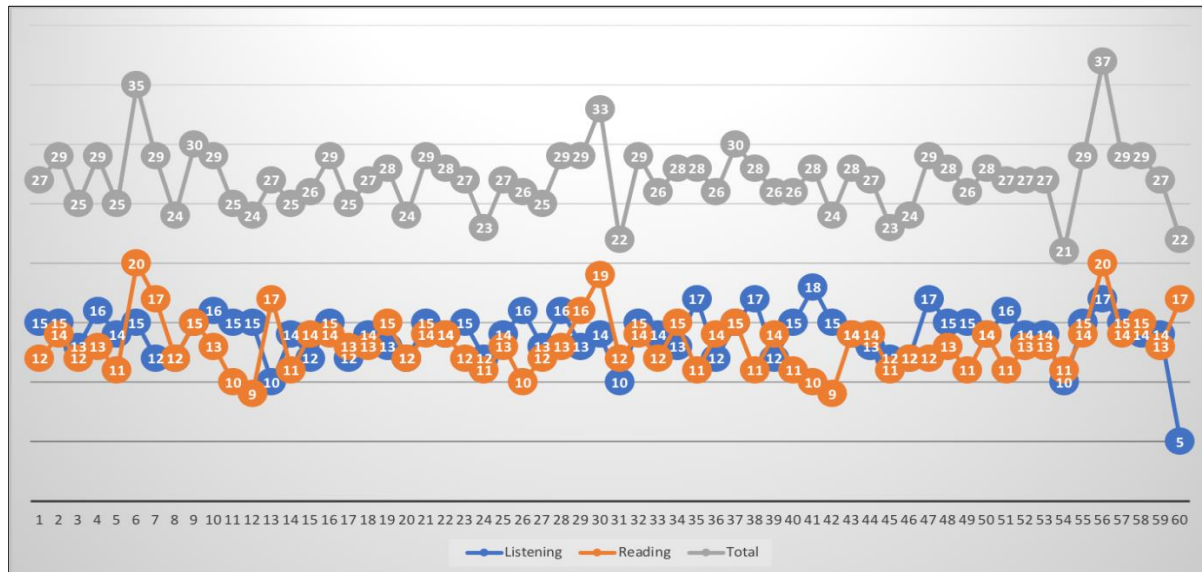
With reference to Prensky (2001)'s definition of 'digital natives', the definition which is based on the narrative of 'growing up being surrounded by technologies', and by taking into consideration the permanent or regular access to and use of technologies which cannot be separated from the technological devices' individual ownership, the digital natives can be grouped into the following three categories:

**Group A:** Digital natives who have access to their own technological devices, and who make use of them for both personal and specialized purposes such as educational, etc. (31 participants of this study fell in this category).

**Group B:** Digital natives who have access to their own technological devices, and who make use of them for personal purposes only (22 participants of this study fell in this category).

**Group C:** Digital natives who do not have their own technological devices, and (probably) who have access to and use the third-party owned technological devices (7 participants of this study fell in this category).

With reference to the original claim behind the concept of ‘digital native(ness)’, the claim that the university students who were born in 1980 onwards grew up surrounded with technology, and thus are equipped with enough skills to allow them to use these technologies in their everyday activities including learning (Prensky 2001), it was assumed that the current study’s participants would perform differently in the administered English proficiency test (EPT) since they fell in different groups of digital nativeness. However, according to their scores, all the participants seemed quite similar regardless of the above-mentioned different categories of digital natives in which they belonged to. The scatter plot in Figure 3 below presents their raw scores in the administered EPT. The scores are arranged continuously on the horizontal axis: participants 1 to 31 are the ones who were in Group A, participants 32 to 53 in Group B, and participants 54 to 60 in Group C.



**Figure 3: A scatter plot of the participants’ EPT pre-test results**

As Figure 3 above shows, the ranges of the participants’ total scores seem to be quite similar: the total score ranged from 22 to 35 for Group A, 23 to 30 for Group B, and 21 to 37 for Group C. In fact, the participants’ score ranges and distributions seem similar to each other, for the listening section, the reading section, and thus in the EPT as a whole (i.e. the total score). Table 3 below presents the score ranges, means and standard deviations for each of the groups.

Participants’ Categories	EPT results		
	Range	Mean	Std. Dev.
Group A (n=31)	22 - 35	27.10	2.81
Group B (n=22)	23 - 30	26.95	1.73
Group C (n=7)	21 - 37	27.71	5.31
Total (n=60)	21 - 37	27.12	2.83

**Table 3: The participants’ total score in the EPT**

As Table 3 above shows, specifically by looking at the ranges, means and standard deviations of their total score in EPT, all the 60 so-called digital natives indeed appear equally similar in terms of their English language proficiency regardless of their different digital nativeness categories. This similarity among all the three digital native categories in terms of their English language proficiency was confirmed by t-tests’ statistical results which are presented in Table 4 below.

Participants' Categories	Group A (n=31)	Group B (n=22)	Group C (n=7)
Group A (n=31)	---	0.83	0.66
Group B (n=22)	0.83	---	0.56
Group C (n=7)	0.66	0.56	---

**Table 4: Between-groups comparison of the EPT total scores (*p*-values)**

The *p*-values in Table 4 above show that there were indeed no significant differences between any of the three digital native categories in terms of their total score in EPT ( $p > 0.05$  for all the between-groups comparisons). In order to get an insight into the participants' specific standard proficiency levels, the arithmetic range (R) of each group's raw scores, as well as each group's mean (M) score out of 50 for the EPT were converted into percentages so that they could be interpreted according to the Council of Europe (2001)'s CEFRL model. Table 5 below presents the outcomes in this regard.

Participants' Categories	EFL proficiency levels (EPT results)
Group A (n=31)	R: 44 - 70% (Elementary proficiency plus, B1 to limited working proficiency, B2) M: 54.20% (Elementary proficiency plus, B1)
Group B (n=22)	R: 46 - 60% (Elementary proficiency plus, B1 to limited working proficiency, B2) M: 53.90% (Elementary proficiency plus, B1)
Group C (n=7)	R: 42 - 74% (Elementary proficiency plus, B1 to limited working proficiency, B2) M: 55.42% (Elementary proficiency plus, B1)

**Table 5: The participants' EFL proficiency levels classified according to the CEFRL**  
 (Note: "R" = "range of participants' scores and proficiency levels", and  
 "M" = "group's mean score and proficiency level".)

Based on their percentage ranges and percentage means, and according to the CEFRL, Table 5 above shows the specific English language proficiency levels of all the 60 Rwandan students, who participated in the study being reported in this article, per their digital nativeness categories. The mean scores show that the participants were in general at the 'elementary proficiency plus (B1)' level; and the score ranges show that the participants' individual proficiencies were varying between 'elementary proficiency plus (B1)' and 'limited working proficiency (B2)' levels, regardless of their different digital nativeness categories.

## CONCLUSION

The findings of this study confirm that the concept of “digital native[(ness)] is inaccurate” (Brown & Czerniewicz 2010:357). Previous studies found that students who have digital nativeness “attributes are effectively a digital elite” (Brown & Czerniewicz 2010:357). It is in this regard that digital nativeness should be “characterized not by age [,] but by access and opportunity” (Brown & Czerniewicz 2010:357), as well as the students’ “academic year, national culture, and their experiences with technology” (Akçayır, Dündar & Akçayır 2016:439). Recall that all the students who participated in this study were digital natives according to their age group (19 to 28 years), but some of them had no access to, or were not making use of MTLL. By taking the technology ownership into account, three categories of digital natives to be considered as an additional factor when dealing with digital natives were identified. These categories include (i) digital natives who have their own technological devices, and who use them for both general and specialized purposes such as educational etc., (ii) digital natives who have their own technological devices but who use them for general purposes only, and (iii) digital natives who do not have their own technological devices. All these categories were present among the participants, even though this study focused on mobile technologies which are owned by a higher number of the population in Rwanda (63.6%) compared to computers (2.5%) (NISR 2015:81), and which were found to be the preferred technological tools for digital natives (Thinyane 2010; Grigoryan 2018; Brown & Czerniewicz 2010). In terms of English proficiency, this study found no significant difference among the participants regardless of different categories of digital natives they fell into. This implies that the participants were not benefiting from their digital nativeness, more specifically from accessing and/or using MTLL, in terms of English language learning.

Emphasizing on MTLL, various studies found that mobile technological devices have the potential to contribute positively to the teaching-and-learning process of different subjects including languages (Yang 2013; Park & Slater 2014; Alotaibi, Alamer & Al-Khalifa 2015; Stockwell & Liu 2015; Uwizeyimana 2018). In this study however, the digital natives who reported the use of MTLL did not outperform their peers who reported either the non-use of MTLL or the non-ownership of mobile technologies. A specific cause of this non-difference is the fact that the so-called “digital natives may not be as proficient in the use of technology as expected” (Akçayır, Dündar & Akçayır 2016:436), even for general purposes (Comunello, Ardèvol, Mulargia & Belotti 2017:802). All the 60 participants showed the same levels of

proficiency, which were very low considering the fact that they were university students in Rwanda, the country where English is one of the official languages, used as a sole medium of instruction and taught at all levels of education (Niyomugabo & Uwizeyimana 2018). By taking into account the participants' relatively low performance, and age group which is at the heart of Prensky (2001)'s concept of 'digital native(ness)', one can argue that "if age is considered one factor for determining whether an individual is a digital native, then it is also clear that not every young person today is a digital native" (Akçayır, Dündar & Akçayır 2016:436).

As discussed above, "age should not be considered [the only] ...determining factor for whether or not an individual is a digital native" (Akçayır, Dündar & Akçayır 2016:439). The so-called digital natives, i.e. born in 1980 onwards, need the technical and methodological assistance, in most cases from the older teachers and experts (Thomson 2013). Comunello, Ardèvol, Mulargia & Belotti (2017:810) warn that the continuous "under-representation of older people in ICT usage affects both tool design and theory, often implicitly assuming that the 'ideal user' of ICT is young and ready to take advantage from all the potentials of ICT", and thus hinder the potential benefits that these technologies should have in the teaching-and-learning process. By recognizing the role of older people, it is clear that all the individuals "who invest sufficient time and effort to learn to use digital technologies, and who earn the requisite experience with them can be regarded as a 'digital native[s]' even if born long before 1980" (Akçayır, Dündar & Akçayır 2016:439).

From the above discussions, it is clear that the so-called digital natives "may be using a narrower range of technology tools than the popular press authors claim, and they may not be exploiting the full benefits of these technology tools when using them in a learning context" (Thomson 2013:23). Regardless of the belief that these students are familiar with technologies, "there is still much to do ...in order to leverage the competencies for and the benefits of using the [technologies in the teaching-and-learning process]" (Bellini, Filho, De Moura Junior & De Faria Pereira 2016:56). Before elaborating on the specific ways in which the so-called digital natives should be assisted by older people, who are mostly teachers, it is important to note that the "teachers no longer have to be in the centre of attention, but to become facilitators who can guide the learners to the answers they search for" (Grigoryan 2018:2). In assisting the digital natives, (i) teachers should always provide scaffolding to students so that the latter can "go beyond the rapid communication technology they are [said

to be] most comfortable with and learn the wide variety of technology tools that are important for productivity in school and the workplace” (Thomson 2013:23). Additionally, (ii) teachers should always create “the most effective learning environment for learners” (Grigoryan 2018:2); and (iii) select the best teaching approaches which are potential not only to allow the successful integration of technologies into the teaching-and-learning process, but also to increase the learners’ motivation, positive attitudes towards to whole process, and positive expectations of the teaching-and-learning process (Margaryan, Littlejohn & Vojt 2011:429, 438).

This article is an attempt to fill the gaps which were identified by various scholars in the current literature on digital native(ness) and the use of MTLL (Thinyane 2010; Burston 2013, 2014; Brown & Czerniewicz 2010). Furthermore, in contrast to previous studies which were conducted on digital native(ness), this article goes beyond the description of the access to and the general use of technologies by the university students, to determining the extent to which these might be affecting their language proficiency. Since this study focused only on MTLL in Rwanda, and used a non-standardised test – the EPT – to measure the participants’ proficiency levels, it should be replicated in different countries by focusing on different technological devices and using one of the standardised English language proficiency tests, in order to indicate the extent to which making use of the EPT might have affected the findings of the current study, and the extent to which the claims of this article should be generalized.

## REFERENCES

- Akçayır, M., Dündar, H. & Akçayır, G. (2016). What makes you a digital native? Is it enough to be born after 1980? *Computers in Human Behavior*, 60, 435 – 440.
- Alotaibi, H. M., Alamer, R. A. & Al-Khalifa, H. S. (2015). MLab: A mobile language learning lab system for language learners. *Journal of Universal Computer Science*, 21 (10), 1307 – 1326.
- Bellini, C. G. P., Filho, M. M. I., De Moura Junior, P. J. & De Faria Pereira, R. C. (2016). Self-efficacy and anxiety of digital natives in face of compulsory computer-mediated tasks: A study about digital capabilities and limitations. *Computers in Human Behavior*, 59, 49 – 57.
- Brown, C. & Czerniewicz, L. (2010). Debunking the ‘digital native’: Beyond digital apartheid, towards digital democracy. *Journal of Computer Assisted Learning*, 26, 357 – 369.



- Burston, J. (2013). Mobile-assisted language learning: A selected annotated bibliography of implementation studies 1994-2012. *Language Learning & Technology*, 17 (3), 157 – 225.
- Burston, J. (2014). The reality of MALL: Still on the fringes. *Computer-Assisted Language Instruction Consortium*, 31 (1), 103 – 125.
- Comunello, F., Ardèvol, M. F., Mulargia, S. & Belotti, F. (2017). Women, youth and everything else: Age-based and gendered stereotypes in relation to digital technology among elderly Italian mobile phone users. *Media, Culture & Society*, 39 (6), 798 – 815.
- Council of Europe (2001). *Common European framework of reference for languages: Learning, teaching, assessment*. Cambridge: Cambridge University Press.
- Crystal, D. (2003). *English as a global language*. Second edition. Cambridge: Cambridge University Press.
- Dang, T. H. (2013). Towards the use of mobile phones for learning English as foreign language: Hesitation or welcome? *Language in India*, 13, 474 – 485.
- Gafaranga, J. (2015). Translinguistic apposition in a multilingual media blog in Rwanda: Towards an interpretive perspective in language policy research. *Language in Society*, 44, 87 – 112.
- Gafaranga, J., Niyomugabo, C. & Uwizeyimana, V. (2013). Micro declared language policy or not?: Language-policy-like statements in the rules of procedure of the Rwandan Parliament. *Language Policy*, 12, 313 – 332.
- Grigoryan, T. (2018). Investigating digital native female learners' attitudes towards paperless language learning. *Research in Learning Technology*, 26, 1937 - <http://dx.doi.org/10.25304/rlt.v26.1937>
- Helsper, E. J. & Eynon, R. (2010). Digital natives: Where is the evidence? *British Educational Research Journal*, 36 (3), 503 – 520.
- Jacobson, S. & Turner, K. M. (2010). Not your father's educational technology: A case study in mobile media and journalism education. In C. M. Stewart, C. C. Schifter & M. E. M. Selverian (eds). *Teaching and learning with technology: Beyond constructivism* (pp. 131 – 147). New York and London: Routledge.
- Kagwesage, A. M. (2013). Coping with English as Language of Instruction in Higher Education in Rwanda. *International Journal of Higher Education*, 2 (2), 1 – 12.
- Margaryan, A., Littlejohn, A. & Vojt, G. (2011). Are digital natives a myth or reality? University students' use of digital technologies. *Computers & Education*, 56, 429 – 440.
- NISR. (2015). *Integrated household living conditions survey. Enquête intégrale sur les conditions de vie des ménages (EICV) 2013/14*. Kigali: NISR.
- Niyomugabo, C. & Uwizeyimana, V. (2018). A top-down orthography change and language attitudes in the context of a language-loyal country. *Language Policy*, 17, 307 – 318.
- Park, M. & Slater, T. (2014). A typology of tasks for mobile-assisted language learning: Recommendations from a small-scale needs analysis. *TESL Canada Journal / Révue TESL du Canada*, 31 (8), 93 – 115.

- Prensky, M. (2001). Digital natives, digital immigrants. *On the Horizon*, 9 (5), 1 – 6.
- Republic of Rwanda. (2015). *Itegeko nshinga rya Repubulika y'u Rwanda ryo mu 2003 ryavuguruwe mu 2015. The constitution of the Republic of Rwanda of 2003 revised in 2015. La constitution de la République du Rwanda de 2003 révisée en 2015. Official Gazette of the Republic of Rwanda, Special issue of 24/12/2015*. Kigali: PRIMATURE.
- Rosendal, T. (2009). Linguistic markets in Rwanda: Language use in advertisements and on signs. *Journal of Multilingual and Multicultural Development*, 30 (1), 19 – 39.
- Samuelson, B. L. and Freedman, S. W. (2010). Language policy, multilingual education, and power in Rwanda. *Language Policy*, 9 (3), 191 – 215.
- Stockwell, G. & Hubbard, P. (2013). *Some emerging principles for mobile-assisted language learning*. Monterey: The International Research Foundation for English Language Education. Retrieved from <http://www.tirfonline.org/english-in-the-workforce/mobile-assisted-language-learning>
- Stockwell, G. & Liu Y. C. (2015). Engaging in mobile phone-based activities for learning vocabulary: An investigation in Japan and Taiwan. *Computer-Assisted Language Instruction Consortium*, 32 (2), 299 – 322.
- Thinyane, H. (2010). Are digital natives a world-wide phenomenon? An investigation into South African first year students' use and experience with technology. *Computers & Education*, 55, 406 – 414.
- Thomson, P. (2013). The digital natives as learners: Technology use patterns and approaches to learning. *Computers & Education*, 65, 12 – 33.
- Uwizeyimana, V. (2018). *An Investigation into the Effect of Mobile-Assisted Language Learning on Rwandan University Students' Proficiency in English as a Foreign Language*. Stellenbosch: Stellenbosch University.
- Yang, J. (2013). Mobile assisted language learning: Review of the recent applications of emerging mobile technologies. *English Language Teaching*, 6 (7), 19 – 25.