National Journal of Advanced Research
ISSN: 2455-216X; Impact Factor: RJIF 5.12
Received: 25-11-2018; Accepted: 28-12-2018
www.allnationaljournal.com
Volume 5; Issue 1; January 2019; Page No. 64-68

21st century teaching for digital natives and Millennials: The attitude of classroom teachers

Dr. Fomsi, Esther F[1], Dr. Fanny Anikpo[2]
[1, 2] Department of Curriculum Studies/Educational Technology, Faculty of Education, University of Port Harcourt, Rivers State, Nigeria

Abstract
The 21st century has created a paradigm shift in education due to advancement in technology. These technologies have created a digital divide between teachers and students. In tandem with this, this research sought to investigate the attitude of classroom teachers towards integrating technology into teaching in this 21st century. The study was guided by four objectives, four research questions and one hypothesis. The sample of the study was seventy eight (78) teachers in Rivers State. The instrument used for data collection was a questionnaire titled: Teachers' Readiness for 21st Century Teaching of Digital Natives and Millennials (TRFTDNAM). The instrument was validated by two experts from educational technology and measurement and evaluation. The reliability of the instrument was determined using Cronbach alpha and a reliability coefficient of 0.76 was obtained. Simple percentages, mean and standard deviation were used to answer the research questions while independent sample t-test was used to analyse the hypothesis at 0.05 level of significance. The results of the findings showed that teachers have a positive attitude towards integrating technologies in the classroom. Based on the findings, it was recommended that teachers should be using social media in sharing study materials with students.

Keywords: 21st century, digital natives, millennials, digital immigrants, technologies

1. Introduction

Several things come to mind when the word 'Native' is used. Within the Nigerian context, the word 'Native' generally refers to someone who is born into one of the tribes in Nigeria. The Cambridge English Dictionary uses the word native to refer to an individual born in a particular country (Cambridge University Press, 2018). The word usually describes a person associated with a place by birth, whether the person is resident there or not. Who then are digital natives?

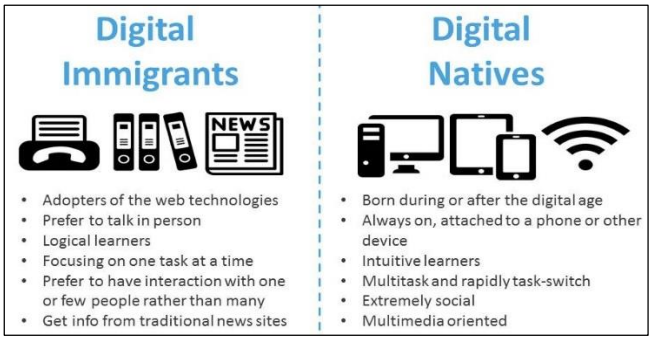
Marc Prensky used the term Digital Native to refer to anyone who was born after the digital technology became widely adopted (Prensky, 2001) [12]. Because digital natives are exposed to technology at an early age, they are more familiar with and understand technology better than the generation before theirs. In other words, they see this technology being used every day and in different ways so they are in a better position to understand them. They are similar to the Millennials – the generation of children born within 1980 and 2000 (Moran, 2016). Similar to digital natives, these ones are exposed to technology at an early age. However, not all digital natives are millennials. This is so because some digital natives were not born during the stipulated period of 1982-2000. Neither are all millennials digital natives because some, though born within the above time frame, had little or no opportunity to access communication technologies, which characterizes children of their generation. Millennials, just like their digital native counterparts are born into the world of Internet and its features especially the WWW, with particular reference to social media. They integrate technology into their everyday lives. They have grown up with computers and the Internet and so they find it easy to adjust to the use of computer devices and to perform computer-based tasks more quickly than older generations.

The digital natives are contrasted with digital immigrants. A Digital Immigrant is one who was born before digital technology was widely adopted. But it could also refer to individuals who were born during the digital age but did not have access to technology at an early age. The lives of these digital immigrants overlap with the natives and so they experience both the pre-digital culture and the digital culture. But the natives on the other hand have known only the digital culture (Prensky, 2001) [12]. This creates a great disparity in the attitudes and preferences of both groups. While most of the attitudes and preferences of the digital immigrants reflect the pre-digital culture, the preferences and attitudes of digital natives reflect the digital culture.

1.1 Accents of Digital Natives/Millennials

Accents refer to the manner a particular group of people pronounce words. It is the intonation that is peculiar to a particular person, group or tribe. Nordquist (2018) [10] defines accent as an identifiable style of pronunciation. Some individuals who belong to certain tribes in Nigeria are quickly identified by their accents. Thus without asking where an individual comes from, within Nigeria, one can easily deduce from their accents who is from Akwa Ibom, Hausa, Yoruba, Igbo, Delta, just to mention few tribes. Similarly, digital natives and millennials, as well as digital immigrants, have accents that characterize them. These accents are greatly influenced by their digital culture. For example, a digital immigrant would print out a document from the computer before he can edit it, but a digital native would rather edit the document directly from the computer. Digital immigrants would type out text messages with full words, but digital natives would use standard abbreviations (Prensky, 2001 in Cunnighnam, 2007) [12, 5]. In fact, instant messaging is now a primary form of communication for digital natives. For digital natives this so easy because they are always online. So they can communicate regularly with their peers using these

forms of technology. Through internet search engines and social media apps made available by the internet, students can have access to information, retrieve them instantly and make use of them. They can equally post this information and get instant feedback from recipients. Figure 1 shows the difference between the accents of digital immigrants and digital natives.



***Source*:** Image source from: https://unplag.com/blog/digital-immigrants-vs-digital-natives/

Fig 1: Difference between digital immigrants and digital natives.

All these are characteristics of children who are born with technology and use technology every day. Does it make any difference if one is a digital native or an immigrant? The answer is very crucial for a teacher in this 21st century. Prensky (2001:2) [12] indicated that the major problem instructors face today is that as digital immigrants who still speak an out-dated pre-digital language, they have to struggle to teach digital natives who speak an entirely new language; that of the digital age.

This digital language has come to stay and is becoming more and more complex with the proliferation of technology gadgets and resources. Teachers are left with no option than to accept this fact and try their best to equip themselves for the rapidly new changes that these technologies are bringing to their jobs. What can help digital immigrant instructors to cope with the new changes that technology is bringing to their jobs? First, they have to learn the language of the digital age. This involves becoming a technology literate. Teachers need to develop digital skills that will enable them use technologies in the classroom. They need to put effort to acquire basic ICT skills that would help them successfully migrate into the digital age.

Second, they must accept the new paradigm shift. The paradigm shift in education has changed the learning process. In the past, teachers have always seen themselves as transmitters of knowledge, the expert, the alpha and omega, the one who knows all. That mind-set has to change. The teacher is no longer the 'Know All'. Students' minds are no longer 'Tabular rasa'. That is why it is important that teachers and students learn to work together. As they teach students the content, the students will in turn show the teachers the best way of presenting this content to them using technologies they are not familiar with.

Third, teachers have to change focus from teaching to learning. If teachers want students to acquire the new 21st century knowledge and skills, then they must shift emphasis from teaching to learning. Changing their focus in this way will help them create a more interactive and engaging learning environment for both them and the learners. Teachers' roles will have to change. They will become co-learners with their students, guiding them to discover the content they want to present through the use of innovative technologies.

1.2 Statement of problem

Given the unique technological nature of digital natives and millennials who are admitted into schools today, it becomes imperative that teachers equip themselves with the necessary skills needed to teach in this 21st century. But are teachers willing to integrate new technologies into their classroom teaching? Do they possess the technological skills for teaching digital native students and millennials? This is the problem of this study.

1.3 Aim and Objectives

The aim of this study is to determine teachers' attitude towards integrating technology for 21st century teaching of digital natives and millennials. Specifically, the objectives of this study are to:

1. Ascertain the basic computer applications that teachers use in the classroom.
2. Ascertain the social media technologies that teachers use in the classroom.
3. Find out teachers' attitude toward integrating technology in the classroom
4. Determine the difference in the attitude of male and female teachers toward technology integration.

1.4 Research Questions

1. What basic computer applications do teachers use in the classroom?
2. What Social media technologies do teachers use in the classroom?
3. What is the attitude of teachers' towards integrating technology in the classroom?
4. What difference exists in the attitude of male and female teachers toward technology integration?

1.5 Hypothesis

There is no significant difference in the attitude of male and female teachers' towards integrating technology in the classroom

2. Methods and Materials

The study was carried out among seventy eight (78) teachers in Rivers State who participated in a 2-day workshop for teachers. One of the objectives of the workshop was to educate teachers and intending teachers on necessary innovative teaching skills, technique and methods during the teaching and learning process. The instrument used for data collection was a questionnaire titled: Teachers' Readiness for 21st Century Teaching Of Digital Natives and Millennials (TRFTDNAM). The questionnaire had three sections. Section A covered demographic variables. Section B had two parts. Part 1 listed basic computer applications. Teachers were to choose from the list the computer applications they know how to use. Part 2 covered several social media apps and teachers were to indicate which social media technologies they can use. Section C determined teachers' attitude towards integrating ICT into the classroom. It was designed on a four point Likert Scale of Strongly Agee (A), Agree (A), Disagree (D) and Strongly Disagree (SD). The face and content validity of the instrument was determined by two experts in Educational Technology and Measurement and Evaluation. The reliability of the instrument was

determined using Cronbach alpha and a reliability coefficient of 0.76 was obtained. Research questions one and two were answered using simple percentages while research questions three and four were answered using mean and standard deviation. The hypothesis was analysed using independent sample t-test at 0.05 level of significance.

3. Results

Below are the results of the research. The research questions will be answered first followed by the hypothesis.

3.1 Research Question 1

What basic computer applications do teachers use in the classroom?

Table 1: Response and percentage score of computer applications that teachers use

Computer Applications	Response	Percentage (%)
Microsoft Word	73	93%
Microsoft Excel	46	58%
Microsoft Access	12	15%
Microsoft PowerPoint	31	39%
Microsoft Publisher	11	14.%
Corel Draw	22	28%
Others	4	5%

Table 1 reveals that teachers use Microsoft word, Microsoft excel, Microsoft power point, Corel Draw, Microsoft access, Microsoft publisher, and other computer applications not specified. However, Microsoft word had a response of 73 (93%). It happens to be the most commonly used computer application among the teachers. This was followed by Microsoft Excel which had a response of 46 (58%) and then Microsoft PowerPoint which had a response of 31 (39%). Corel Draw, Microsoft Access and Microsoft publisher all had low response rates of 22 (28%), 12 (15%), and 11(14%) respectively.

3.2 Research Question 2

What Social media technologies do teachers use?

Table 2: Response and percentage score of social media technologies that teachers use

Social Media Technologies	Response	Percentage (%)
Blogs	29	37%
Forum	22	28%
Wikis	45	57%
Media sharing sites	39	50%
Social Networks	68	87%
Social Bookmarking	10	12%
Others	0	0%

Table 2 reveals the media technologies that teachers use. Teachers use media sharing sites, wikis, forums, blogs, social network, social bookmarking and other social media technologies not specified. However, Social Networks happen to be the most frequent social media technology used by classroom teachers, with a response rate of 68 which amounts to 87%. This was followed by wikis which had a response of 45 (57%), and Media Sharing Sites (e.g. YouTube, Flicker, Vimeo etc.) which had a response of 39 (50%). Others such as Blogs, Forums, and Social Bookmarking had response rates of 29 (37%), 22 (28%), and 10 (12%) respectively.

3.3 Research Question 3

What is the attitude of teachers' towards integrating technology in the classroom?

Table 3: Mean and standard deviation analysis showing attitude of teachers' towards integrating technology in the classroom

	N	Mini stat	Max. Sta	Mean	Std. Error	Std. Dev
Attitude	78	22.00	53.00	40.230	.51773	4.5724

Table 3 shows the mean score of 40.230 and standard deviation of 4.57 this indicates that the attitude of teachers towards integrating technology in the classroom is positive. This is hinged on the premise that the criterion mean point of 24.00 and above indicates a positive attitude while below 23.99 indicates a negative attitude. And as seen from table 3, the mean of 40.230 is far higher than the criterion mean of 23.99 thus showing a positive attitude of teachers towards integrating technology in the classroom.

This finding corresponds with that carried out by Acikalin (2010) who investigated exemplary teachers' use of computer-supported instruction in the social studies classroom. His findings showed that the participant teachers used a number of computer-supported instructional applications in their classrooms. However, the Internet and software programs such as Microsoft Power Point, Word, and Excel were the most common type of computer-supported instruction used by the teachers.

3.4 Research question 4

Is there any difference in the attitude of male and female teachers' towards integrating technology in the classroom?

Table 4: Mean & standard deviation analysis of attitude of male and female teachers' towards integrating technology in the classroom

Gender	N	Mean	Std. D	Std. Error
Male	16	40.125	3.304	.8260
Female	62	40.258	4.868	.6183

Table 4 Shows a mean of 40.125 for the male and SD of 3.304 while the female has a mean of 40.258 and SD of 4.868 this indicates that there is a difference in the attitude of male and female teachers' towards integrating technology in the classroom. As can be seen from the mean scores, the mean score of female teachers is higher than that of their male counterparts indicating that the female teachers had a more positive attitude than the males towards integrating technology in the classroom.

3.5 Hypothesis

There is no significant difference in the attitude of male and female teachers' towards integrating technology in the classroom

Table 5: Independent samples t-test analysis showing difference in the attitude of male and female teachers' towards integrating technology in the classroom

Gender	N	$\bar{x}$	SD	Df	T	Sig.	P	Decision
Male	16	40.12	3.30	76	-.103	.918	0.05	Accept Ho_1 P>0.05
Female	62	40.25	4.86					

The table 5 shows that t (76) = -.103 p > 0.5, i.e p =. 918 is greater than 0.05 therefore, the null hypotheses of no

significant difference in the attitude of male and female teachers' towards integrating technology in the classroom is retained and the alternate rejected. This means that the attitude of male and female school teachers' towards integrating technology in the classroom is not significantly different.

4. Discussion

The findings from Table 1 correspond with that carried out by Acikalin (2010) who investigated teachers' use of computer-supported instruction in the social studies classroom. His findings showed that the participant teachers used a number of computer-supported instructional applications in their classrooms. However, the Internet and software programs such as Microsoft Power Point, Word, and Excel were the most common type of computer-supported instruction used by the teachers.

The results of the study from Table 2, has some similarity with that of Morrison, Oyedele, Oladunjoye & Maman (2017) [8] whose study sought to determine the frequency and purpose for which social media is being utilized by business teacher educators in Nigeria. Out of the 90 business teacher educators sampled, 15 (40%) use social networks (Facebook and twitter), which had the highest response, 8 (27%) use media sharing sites (YouTube) and; 3 or 10%, use blogs.

Similarly, Callan and Johnston (2017) [3] sampled the views of 32 teachers, 70 students and six employers from three (3) vocational education and training (VET) institutions in Australia. Their findings revealed that several forms of social media are used to deliver VET programs such as nursing, health, community services, marketing, business, events management, social work, pre-apprenticeships and apprenticeships. The major social media technologies used are media sharing sites with particular reference to YouTube and social networks with particular reference to Facebook, followed by the use of blogs, Twitter and Instagram.

The results on table 3 did not come as a surprise. They are consistent with the findings of Naser, Leong and Fong (2010) [9] who investigated Jordan teachers' attitudes and levels of technology use in classrooms. The results of their analysis revealed that most teachers possess positive attitudes towards the use of ICT for educational purposes.

The finding of this present research is also consistent with the findings of Tezci (2010) [13] who investigated the status of Turkey primary school teachers with regard to their levels of knowledge on and use of ICT, and their attitudes towards computers and the Internet. His finding showed that teachers' attitudes towards computers were positive and at moderate levels.

The result on table 5 disagrees with that of Tezci (2010) [13] whose study showed that male teachers have more positive attitudes than female teachers towards Internet use. However, the finding on table 6 is consistent with that of Tezci (2010) [13]. He discovered that in terms of teachers' attitudes towards computers, there were no significant statistical differences between male and female teachers.

Students of the 21st century are uniquely different from students of past centuries. The Nigerian educational system was initially designed to prepare students for an agrarian economy, an industrialised economy. But today's economy is a knowledge-based economy, an economy where information becomes obsolete in few seconds. An economy where people watch events live, as they are happening anywhere in the world.

If teachers continue teaching digital natives and millennials in this 21st century, the same way they were taught during their time, using the same methods that were used for them, then they will never be able to prepare today's students for the future. Teachers will only end up producing students who cannot cope with life in this information society. The students will be bored with school because the method used for presenting information is not the method they are used to. And then failure rates will increase and so will attrition rates. Teachers must endeavour to make their classroom lessons more engaging and interesting. This is possible with the present technologies.

5. Conclusion

Teachers should bear in mind that technology is just a tool. The emphasis is not on using technology. The emphasis is on using the right technology to facilitate learning and prepare students for life in a digital world. Teachers must appreciate the benefits of using technology in the classroom such as helping students to develop skills and talents, enhancing students' social interaction skills, helping students to develop problem solving skills, and increasing students' motivation to complete tasks just to mention few. Enumerated below are some ways a 21st century teacher can use technology in teaching digital natives:

1. Incorporate the use of technology into lesson plan
2. Give students assignments that would need a little more research so they can be encouraged to use internet search engines to gather information.
3. Encourage students to connect with other students in other parts of the world using social media. There are several of such learning spaces where they meet students of the same grade in other schools outside Nigeria
4. Flip classroom lessons
5. Incorporate videos.
6. Use infographics.
7. Download free educational games that can enhance students understanding of concepts they will encounter while teaching them.
8. Enrich lesson notes with information from Open Educational Resources (OERs) and use open source technologies. They are free.
9. Engage in Massive Open Online Courses (MOOCs) professional development.

5.1 Recommendations

Based on the findings, the following recommendations were made:

1. Teachers should be using social media in sharing study materials with students.
2. Teachers should join social media groups that will enrich their teaching experience and help them develop their career.
3. Teachers should embrace the new digital culture and start changing the way they teach.

6. Acknowledgements

The authors would want to acknowledge the support of Crown Edu Consults – the organisers of the Prepare to learn workshop. They assisted the authors in the collection of data.

7. References

1. Açikalin M. Exemplary Social Studies Teachers use of Computer-Supported

2. Instruction in the Classroom. The Turkish Online Journal of Educational Technology. 2010; 9:4. Retrieved 24th December from http://www.tojet.net/ articles/ v9i4/947.pdf
3. Callan VJ, Johnston MA. Social media and student outcomes: teacher, student and employer views. 2017 Retrieved from https:// files. eric. ed.gov/fulltext/ ED579683.pdf
4. Cambridge University Press, Meaning of "native" in the English. 2018. Retrieved from https://dictionary. cambridge.org/dictionary/english/native
5. Cunnighnam D. Digital natives and digital immigrants: Digital Native or Digital
6. Immigrant, Which Language Do You Speak? 2007. Retrieved 2018 from https://www.nacada.ksu. edu/ Resources/Clearinghouse/View-Articles/Digital-natives-and-digital-immigrants.aspx
7. Moran K. Millennials as Digital Natives: Myths and Realities. 2016 Retrieved 30, 2018 from https://www.nngroup.com/articles/millennials-digital-natives
8. Morrison JL, Oyedele J, Oladunjoye GT, Maman J. The Utilization of Social Media in the Classroom by Business Teacher Educators in Nigeria. Africa Journal of Teacher Education. 2017; 6(1):22-38. Retrieved 24th December from https://journal.lib.uoguelph. ca/index.php/ ajote/ article/view/3853/4073
9. Naser JA, Leong LM, Fong SF. Teachers' Attitudes and Levels of Technology Use in Classrooms: The Case of Jordan Schools. International Education Studies. 2010; 3:2. Retrieved from https://pdfs.semanticscholar. org/ fd4a/f00f0165145b41720ea79540106d2dcecbb3.pdf
10. Nordquist R. Definition of Accent in English Speech. Retrieved, 2018. from https://www.thoughtco. com/ what-is-accent-speech-1689054
12. Prensky M. Digital Natives, Digital Immigrants. 2001 Retrieved, 2018 from http://www.albertomattiacci. it/docs/did/Digital_Natives_Digital_Immigrants.pdf
13. Tezci E. Attitudes and knowledge level of teachers in ICT use: The case of Turkish teachers. International Journal of Human Sciences. 2010; 7:2. Available: http://www.insanbilimleri.com/en