Examining the Digital Nativity Levels of Digital Generations: From Generation X to Generation Z

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Ahmet Naci Çoklar
Necmettin Erbakan University
Ahmet Keleşoğlu Faculty of Education
Department of Computer Education and Instructional Technologies, Konya, Turkey
https://orcid.org/0000-0001-9210-4779

Ali Tatli
Information Technology Teacher, Ministry of National Education, Gaziantep, Turkey
https://orcid.org/0000-0001-5655-7906

Abstract
Adaptation to the digital world is explained by the concept of digital nativity, which includes competencies such as grow up with technology, being comfortable with multitasking, being reliant on graphics for communication, thrive on instant gratifications and rewards. On the other hand, one of the sources of differentiation in digital technologies is the concept of the digital generation (X, Y and Z), which is about the year of birth or age. In this study, the digital nativity levels of digital generations were examined. The participants were 270 people, 90 from each of the X, Y and Z generations. Digital nativity level determination scale was used as a data collection tool. As a result of the research, it was found that the level of digital nativity increases as we move from the X generation to the Z generation. In terms of gender, while males in the X and Y generations have a higher level of digital nativity than females, there was no difference in the Z generation. While having a computer is an important source of differentiation for the X and Y generations, it is not important for the Z generations. Finally, it has been observed that there is a difference in the relationship between digital nativity levels of the X, Y and Z generations and computer self-efficacy, and the duration of computer and internet use.

Keywords: Digital generations, Digital nativity, Digital wisdom, Z generation.

Introduction

Digital technological tools and applications are developing very rapidly. Thanks to the advantages it provides, new features in digital technologies increase their use and make their effects felt on the social structure depending on their spread. (Pozzebon, 2015). The rate of this charge may vary depending on the structure and culture of societies (Crowley & Heyer, 2015). However, in many parts of the world, although to a greater or lesser extent, societies are affected to a certain extent, especially by digitalising technologies in line with their needs, interests and levels of knowledge (Taylor, 2016; Pozzebon, 2015).

Many factors such as existing possibilities, habits, attitudes, motivation in the use of technology in societies play a role. In this respect, the use of digital technologies by individuals with different characteristics in the same society may differ (Saubern, Urbach, Koehler and Phillips, 2020). There are social context theories called digital divide and digital gap (Ferreira, Ponte, Silva and Azevedo, 2015; Marisca, Mayne, Aneja and Sorgner, 2019; Van Dijk, 2020) that deal with the differentiation in the use of digital technologies. In addition, in theories such as the technology acceptance model proposed by Davis (1989), individuals and individual characteristics are highlighted in the difference in the use of technology.

On the other hand, it is emphasised that both individual and social perspectives are important in theories such as the diffusion of innovations expressed by Rogers (2003). Students or teachers who receive the same training benefit from technology in different ways in schools (Duersen, 2017; Van Dijk, 2020) confirms both theories individually and socially. In this respect, it can be said that both theories with individual and social perspectives are correct, as they cause differentiation in the use of digital technologies. In general, the difference in digital usage is handled with the concept of the digital divide.

The digital divide refers to the difference in the use competencies of individuals in the use of digital technologies in terms of certain characteristics (Guillén & Suárez, 2005). This difference can also be expressed as the difference in utilising digital resources. While Van Dijk (2020) states that the digital divide has five perspectives: technological, economic, educational, social and persuasive, he states that the digital divide cannot be eliminated due to these factors. Some factors such as education, income level, cultural characteristics, parents' education level or technology attitude can affect the digital divide and the digital divide (Enoch & Soker, 2006; Krueger et al., 2018; Owen, 2016; Rogers, 2001; Van Dijk, 2020). However, one of the important factors put forward on the digital divide-gap is the year of birth (age) factor, and the concept of digital generations emerging from this argument is the basis for many studies (Abbey & Hyde, 2009; Schradie, 2011; Van Dijk & Hacker, 2003). The age-related digital divide (digital generations) that emerged with the concept of digital domestic-digital immigrants is also important in terms of being the basis for many types of research (Dewan & Riggins, 2005; Neves, Waycott & Malta, 2018; Tsatsou, 2021; Van Dijk, 2006; Walker et al., 2020).

Prensky was one of the first individuals to work on the digital divide and introduced the concepts of digital natives and digital immigrant based on the year of birth (Prensky, 2001). According to Prensky (2001), digital natives are individuals born in the Digital Age with digital DNA and therefore, they are called "iGeneration". Digital natives have grown up with numerous technologies such as computer and web technologies. On the contrary, digital immigrants are individuals who were born in the pre-computer era, and they refer to the individuals who made the periods when new digital technologies were not available and tried to adapt to these technologies that came into life later (Benini & Murray, 2013). The rapid development in digital technologies has led to the development of new theories for concepts and the digital native and immigrant concepts expressed by Prensky. It was stated by Palfrey and Grasser (2008), Tapscott (2009), Oblinger (2004), Zhao and Liu (2008), Veen (2003) that a new generation emerged after the 2000s in addition to the X and Y generations. This new generation has been named with names such as Generation Z, net generation, millennials, Homo Sapiens. (Sorrentino, 2018). It has been stated by Mark Prensky (2009) that digital wisdom has emerged and a new digital generation has emerged with the name Homo Sapiens. Despite the name differentiation, it is seen that a digital generation in the form of X, Y and Z is mostly based on the date of birth (Howell, 2012; Jukes, McCain & Crocket, 2010; Kelly, McCain & Jukes, 2009). General information about the X, Y and Z generations regarding the separation of generations according to their birth years can be given as in Table 1.

Table 1: X, Y and Z Digital Generations and Features (Howell, 2012; Levickaite, 2010; Naumovska, 2017; Wiedmer, 2015)

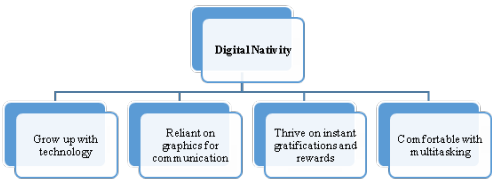
Digital Generation	Years of Birth	Main Features
X Generation	**1965-1980**	These individuals have seen the emergence of digital technologies and have seen the impact of changing technologies on social life. They are skeptical about the use of digital technologies. They try to adapt to the digital world later. For this reason, they are less dependent on many digital technologies, including smartphones.

Y Generation	**1981-2000**	They are the children of the transition period. Digital technology is part of their daily lives and they are used to the use of screens in their lives. However, they were not born into the digital world, they migrated from the analog world to the digital world.
Z Generation	**2001 and later**	They are individuals who do not know a world without the internet and digital technologies, and were born directly into digital technologies. This is why digitality is part of their DNA. They like to get everything they want right away in terms of their general features, they are multitasking, but their attention span is limited.

As can be seen in Table 1, digital generations can be expressed as a result of individuals' childhood habits and past experiences. In this research, digital nativity levels of different digital generations were examined to determine the effect of the digital divide focused on the birth year. In this respect, the concept of digital nativity is discussed.

Today, individuals need to understand and use the digital technologies that have become a part of life in order to survive. Prensky (2009) explains this situation as digital wisdom. In this respect, attitude, motivation, addiction, etc. that addresses the technology use competencies of individuals in the digital world. Unlike contexts, theories in which digitality is treated as a way of life gain importance (Kirschner & Bruyckere, 2017). Teo (2013a) is one of the individuals who research the ability of individuals to adapt to the digital world in the digital world. Teo (2013b) named this requirement as the digital nativity level of individuals, created a theoretical framework related to digital nativity, and based on this framework; he developed a scale called the Digital Locality Determination Scale. According to Teo, digital nativity consists of 4 sub-dimensions (Teo, Kabakci Yurdakul & Ursavas, 2014). These sub-dimensions are as follows (Figure 1).

Figure 1: Digital nativity and sub-dimensions (Teo, 2013b)



Teo (2013a; 2013b) explains these features as follows. The dimension of Grow up with technology expressed the growth of digital natives using technological products such as the internet, mobile phones and computers as a digital nativity. Comfortable with multitasking means that they can perform multiple operations at the same time with new operating systems, thus reading e-mail and listening to music at the same time. Reliant on graphics for communication explained that digital natives use more visuals compared to previous generations and express themselves more comfortably. The use of emoji and abbreviation is an important determinant. The Thrive on instant gratifications and rewards dimension expresses how keen digital natives are for knowledge and are not as patient as digital immigrants.

Purpose of the Research

The aim of this research is to determine the digital nativity levels of digital generations. For this purpose, answers to the following questions were sought.

What are the digital nativity levels of individuals from X, Y and Z generations?

Does digital nativity levels of individuals from X,Y and Z generations differ according to

- type of digital generation
- gender
- computer/tablet ownership variables?

3. What is the relationship between the digital nativity levels of individuals in the X, Y and Z generations and their computer self-efficacy and the duration of computer and internet use?

Importance of the Research

In today's world, most processes are done through digital technologies. Many services, from trade to law, from health to education, are now provided on digital media. Especially the COVID-19

pandemic experienced around the world has led to the widespread use of digital technologies. In this respect, individuals' use of digital technology and the situations of digital division have become even more important. It is important to explore the concept of the digital generation as a source of digital divide. Because some researchers such as Van Deursen (2017) and Van Dijk (2020) attribute the digital divide to factors such as media literacy, social and cultural factors rather than digital generations. However, the digital generation is accepted by many theorists and strategies for the digital generations are being developed in different fields such as marketing (Levickaite, 2010). Investigating the concept of digital generation by taking control of social and cultural differences as much as possible is important in terms of directing many areas from education to health and shedding light on new researches. In addition, the emergence of a difference in the concept of digital generation as a digital division parameter as a result of the research is important in terms of providing different services for digital generations and paving the way for the design of infrastructure systems in this direction.

Method

Research Model

The research is a quantitative research and the relational descriptive survey model has been used. Although the general situation is revealed in relational studies, it is tried to determine whether there are existing relationships between two or more variables (Fraenkel, Wallen & Hyun, 2012).

Participants

Research was carried out in a school in the province of Konya in Turkey in 2019. The participants of the study consisted of families who were born between 1965 and 2010 in their family and can represent three of the X, Y and Z digital generations together. In order to reduce the impact of factors such as culture and economy in the digital divide expressed by Van Dijk (2020), three participants, one from each of X, Y and Z from the same family, were reached. In the study, the sampling was taken by stratified sampling method. Stratified sampling is a highly representative sampling type in which subgroups in the population are tried to be represented in the sample (Greasley, 2008). In this context, generations were considered as strata according to age ranges, and a total of 3 representatives from each family, one person from each of the X, Y and Z generations, were included in the study. Therefore, data were collected for a secondary school student (Generation Z - born over 2001), a participate born between 1981 and 2000 (Generation Y), and a participate born between 1965-1980 (Generation X). Data of 270 participants from a total of 90 families participating in the study are given in Table 2.

Table 2: Demographic Information of Participants (n=270) Variables

Variables		f	%
Digital generations	X generations	90	33.3
	Y generations	90	33.3
	Z generations	90	33.3
Gender	Female	125	46.3
	Male	145	53.7
Computer/tablet ownership	Yes	153	56.7
	No	117	43.3
Computer using self-efficacy	Low	40	14.8
	Medium	173	64.1
	high	57	21.1
	Total	**270**	**100**

As can be seen in Table 2, the participants have an equal rate in terms of digital generation. In terms of gender, 46.3% of the participants are female and 53.7% are men. While 56.7% of the participants

stated that they have a computer or tablet of their own, the rate of the participants who stated that they can use the computer at a medium and high level is 85.2%.

Data Collection Tool

In the research, the personal information form and Digital Native Assessment Scale (DNAS) were used as a data collection tool. The DNAS scale was developed by Teo (2013) and adapted into Turkish by Teo, Kabakçı Yurdakul and Ursavaş (2014).

The scale consists of 21 items and 4 factors, and the items are in 7-point likert structure. The factors of the scale are grow up with technology, being comfortable in multitasking, reliant on graphics for communication and thrive on instant gratifications and rewards (Teo, Kabakçı Yurdakul & Ursavaş, 2014). The internal consistency coefficient (Cronbach's alpha) of the scale was calculated as .867. Permission was obtained for the use of the scale.

Data Analysis

The data obtained from the digital nativity scale were scored as "1-Strongly Disagree" and "7-Strongly Agree", which are accepted by Teo et al. (2014). Descriptive statistics were used to evaluate the digital nativity levels of the participants, and one-way analysis of variance (ANOVA) was used to determine the difference in digital nativity between digital generations. In addition, the independent sample t test was applied to determine the difference in digital nativity scores of the participants according to their computer/tablet ownership and gender. Finally, the Pearson product-moment correlation coefficient was used to determine the relationship between digital nativity and computer self-efficacy, duration of computer and internet use variables. The level of significance was taken as .05.

Findings

Digital Nativity Levels of X, Y and Z Generations

In the research, digital nativity levels of 270 participants were analyzed. The analysis results obtained in this context are given in Table 3.

Table 3: Digital Nativity Levels of Different Digital Generations

	X Generation (1965-1980)			Y Generation (1981-2000)			Z Generation (2001-2010)		
	n	$\overline{X}$	**sd**	**n**	$\overline{X}$	**sd**	**n**	$\overline{X}$	**sd**
Grow up with technology	90	3,98	2,37	90	4,54	1,46	90	4,60	1,75
Comfortable with multitasking	90	3,98	2,48	90	4,91	1,62	90	4,78	2,00
Reliant on graphics for communication	90	4,05	1,60	90	4,64	1,70	90	4,81	1,62
Thrive on instant gratifications and rewards	90	3,89	2,44	90	4,94	1,65	90	4,99	1,86
General Digital Nativity	**90**	**3,99**	**1,89**	**90**	**4,74**	**1,40**	**90**	**4,78**	**1,65**

As can be seen from Table 3, an increase is observed in the digital nativity level scores of individuals as it moves from Generation X to Generation Z. The digital nativity level is calculated as $\overline{X}$ = 3.99 for individuals in generation X, $\overline{X}$ = 4.74 for individuals in generation Z and $\overline{X}$ = 4.78 for individuals in generation Z. There is also a similar increase for all sub-dimensions of DNAS. Only in the sub-dimension of Comfortable with multitasking, Y Generation ($\overline{X}$ = 4.91) stated that they had more digital native than Z Generation ($\overline{X}$ = 4.78).

In order to determine the difference of the general digital nativity levels according to the generations, the descriptive statistics of the digital nativity levels of the participants according to the age groups and the results of the variance analysis for the difference between the groups are given in Table 4.

Table 4: Comparison of the Digital Nativity Levels by Digital Generation

Digital Nativity Level	n	$\overline{X}$	sd	Source of Variance	Sum of Squares	df	Mean Square	F	P	Differences
A- X Generation (1965-1980)	90	3,99	1,89	**Between Groups**	35,508	2	17,754	6,419	,002*	A-B, A-C
B- Y Generation (1981-2000)	90	4,74	1,40	**Within Groups**	738,453	267	2,766			
C- Z Generation (2001-2010)	90	4,78	1,65	**Total**	773,961	269				

* p<.05

As can be seen from Table 4, generation type is an important factor that determines the digital nativity levels of the participants (F(2-267)=6.419, p<.05). According to the results of the analysis conducted to determine which groups are different, the digital nativity level of the individuals in the generation Z ($\overline{X}$=4.78) and in the generation Y ($\overline{X}$=4.74) are higher than the digital nativity level of the individuals in the X generation ($\overline{X}$=3.99). In other words, individuals in the Y and Z generations see themselves more digitally than the individuals of the X generation.

Digital Nativity Levels of Individuals of Different Generations by Gender

In Table 5, the analysis results of the data regarding digital nativity levels according to the gender of the generations are given.

Table 5: T-Test Results of the Digital Nativity Levels According to Gender

	Gender	N	$\overline{X}$	Sd	df	t	p
X Generation (1965-1980)	Female	40	3,48	1,90	88	2,968	,004*
	Male	50	4,62	1,69			
Y Generation (1981-2000)	Female	43	4,33	1,27	88	-2,752	,007*
	Male	47	5,13	1,42			
Z Generation (2001-2010)	Female	42	4,85	1,60	88	0,356	,723
	Male	48	4,72	1,71			

* p<.05

It can be said that the general digital nativity levels of the participants are affected by the gender for the X [$t_{(88)}$=2.968, p<.05] and Y [$t_{(88)}$=-2.752, p<.05] generations, but for the Z generation [$t_{(268)}$=0.844, p>.05], gender is not important variable (Table 5). In other words, men ($\overline{X}$=4,62) in the X generation see themselves more digitally than female ($\overline{X}$=3,48). Similarly, men ($\overline{X}$=5,13) in the Y generation see themselves more digitally than female ($\overline{X}$=4,33). When the situation is examined in terms of generation Z, that is, for individuals born between 2000 and 2010, the level of digital nativity does not differ between female ($\overline{X}$=4,85) and men ($\overline{X}$=4,72).

Digital Nativity Levels of Digital Generations According to Computer / Tablet Ownership

Digital nativity levels of individuals in different generations were investigated according to tablet / computer ownership, and the analysis results are given in Table 6.

Table 6: Analysis Results of Digital Nativity Levels According to Computer / Tablet Ownership

	Computer/ Tablet	N	$\overline{X}$	Sd	df	t	p
X Generation (1965-1980)	Yes	52	5,12	1,08	88	9,327	,000*
	No	38	2,44	1,64			
Y Generation (1981-2000)	Yes	58	5,06	1,54	88	2,116	,037*
	No	32	4,35	1,75			
Z Generation (2001-2010)	Yes	44	4,81	1,39	88	0,239	,817
	No	46	4,73	1,43			

* p<.05

As can be seen from Table 6, for X [$t_{(88)}$=9.327, p<.05] and Y [$t_{(88)}$=2.116, p<.05] generations, the computer/tablet ownership is an important factor affecting the digital nativity level. However, the computer/tablet ownership is not an important variable for the Z generation [$t_{(88)}$=0.239, p>.05]. While in the X generation, those who own a computer / tablet have a digital nativity level($\overline{X}$ =5,12), those who do not have a digital nativity level ($\overline{X}$ =2,44) are quite low. Therefore, a computer/ tablet ownership can be expressed as an important digital nativity indicator for the X generation. When examined for the generation Y, the digital nativity scores of those who own a computer/tablet are $\overline{X}$ =5,05 and those who do not have a computer/ tablet are $\overline{X}$ =4,35. Although there is not as much difference as the generation X, having a computer / tablet is an important digital nativity variable for the Y generation. However, for Generation Z, there is no significant difference between the digital nativity levels of those who own a computer/tablet ($\overline{X}$ =4,81) and those who do not ($\overline{X}$ =4,73).

The Relationship between Digital Nativity Levels of Generations and Various Variables

Within the scope of the study, the relationships between computer self-efficacy, average duration of computer and Internet use of individuals in different generations were also analyzed. The results are given in Table 7.

Table 7: The Relationship between Digital Nativity Levels of Generations and Computer Self-Efficacy, Average Computer and Internet Use Duration

		Computer Self-Efficacy	Computer Use Duration	Internet Use Duration
X Generation (1965-1980)	**Digital Nativity Level**	,90**	,92**	,89**
Y Generation (1981-2000)	**Digital Nativity Level**	,65**	,49**	,53**
Z Generation (2001-2010)	**Digital Nativity Level**	,07	,34**	,30**

** p<.01

When Table 7 is examined, it is seen that there is a high level, positive and significant relationship between the digital nativity level of X generation and computer self-efficacy (r=.90, p<.01), duration of computer use (r=.92, p<.01), and duration of internet use (r=.89, p<.01) variables. Accordingly, it can be said that the level of digital nativity will significantly increase if the computer self-efficacy, the duration of computer use or the duration of internet use increases of the individuals in the X generation. There is a moderate, positive and significant relationship between the digital nativity level of the generation Y and the variables of computer self-efficacy (r=.65, p<.01), duration of computer use (r=.49, p<.01) and duration of internet use (r=.53, p<.01).On the other hand, when the relationship between Generation Z

and three variables is examined, it can be said that there is no relationship between computer self-efficacy and digital nativity level (r=.07, p>.01), and there is a low-level and positive relationship between the duration of computer use (r=.34, p<.01) and the duration of Internet use (r=.30, p<.01). When the correlation values are examined, the variables of computer self-efficacy, duration of computer use and duration of internet use are also important for generation Y, but more important for generation X. However, computer self-efficacy is not an important indicator for Generation Z, and the duration of internet and computer use can be expressed as two variables with a low level of relationship.

Conclusion and Discussion

There are different opinions about the importance of age in digital division. In the digital divide, some researchers such as Van Deursen (2017) and Van Dijk (2020) consider media literacy, cultural, social, technological and educational issues more important than age, while some researchers such as Howell (2012), Prensky (2009), Palfrey ve Grasser (2008), Tapscott (2009), Oblinger (2004), Zhao and Liu (2008), Veen (2003) consider the year of birth (age) stands out as a more important factor. In order to determine the importance of age in the digital divide, the level of competence expressed as digital nativity level by by Teo (2013a; 2013b) and digital wisdom Prensky (2009) was investigated with different age groups. In the research process, the digital nativity level of 90 individuals from each of the X, Y and Z generations from each family, whose cultural, social and economic characteristics were taken under control as much as possible with the same family, were investigated and the following results were obtained.

There is a difference between the X, Y and Z generations in terms of the level of competence of using digital technologies, which is called digital nativity. Research results revealed that the concept of digital generation is important in the digital divide. As it moves from generation X to generation Z, digital nativity levels of individuals increase. In other words, considering age-related theories, individuals born over 2000 and those born between 1980-2000 and before 1980 differ in their ability to adapt to the digital world expressed by Teo (2013b). This finding supports researchers who consider digital generations in terms of digital divide (Abbey & Hyde, 2009; Howell, 2012; Oblinger, 2004; Palfrey & Grasser, 2008; Prensky, 2009; Schradie, 2011; Tapscott, 2009; Veen, 2003; Zhao & Liu, 2008). As a matter of fact, Jacobs et al. (2019) states in their research findings that user characteristics are more important than technology features in the use of digital technologies. On the other hand, when the sub-dimensions of DNAS are examined, it is the items with the highest average for generations Y and Z to ask for thrive on instant gratifications and rewards, while Reliant on graphics for communication has the highest average for Generation X. Prensky (2012a; 2012b) stated that stimuli are important on the brain and learning style, that the brain competencies of individuals who are raised as digital natives differ and that different competencies come into prominence on learning. In this respect, it can be regarded as normal that the Generation X, which has gone through a book, picture and writing-oriented education process, and the Y and Z generations, who have access to rich resources in the education process with different materials such as video, sound, image, and can find the information they want on the internet, have different digital native competencies. Raheel, Majid, and Anwar (2019) also state that multimedia resources are important in improving brain activities and thinking styles. Neves, Waycott, and Malta (2018), Howell (2012) stated that as the new generation, digital generation representatives are more prone to ICT-oriented transactions such as instant feedback, fast and instant interaction. In this respect, the prominence of the X and Y and Z generations with their particular characteristics can be explained by the effect of their past experiences or educational processes that shaped their brain functions.

The digital nativity levels of male and female individuals in the X, Y and Z generations were examined, and it was observed that males had more digital nativity levels than females in terms of generations X and Y. However, there was no difference between the male and female born after 2000 in the generation Z in terms of their competencies in using digital technology. This

situation can be explained by the increase in accessibility opportunities offered to females during the education process. Van Dijk (2017) points out access as one of the most important elements in the digital divide. While Mariscal et al. (2019) stated that females have a disadvantage in accessing technologies, Marques, Mitozo, and Massuchin (2020) stated that the disadvantage in technological access is important as a parameter for the digital divide. Similarly, Hilbert (2011), based on the results of research in different countries, emphasized that adverse conditions related to employment, education and income are less accessible to females than males, and the effect of this on the digital divide. The difference between male and female in individuals of the X and Y generation may have been due to the excess of opportunities offered to male in this period. However, females in the generation Z have had more opportunities in terms of accessing and using technology in many areas from education processes to daily life skills (ITU, 2018). Hilbert (2011) also stated that females use digital tools more actively than males if they are given access opportunity, while Van Dijk (2020) states that the difference in the digital divide based on gender is closed thanks to the opportunities provided. In this respect, it can be said that providing equal access opportunities to generation Z individuals, who are the children of the digital world, especially in educational processes, eliminates the difference for female.

Computer/tablet ownership is a variable that causes a difference in digital nativity level in X and Y generations. However, having his own tablet or computer is not an important variable for the individuals of the generation Z. In other words, it was not important for individuals in the Z generation to have their own tablet or computer. The relationship between computer self-efficacy and the duration of computer use and internet use in terms of X, Y and Z generations obtained in the study also supports this result. There is a high-level, moderate and low-level positive relationship for Generation X between the level of digital nativity and computer self-efficacy, duration of computer use and internet use. This result is similar to the statements about the relationship between technology use and age for most digital divides (Abbey & Hyde, 2009; Elena-Bucea, Cruz-Jesus, Oliveira & Coelho, 2020; Enoch & Soker, 2006; Guillén & Suárez, 2005; Kelly, McCain & Jukes, 2009; Kirschner & Bruyckere, 2017; Krueger, Stone & Lukaszewski, 2018; Neves, Waycott & Malta, 2018; Palfrey & Gasser, 2008; Tapscott, 2009). Palfrey and Gasser (2008) stated that the era-conditions emerged in the use of technology of digital generations in the digital divide, while Tapscott (2009) and Van Deursen (2017) stated that the educational, social, cultural and technological opportunities offered in the development processes of individuals significantly affect the competencies of generations. Palfrey and Gasser (2008) state that the age-conditions that emerged have an important effect on the technology use of digital generations in the digital divide. Tapscott (2009) and Van Deursen (2017) stated that the educational, social, cultural and technological opportunities offered to individuals during their development process significantly affect the competencies of digital generations. Crowley and Heyer (2015) also emphasize that childhood and education processes are important in shaping individuals. In this respect, while Generation Z has a rich opportunity to use technology in environments such as home and school since its birth, the Y and especially the X generation make efforts to learn, understand and use these technologies (Lupač, 2018). Similarly, Prensky (2009) states that the children of generation Z, which they describe as homo sapiens, were born into technology, started to use the technologies they need from birth, and continue to use them intensively when they start their education process. While computer laboratories, increasing internet access facilities, and innovative applications provide important opportunities for the Z generation in educational processes, these access opportunities have been less in previous generations (Neves, Waycott & Malta, 2018). Firth et al. (2019) stated in their definition of "online brain" that the internet changed the way the brain works. Individuals born after 2000, called Generation Z, have a significant advantage in digitality, thanks to both the advantages of growing conditions and differences in their thinking, compared to the X and Y generations.

Suggestions

The following suggestions can be made in

the light of the results obtained from the research. It has been observed that the priorities of the X, Y and Z generations in terms of digital nativity sub-dimensions have changed. For the Y and Z generations, quick feedback and response requests, and for the X generation, the use of visuals in the communication process has come to the fore. This finding reveals that there are priorities according to generation or age in terms of digital nativity. In terms of the design and use of digital media, options such as applications and designs that differ according to digital generations can be presented and researches can be made for these applications. The digital nativity levels / digital wisdoms of the digital generations are increasing from the X generation to the Z generation. In accordance with the literature, access opportunities and technologies being born into or later entering their lives are seen as important factors. In this context, qualitative supported research can be done.

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Author Details

Prof. Dr. Ahmet Naci Çoklar, *Necmettin Erbakan University, Ahmet Keleşoğlu Faculty of Education, Department of Computer Education and Instructional Technologies, Konya, Turkey,* ***Email ID****: ahmetcoklar@hotmail.com.*

Ali Tatli, *Information Technology Teacher, Ministry of National Education, Gaziantep, Turkey,*
Email ID*: tatliali77@gmail.com*.