

# Digital Natives and Their Learning Habits in Acquiring Knowledge

Luiza Piersiala

Częstochowa University of Technology, Faculty of Management, Poland

[luiza.piersiala@pcz.pl](mailto:luiza.piersiala@pcz.pl)

**Abstract:** The knowledge provided to students should be presented in an engaging way and using the latest technologies. The world in which society, and especially young people, functions is described as a nanosecond culture, i.e. one in which everything is expected to be available immediately. The recent years have shown that teachers are becoming aware that they need to adjust the educational materials presented and the way they conduct exercises and lectures by expanding their pedagogical and technological skills to accommodate new teaching requirements. The aim of the article is to define what educational needs are desirable and necessary in the process of acquiring knowledge by students and to determine what learning habits young people have. The first part of the article attempts to present some theoretical aspects of learning in the era of digitization. Then, a quantitative study was performed using the Cawi method. The subjects of the study were students of a technical university, both part-time and full-time. A survey was carried out with the participation of 203 student representatives. The study was carried out in the period September - November 2022.

**Keywords:** Education, Knowledge, Digital approach, Educational needs, Digital native, Learning environment, Higher education

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## 1. Introduction

Education is used to develop passions and skills that enable people to be effective employees and active citizens. However, it should be remembered that currently people often change their professions, they have to be flexible, adapt to new technological changes, and at the same time they are increasingly competing with each other and are willing to take on new educational challenges (Houlden i Veletsians, 2019). Education has changed, it has been digitized. Remote and hybrid induced a change in the way of transferring knowledge. It should be adapted to current trends and requirements as well as the reality surrounding students. The aim of this approach is to create attractive, interesting and motivating lectures and lessons for further learning. Technology and progressive digitization have improved the effectiveness of learning and streamlined the process of acquiring knowledge. According to Mete, Riegel, Kozen and Polka (2017), technology has not only transformed into a powerful tool of everyday life, but also significantly influenced education. Currently, students are considered to be the first generation of the so-called "digital natives" They have grown up with technology all their lives, they know mobile phones, tablets, computers, playstation and many other electronic devices from birth (Acquah & Katz, 2020).

The recent years have shown that teachers are becoming aware that they need to adjust the educational materials presented and the way they conduct exercises and lectures by expanding their pedagogical and technological skills to accommodate new teaching requirements. Currently, many universities in Poland are developing their e-learning courses more and more, training their staff on how and where to use effective teaching tools to realize the full potential that is required for students to participate willingly and with commitment.

The first part of the article presents the characteristics of a modern student, what he pays attention to when acquiring knowledge and learning. Then, the tool and the test sample were described. The next part consists of research results and conclusions, research limitations and recommendations.

## 2. Literature Review

Students who were born between 1980 and 1994 are known as "digital natives" (Prensky, 2001; Haytham, 2023). As reported Gallardo-Echenique et.al (2015) from their youth, they grew up with digital communication technologies. As mentioned by Barbuceanu (2020) and Mete et.al (2017) a digital native student is able to communicate, share knowledge and connect in a continuous, 24/7 environment. For them, the most remarkable characteristic was growing up with technology. Digital natives show their preferences for using graphics for communication and are comfortable with multitasking, they prefer to receive instant feedback and seek gratifications (Xie et.al, 2022). According to Porat et al. (2018), the widespread belief is that students, digital natives, who live all their lives in media-rich digital environments and are ubiquitously connected through social networks, naturally develop digital competencies. This is a person who is proficient in Twitter, Facebook, Instagram, SnapChat, podcasts, YouTube, online news, text messaging, instant messaging. He/she knows perfectly well smart phones, iPads, smartwatches and many more. This group is also referred to as the

"iGeneration" or as having "digital DNA" from birth, they are also people brought up in the "nanosecond culture". Taking these factors into account, Howe and Strauss (2003) attributed certain features to the network generation that distinguished them from previous generations. They were described as people with an optimistic approach to the world, who like to cooperate with each other, achieve success in life and do well in the environment of the latest technologies. They are constantly in the digital world, both during study and during leisure time. This enables them to access information quickly and deal with a variety of tasks using technology. They multitask and switch between tasks quickly. They are capable of high-speed tasks. Native digital students prefer to study visually rather than through text, they want an environment that is rich in images. They like information presented in graphics, charts, tables, and images rather than lengthy reading tasks

Education has transformed over the past few decades. Technology breaks up the limitation of time and improves students' learning autonomy (Liu & Li, 2020; Huang et al., 2020). The challenge posed by the Covid-19 pandemic is the transition from classroom learning to online and hybrid learning with the use of technological solutions (Tang, 2021). At the same time, universities had to develop ways to use modern learning methods while ensuring high-quality teaching (Reis et al., 2022). Currently, interactive boards, virtual learning environments, e.g. Moodle, videoconferencing, applications and software, games, tablets and smartphones have started to be used more often in lecture halls (Nikou and Aavakare, 2021). Lecturers started recording podcasts, tutorials, instructional videos, e-books. They began to conduct synchronous lectures and use videoconferencing (Criollo-C et al, 2021). Such tools and such methods are certainly conducive to the positive transfer of knowledge. It can be said that students need such tools, and lecturers need to learn to use such tools.

According to Riegel and Mete (2017), students and lecturers should share knowledge with each other. There is feedback. Students have an enormous amount of knowledge to impart to lecturers, and lecturers have a wealth of knowledge to offer students. Mutual learning can bring many positive effects. This idea of mutual learning holds true for technology (Haytham, 2023, pp. 23-33). The experience of the last two years has shown that technology is conducive to eliminating time and space barriers. It turned out that you can learn asynchronously and synchronously. Opportunities arising from the development of technology in science should be used by adapting to the requirements of current students. Teaching materials supported by photos, graphics, videos should be used. Bearing in mind the current trend of nanoseconds, such solutions are conducive to flexibility and mobility of both students and lecturers.

### **3. Research Methodology**

Based on the discussion above, this study aims to define what educational needs are desirable and necessary in the process of acquiring knowledge by students and to determine what learning habits digital natives have. Following the foregoing discussion, several objectives have been identified. The following research questions were posed: What kind of learning habits do technical college students have? What factors do they pay attention to when learning? Do they prefer group work or independent learning?

The study investigated students' needs for learning habits. This is a pilot study, conducted on a sample of 203 students. It is planned to conduct the survey on a larger research sample, including various departments of technical universities in Poland. The questionnaire was developed by the Center of Modern Technology of the Gdańsk University of Technology. This study adopted an online questionnaire to examine Polish learners' digital nativity. It consists of two parts. Part one inquired into students' basic information, such as gender, age, degree and major. Part two inquired into students' responses to about learning habits. The survey contained 26 closed-ended questions, 1 open-ended question and 4 questions defining users. The participants were informed of the purpose and procedures of the study, and their due rights to quit the study at any time. Generally, participants spent about 10 minutes filling in the questionnaire.

### **4. Results**

The research was carried out in the period September-November 2022 on a sample of 203 people. The characteristics of the survey participants in the research were analyzed based on the results from the metric part of the survey. The current study examined 203 learners' digital nativity. The research group represented was: 105 women and 93 men, 1 person gave gender: other, 4 people did not answer the question. All the respondents were students of the Częstochowa University of Technology (Poland) from the Faculty of Management, mainly first-cycle studies (99%), i.e. bachelor's or engineering studies, mainly in the field of logistics, engineering logistics as well as finance and accounting. This study adopted an online questionnaire to examine Polish learners' digital nativity and their intentions to acquiring knowledge.

Figure 1 demonstrated that 203 students from Czestochowa University of Technology successfully completed the online questionnaire.

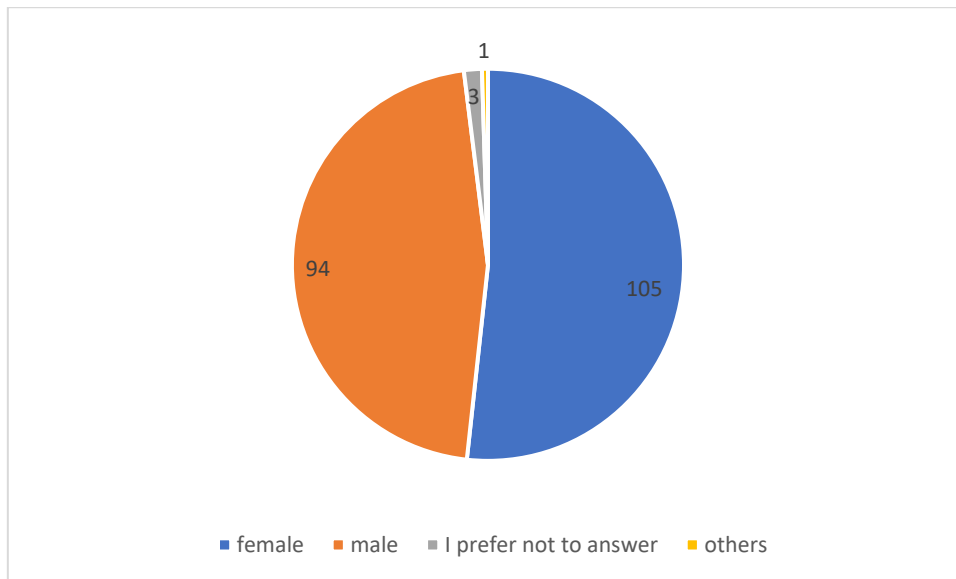


Figure 1: Participants by Gender

According to Figure 2 most respondents (44%) are aged 22 to 24. Another 43% are respondents aged 19-21. The survey was also completed by 4 respondents under the age of 18, 9 respondents aged 30-40 and 1 person over 41 years of age.

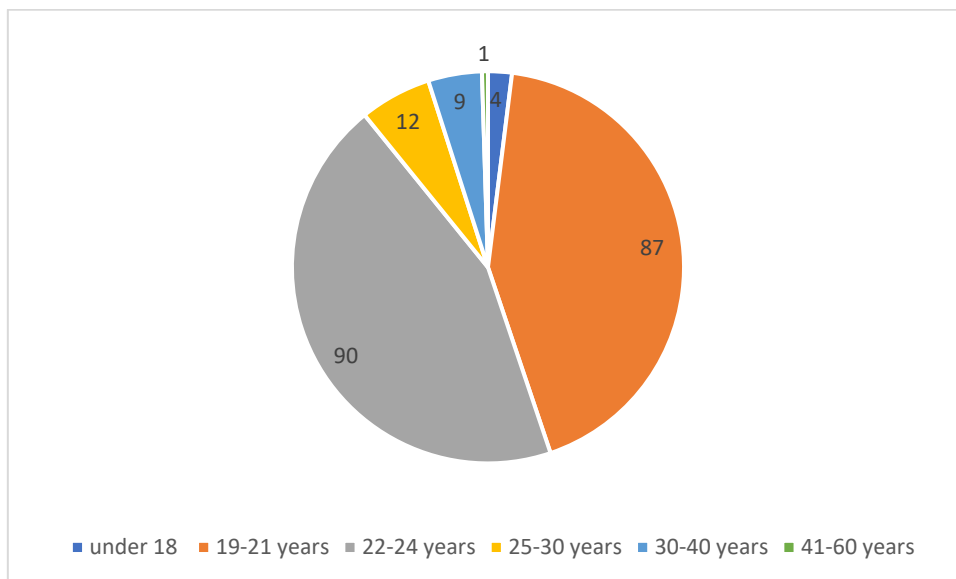


Figure 2: Participants by age

Next, the students' learning habits were analyzed. 59% of respondents indicated that they use free moments while traveling on public transportation or in between classes to study. 80% of respondents are most likely to take study notes on their own, while at the same time they are willing to reach for notes borrowed from friends in the learning process (73%).

There was an even split in the number of responses regarding the use (often or sometimes) of apps to help mobilize oneself and achieve set goals, not only didactic, but also applicable to sports, keeping a diet or learning foreign languages. 51% of respondents use the mentioned apps, while 49% do not use them.

As many as 58% of respondents print out teaching materials provided by lecturers in the form of files (pdf, doc, ppt) for their own use. In response to the question "If I had the option to listen to (e.g., part of) the textbook content, I would use such an option," 90 respondents indicated this answer as "FALSE." As the survey shows, as

many as 70% of the respondents are not systematic in repeating the content/making repetitions of the material for themselves. At the same time declaring (87%) that they would like to be more systematic in learning. As elements that help in learning, students indicated: taking their own notes (174 indications), as well as the possibility of self-check of knowledge on an ongoing basis through review questions or quizzes posted by the lecturer (137 indications). Respondents indicated (197 indications) that learning was helped by materials in which the author or lecturer marked key content in some way (e.g., boxes, bold, symbols). As it turned out, a very important factor supporting learning is the inclusion in textbooks of short summaries of a certain portion of information or learning material. This was the answer marked by 94% of respondents. In response to the question "A variety of materials in terms of form (e.g., podcasts, videos, text, photos) helps me learn," 166 people marked this answer as true. Fewer indications were given to the answer to the question about supporting learning through discussions with other students/colleagues at the university, with 63% declaring such a need. 73% indicated that, given a choice, they were most likely to learn on their own.

Summing up, it can be said that the person from our study is used to receiving information fast, hoping that they could receive rewards or feedbacks as quickly as possible. In terms of communication, he/she is fond of using graphics and data to deliver information.

## 5. Summary

Analyzing the research results obtained, lecturers and students should focus on mutual learning, and lecturers should adapt their teaching methods to current challenges. It should be remembered that the surveyed students are "digital natives", who operate in the world of images, sounds and fast content transfers. Knowledge should be imparted in an engaging but varied way to keep students' attention. As you can see, highlights in the text, the use of color, short summaries, and the ability to test their knowledge and acquired skills on an ongoing basis are important to them.

Nowadays there is access to practically everything thanks to technology. At the same time, we can communicate with anyone and create and disseminate fresh knowledge. The development of technology, the era of digitization and the partial shift to distance learning have shown that teachers are becoming aware that they need to adapt the educational materials they present and the way they conduct exercises and lectures, expanding their pedagogical and technological skills to accommodate the new teaching requirements. Today, many universities in Poland are increasingly developing their e-learning courses, training their staff on how and where to use effective teaching tools to take full advantage of the potential that is required of students to participate willingly and enthusiastically in class.

The authors believe that education has been changing in recent years. Mutual teaching and learning is important. There are several opportunities to share knowledge between generations, one can learn from each other. Teachers or university lecturers need to undertake the creation of classes using a variety of technologies, adapt the topics presented to the current requirements of students.

This study had some limitations. Firstly, considering the large population of Polish university students, the sample size was comparatively small, and the results of the study cannot represent all Polish university students. Further studies were suggested to enlarge the sample size. It is planned to conduct this study in other academic units in Poland and compare the results achieved between universities. It is also planned to increase the survey sample. Interestingly, when conducting the survey, many students were eager to discuss their expectations for teaching with modern technologies.

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