

The Fallacy of the ‘Digital Native’: Why Young People Need to Develop their Digital Skills

Executive summary

‘Digital native’ is a term increasingly used in public discourse to describe the generations of young people who grow up surrounded by digital technologies. The term suggests that young people intuitively know how to use technology and hence have no need for digital education or training. This paper outlines the issues connected with this assumption and provides evidence to demonstrate that it is a dangerous fallacy. Young people do not inherently possess the skills for safe and effective use of technologies, and skills acquired informally are likely to be incomplete. The failure to provide youth with a complete set of skills in a formal manner leads to a new digital divide between digital lifestyle skills and digital workplace skills. The lack of proficiency in the tools needed for today’s workforce contributes to an increasingly lost generation, who are unable to realise their full potential as learners, employees, entrepreneurs or citizens using digital technologies.

Definition of ‘digital native’

The term ‘digital native’ was coined in 2001 by the US author Marc Prensky¹. In his article “Digital Natives, Digital Immigrants” Prensky defined ‘digital natives’ as young people who grew up surrounded by and using computers, cell phones and other tools of the digital age. The author claimed that a digital environment dramatically changes the way that young people think and process information – it possibly even changes their brain structures. Prensky opposed ‘digital natives’ to ‘digital immigrants’ i.e. people who were born before widespread use of digital technology and who adopted it to some extent later in life. According to Prensky, in the USA all people born after 1980 are ‘digital natives’². In later years Prensky revised his approach to ‘digital natives’ by adding a concept of ‘digital wisdom’. A ‘digitally wise’ person not only knows how to use digital technologies but also has a capacity to critically evaluate them, make ethical choices and more pragmatic decisions³. By changing his discourse around ‘digital natives’, Prensky acknowledged the fact that in order to use digital technologies critically and effectively, young people need to acquire digital skills.

There are several other terms used in literature: ‘Net generation’⁴, ‘Generation Y’⁵, Google generation⁶, etc. but they all define ‘digital natives’ in terms of two major factors: age and exposure to new technologies. Over the years,

¹ Marc Prensky “Digital Natives, Digital Immigrants”, 2001.

² International Telecommunications Union “Measuring the Information Society”, 2013.

³ Marc Prensky “H. Sapiens Digital: From Digital Immigrants and Digital Natives to Digital Wisdom”, 2009.

⁴ Don Tapscott “Growing up digital: The rise of the net generation”, New York, 1997.

⁵ Suzanne Perillo “Reaching Generation Y. To Be or Not to Be – Relevant”,
http://www.anglicanschoolsaustralia.edu.au/files/dr_s_perillo_gen_y.pdf

⁶ Ellen Johanna Helsper and Rebecca Enyon, “Digital natives: where is the evidence?”, British Educational Research Journal, Vol. 36 no. 3, 2010.

this term has transfused public discourse and has become widely used by parents, educators and policy makers⁷ to describe young people who have been exposed to technology from a young age.

Young people do not inherently possess digital skills

Exposure to technology cannot be equated with ability to use it. Research shows that not all young people are tech-savvy or have an interest to learn more. For example, an Australian study found that only 15% of the student population are advanced users of ICTs while 45% of all students could be described as rudimentary digital technology users⁸. Similarly, a survey carried out in Austria indicates that only 7% of 15-29 year olds have very good computer skills⁹. The European Commission, Directorate-General for Employment, Social Affairs and Inclusion emphasises that this is a problem because computer and ICT skills have become more important than ever for labour market activity and social inclusion¹⁰.

The 2014 Horizon Report Europe also emphasises that levels of digital competence in European children and teenagers remain inadequate¹¹. This tendency is especially relevant for critical and participatory literacy, when students have not only to read the content but also to engage with it and actively create their own responses to it. The “EU Kids Online”¹² survey indicates that two in three 9-10 year old children deny knowing more about the internet than their parents. This study also concludes that digital natives’ discourse ‘obscures children’s need for support in developing digital skills’¹³.

A survey of Italian university students revealed that most of them have very low digital security skills. For example, 42% of the students are not adequately aware of the risks of a free Wi-Fi, 40% of them do not protect the access to their phones and 50% of students never or rarely control permissions that the application requires before installation¹⁴. Numerous studies carried out in Canada have also repeatedly rejected the notion that there exists a significant difference with respect to ICT competence of ‘digital natives’ and ‘digital immigrants’¹⁵. Dr. Dan Russell, a senior Google researcher, believes that based on the ‘digital natives’ assumption, many colleges in the US make a dangerous mistake and cancel digital education courses¹⁶.

The International Computer and Information Literacy Study (ICILS)¹⁷ concludes that the knowledge and skills needed by today’s youth can and should be taught. The study assessed computer and information literacy skills of 60,000 eighth graders from 21 education systems all over the world. It found out that on average 17% of the

⁷ See, for example, quotes from government officials in Marty Walz and Will Brownsberger “A (real) virtual education”, <https://virtualschooling.wordpress.com/2010/09/08/a-real-virtual-education-more-politics-of-virtual-schooling/>

⁸ G. Kennedy et al “Beyond natives and immigrants: exploring types of net generation students”, 2010, *Journal of Computer Assisted Learning*.

⁹ Ronald Bieber “Survey: computer skills in Austria (2014)”, <https://www.youtube.com/watch?v=BtAFgBiTb5g>.

¹⁰ DG EMPL, “EU Employment and Social Situation. Quarterly Review”, September 2014.

¹¹ NMC and the European Commission “Horizon Report Europe: 2014 Schools Edition”, 2014.

¹² Sonia Livingstone et al “EU Kids Online Final Report”, 2011.

¹³ Sonia Livingstone et al “EU Kids Online Final Report”, 2011.

¹⁴ Tech and Law Center, “Security of the Digital Natives”, 2014, Italy.

¹⁵ Erika E. Smith, “The Digital Native Debate in Higher Education: A Comparative Analysis of Recent Literature”, *Canadian Journal of Learning and Technology*, 2012.

¹⁶ Andrew Denholm, “Great internet age divide is a myth”, 2014, <http://www.heraldsotland.com/news/education/great-internet-age-divide-is-a-myth.25672713>

¹⁷ International Computer and Information Literacy Study (ICILS) “Preparing for Life in a Digital Age. The IEA International Computer and Information Literacy Study. International report”. Springer Open, 2014.

students do not reach the lowest level of their scale and only a small 2% score at the highest level, which requires the application of critical thinking whilst searching for information online. Their conclusions suggest that it would be naïve to expect young people to acquire the digital skills they need without formal education and training. Moreover, results of ICILS show that in all 9 participating EU countries, except for the Czech Republic and Denmark, 25% of students demonstrated low levels of computer and information literacy¹⁸. According to the European Commission, because of these trends there is a risk that ‘Europe will face severe shortages of skilled citizens in the digital age, thereby hampering growth and competitiveness’¹⁹.

Young people are not aware of their digital skills gaps

Young users of digital technologies usually tend to overestimate their ICT skills. A 2014 study indicates a wide discrepancy between young people’s self-assessment and actual knowledge of computer skills. For example, 84% of respondents claimed that they had ‘very good’ or ‘good’ knowledge of the internet; however, in practical tests 49% of them scored ‘bad’ or ‘very bad’²⁰. The biggest gap between perceived skills and actual skills is persistently found among young people (15-29 years old).

Difference between ‘lifestyle’ and ‘workplace’ skills

Young people’s skills gap can best be described by comparing digital ‘lifestyle skills’ to ‘workplace skills’. Research in the UK found out that the time adolescents spend on-line is preoccupied by text messaging, playing games and retrieval of online content, as well as passive content consumption such as watching videos²¹. These ‘digital lifestyle skills’ are not the skills necessary, for example, to obtain a job, engage with government or manage health care. The latter skills require education in formal and structured manner.

Similarly, a German study found out that young people are very skilled in such everyday tasks as bookmarking a webpage, whereas less than 20% of them can apply paragraph styles in text processing documents or change a chart type in spreadsheets²² - productivity skills that are primarily required by employers²³. These skills can be noticeably strengthened by training and certification.

Conclusion

- The term ‘digital native’ falsely suggests that young people intuitively know how to use digital technologies. This term perpetuates a perception held by some parents, teachers and policymakers and leads to essential skills being omitted from school curricula.
- Evidence shows that exposure to technology cannot be equated with ability to use it. In fact, a substantial percentage of young people in European countries lack basic ICT skills.

¹⁸ International Computer and Information Literacy Study (ICILS) “Preparing for Life in a Digital Age. The IEA International Computer and Information Literacy Study. International report”. Springer Open, 2014.

¹⁹ European Commission “The International Computer and Information Literacy Study. Main Findings and Implications for Education Policies in Europe”, November 2014.

²⁰ “An online study makes it possible – new ECDL – reframing the climate of public opinion”, Austria, 2014.

²¹ Selwyn, Neil “The Digital Native – Myth and Reality”, 2009.

²² Hartmut Sommer, “Digital competence study. Intermediate results”, 2014, <https://www.youtube.com/watch?v=BtAFgBiTb5g>.

²³ Survey carried out by BCS in 2014 indicates that email, word processing and spreadsheet skills are considered necessary for the majority of roles in the workplace. <http://www.bcs.org/content/conWebDoc/52627>

- Young people tend to overestimate their level of digital skills. Practical tests indicate that while their confidence is high, their competences in using computers and the internet are far from being complete.
- By using digital technologies, young people acquire the so-called 'lifestyle skills' (use of social media, videos, games, etc.) but fail to acquire the digital skills required in the labour market.
- All citizens should have an opportunity to develop their digital skills and young people should not be left behind. If young people do not have access to digital education in formal and structured manner, they might never unlock the full potential of digital technologies as learners, employees, entrepreneurs or citizens and would become a lost generation.
- Digital skills development programmes should become a part of all education forms: formal, non-formal and informal. Standardised, internationally-recognised and vendor-neutral certification such as ECDL offer a way of measuring return on investment in skills development programmes in and outside formal education.