

Argument Analysis: The digital natives debate

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Introduction

My generation cannot really imagine a life without a smart phone anymore, even though these only have existed for the last ten years or so. Technology and change are rapid, and more and more generations are growing up with advanced technology. With the technology come discussions on how they affect the world, how they should be used and how they can make our lives better or worse. This discussion has been going on for quite some time now, and most certainly is not done yet. An important part of the discussion is on how it affects children that grow up with all these new kinds of technologies. How is their life different than, say, twenty years ago? Does it affect children's cognitive abilities?

In this paper, we go back ten years in time, and see how this discussion was done then. We will walk through a paper [1] that tries to summarize the essence of the research on the subject and give its own view on it. While ten years seems like quite some time ago, we will see that a lot of it is still relevant today. The paper is called "The 'digital natives' debate: A critical review of the evidence". It is about the existence and consequences of so called digital natives, which are said to be young people that have been immersed in technology all their lives. It states there is a widespread believe that digital natives exist and are a reason for fundamental changes in the education system. In our paper, we look at the way this discussion is handled and take a closer look at the arguments proposed, in the hope of getting a better understanding of this debate.

The paper under discussion is structured in the following way: first, the authors try to determine whether digital natives even exist, then they look at how and if fundamental changes in education are necessary. They conclude by giving possible explanations for that the idea of digital natives is/was so widespread. In this paper, we will follow the same structure when putting arguments forward. In the end, we will reflect on what they tell us and see if we come to the same conclusion as the original article

Digital natives

According to the article, digital natives can be described as young people that are living lives immersed in technology, surrounded by and using computers, video games, digital music players, video cams, cell phones, and all other toys and tools of the digital age. The article continues by giving examples of characteristics that some researchers have given to digital natives and the education they need. For example, some researchers [2] describe digital natives as optimistic or team-orientated achievers who are talented with technology. Also, researchers claim that digital natives learn different from previous generations.

The article then continues to state: *“The claim made for the existence of a generation of ‘digital natives’ is based on two main assumptions in the literature, which can be summarized as follows:*

- 1 Young people of the digital native generation possess sophisticated knowledge of and skills with information technologies.*
- 2 As a result of their upbringing and experiences with technology, digital natives have particular learning preferences or styles that differ from earlier generations of students.”*

What is most interesting about this claim is that it is the first time in the paper they mention the ‘sophisticated knowledge and skills’. Before, digital natives only had to be immersed in technology and use technology a lot. Suddenly, it is stipulated that the digital natives also need to possess sophisticated knowledge of technology in order to be considered digital natives. What is most annoying is that the researchers do not clarify why they suddenly have chosen to add this requirement to the list. They do not state a source of this anywhere else, but as we will see this extra requirement plays an integral part in their arguments in the following discussion. This makes it all the more sloppy that a proper explanation is missing.

Use of technology among young people

While the authors conclude that young people do use technology a lot, they do not consider them digital natives. This is because most young people use the technology, according to research they cite, for word processing (99.5%), emailing (99.5%) and surfing the net for pleasure (99.5%), but rarely use it to create their own content and multimedia for the web (of the interviewed users, around 21% did use it for that). They conclude with “The researchers found [...] that a significant proportion of the students had lower skills than might be expected of digital natives.” Immediately, they fall back on their definition of digital natives (which was not really properly justified as we saw above) and say that apparently young people do not fit it. However, to me, it is a big leap from ‘93.4% owns a personal computer and 82% owns a phone’, to ‘but they are not digital natives because they lack the skill’. It all depends on the definition that you use for digital natives. There are definitely definitions (which they use themselves in the introductory parts of the paper) where ‘making own content’ is not a part of the definition of digital native.

They continue to state that it is not very common for people to use ‘emerging technologies’ (think maintaining a blog or downloading a podcast). But again, it is not quite clear why it would be necessary for a digital native to do one of those things. It is not explicit in the sketch of a digital native they make at the beginning and it seems that you can be a digital native without doing these things.

The article continues stating that research has also shown that the access and use of technology differs from age to age and socio-economic background. They state that generalizations about a whole generation are therefore not suited. This sounds reasonable to me.

They end the section with *“It may be that there is as much variation within the digital native generation as between generations.”* but do not elaborate on this claim at all. I had certainly hoped that when putting out such a bold claim that some form of justification (or at least something that makes it seem probable) would

be put forward, but all that is lacking here. One can only guess what the authors' motivation could have been to put that sentence here.

Learning styles

In the next section, it is stated that people have claimed that digital natives learn differently. They process information differently from their predecessors. They are multitasking, are accustomed to learning at high speed, making random connections, learn through games, etc. according to previous researchers. The authors of the paper argue that the first claim is not true by citing research that has shown that multi-tasking is not as beneficial as often thought, which seems reasonable to me, especially considering the leaps we have made on multi-tasking research since then. Then, they state that research on the cognitive skills of different age groups should keep the cognitive growth of people in mind, which also seems reasonable to me. Lastly, they state that theories of learning usually aren't generalizable over a whole group, which also seems like something to keep in mind.

After these fairly reasonable claims, they continue to the conclusion where it is again apparent that a lot comes down to their definition of digital natives, which was just not well-founded. The state: "It is apparent that there is scant evidence to support this idea [that there are digital natives]." Do they conclude that based on the research mentioned above? Because those articles mainly state that young people do use technologies a lot. If the definition of a digital native is to be immersed in technologies, then I think we can safely say that a lot of young people are. But then again, it all comes down to the definition that is used.

However, I do agree with the authors that it would be good to have more research. Sadly, they do not really state clearly what kind of research they would want to have. For example, I would like to see comparisons between different generations: how much do younger generations use technologies compared to older generations? And what do older generations use it for compared to younger ones? This part would have been great to specify which research is exactly missing, but sadly is not used so. The section concludes with a statement about the differences in learning styles and technology use across groups: "Instead it suggests variations and differences within this population, which may be more significant to educators than similarities." This comes, again, somewhat out of the blue and such claims should be made plausible in the very least, which is not the case here. The article really falls short in this department.

Changes in education

We leave the question of whether digital natives exist to be and instead focus on if education should be changed "in response to a generation of technologically adept young people." This debate is warranted, because commentators have claimed that "without such transformation [...] we risk failing a generation of students and our institutions face imminent obsolescence."

These are hefty claims and it seems reasonable that the authors approach these claims with warranty. However, the article states there is limited evidence, but then continues to cite articles which provide evidence of students feeling limited, constrained or frustrated in/because of the way they can use computers at school.

Their argument here is that while young people do get frustrated, “there is little basis to conclude that these differences are causing widespread and profound disengagement in learning.” Alright, so that has not been researched yet, but that hardly seems like a reason to dismiss change to adapt to technologies altogether. Mainly, the opposite, that it does cause disengagement, also has not been proven. It seems like a jump to conclusions without sufficient evidence, which is something they accuse other people of doing throughout the whole article.

In the next section, the authors place question marks at the way young people use the internet. They cite research showing that young people are not always very good at internet search and sometimes show a ‘lack of critical thinking’. These arguments seem reasonable.

The section ends with, what is probably the most reasonable and nuanced quote of the paper: “This is not to discount other arguments made for changes to education that are based on theory and supported by clear research evidence, but we suggest that the same standards must be met before radical change is made on the basis of the digital native idea.” which I stand behind completely of course, but it is sad that there are some other less nuanced quotes that kind of shadow over this very reasonable quote.

Discussion of the discussion

The discussion is all about the question “why have these arguments repeatedly been reproduced as if they were supported by empirical evidence?” Their answer that is brought forward is ‘moral panic’, in which “a particular group [...] is portrayed by the news media as embodying a threat to societal values and norms. The attitudes and practices of the group are subjected to intense media focus [...]” It seems not too far-fetched to think that this has something to do with the apparently widespread conceptions of digital natives. However, it is the only reason they give, and is not supported by a lot of citations or other evidence.

Conclusion

The last part of the discussion and the conclusion call for more research on the subject (which I am all for). However, it is also very clear from the whole paper, that the authors do not really believe that there is something like digital natives or that more research will prove anything other than that. I think that is where they make the same mistake they accuse others of: jumping to unwarranted conclusions. In my opinion, it is just as bad to state something is happening without prove as to say something is not happening without proof. Moreover, anything that might point to a direction where something like digital natives could exist is diminished and everything that supports the thesis of the authors is amplified. Also, it is completely unclear whether there was research at that point of generational differences or not. It seems that that is at the core of the debate; do young people do things differently than other generations? But there is actually no mention of there being or not being studies on that subject. If you could not find them, at least mention that you looked for them, as that supports your thesis that more research is needed.

In general, I do think it is important that more research on the topic is conducted (or maybe it has been conducted in the last ten years already). So on that part, I

agree with their thesis that there is not enough evidence to state that digital natives exist. However, there is also no evidence (that they cite, at least) that they do not exist, so why do the authors act like there is? Perhaps it is some kind of anti-moral panic reaction to take the most opposite view? Perhaps we should do research into that.

References

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