

# DESIGNING EDUCATION APPLICATIONS FOR GENERATION Z

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## ABSTRACT

This paper discusses how generational differences impact on innovation processes and application design in Higher Education institutions. With both pedagogies and technologies varying according to generational divides, the existing literature is examined to uncover what this means for gathering requirements and designing and building educational software. The Covid-19 pandemic has made the limitations of current teaching practices through technology ever more apparent, and this paper recommends that to provide the best learning experience for students, generational research and horizon scanning for upcoming technologies should both be applied to the innovation process carried out by universities.

## KEYWORDS

User Experience, Design, Generations, Gen-Z, Higher Education, Pedagogies

## 1. INTRODUCTION

There has been limited discussion on how UX and UI design must adapt to the needs of the current generation in the Higher Education (HE) sector; 'Generation Z', which includes most people born between 1990 and 2010 (Talmon, 2019). But what literature there is, is in strong agreement - the education sector as it stands will not serve Gen-Z in the most appropriate way (Ricketts, 2016). "As many professors may attest, the attention span of Gen Z is short. Furthermore, for Gen Zers to focus on a single task for any length of time can seem arduous" (Giunta, 2017). Educators must focus their efforts on teaching students how to analyse and interpret whatever they are given, as what they are being given is changing far too rapidly (Dillon, 2007), which suggests that if the teaching model does not change, anything they are taught on entry to HE may be outdated by the time they leave. Furthermore, the Covid-19 pandemic has led to the majority of HE teaching happening online, which has raised more awareness of how pedagogies must be reflected upon and perhaps changed (Bonk et al., 2020).

Generation Z's current use of technology has led to a rise in the use of applications such as TikTok and Snapchat (Coa & Setiawan, 2017), which focus on ephemeral messaging (Dillet, 2017), which is to say messages or content that are only available for a short amount of time, or content provided to users in short bursts. There is also the argument that the way in which social media content has been connection based for so long, and is now being tailored more to interests, is something which cannot be ignored. For example; most applications focus on content being consumed by showing users content that has been created by those that they have subscribed to; such as Twitter, Facebook and LinkedIn. On these platforms, of course, posts can be shared wider than this, but on the whole creators are 'blasting' content to their followers. When it comes to newer applications such as TikTok, content is shown mainly on the 'For You' page, where their algorithm very accurately targets short videos they think the user will like. There is the option to see content purely from those accounts that are followed, but this is not the main focus of the app (Shutsko, 2020). Examining trends such as this, and applying these to education, could be an innovative way of introducing new pedagogies in HE, by designing for the generation who make up the majority of the student population.

The topic of discussion in this reflective paper is; how must the user experience be tailored to make digital tools support students from different generations in their studies and how has the Covid-19 affected this, or pushed it more into the limelight? It should also be pointed out, that when we talk about 'Generation Z' as the current target audience of students, that there are, of course, students who fall outside this range, and while

they should not be ignored (arguably they may be excluded by this research), this paper will focus on 'Generation Z'.

## **2. GENERATION Z**

When it comes to psychology, there has been much research pertaining to generational differences and divides, and how they approach different experiences. It is widely acknowledged that members of Generation Z are "fully awakened by the social responsibilities towards society, knowledge of laws, rules and regulation, they are extremely technology savvy" (Singh, 2014). Despite all this, Generation Z, as well as millennials, are often seen as selfish, being described consistently as the "me" or "we" generations almost interchangeably (Hope, 2016). However, despite the seemingly negative skew of attributes associated with this generation, there has been research carried out into how the typical traits of the generation affect education and technology independently.

### **2.1 Generation Z and Education**

Generation Z's learning preferences lean towards; "learning that's practical, facilitated learning, independent work, solo work that leads to group work, setting their own pace, self-reflection" and they do not prefer "an information dump" and "group work only", instead they are very solution oriented (Hope, 2016), which seems to be the consistent theme throughout all literature on Generation Z. This idea of social good being a motivating factor (Hope, 2016; Singh, 2014) could surely be used as a teaching tool to encourage students to participate.

"Experience with technology and in the online world has affected Gen Z's preferences" (Talmon, 2019). This ability to find any information at a moment's notice has led students of this generation to "expect on-demand, low barrier access to all information" (McDermott et al., 2019; Talmon, 2019). This is a very clear example of where technology itself has shaped a characteristic that perhaps it must now also have to solve within the education sector. Furthermore, the idea that this information must be taught in "bite-sized" pieces (Hughes, 2018; Talmon, 2019) ties into the growth of applications that thrive on this, such as TikTok (Shutsko, 2020). Although the idea of lecturers and professors making TikTok videos might first seem quite unusual, if a convincing case was made, perhaps this would be a way of using technology trends to improve education. Talmon (2019) also states that "having grown up in the era of user reviews, they expect the ability to provide and receive real-time feedback, as well as having access to that provided by their peers" (McDermott et al., 2019; Stillman & Stillman, 2017). The idea of real time feedback and how this could apply to education is also one that perhaps should be carefully considered. If feedback on assignments, for example, is provided instantly the students are more likely to look at it and learn from it, having just completed it (Hattie & Timperley, 2007). Could a digital tool be built so that this can be done on longer form assignments, as opposed to multiple choice quizzes?

### **2.2 Generation Z and Technology**

Upwards of 75% of Generation Z access smart devices multiple times per hour (Beall, 2016). This could be seen as addictive behavior, or alternatively as an opportunity to use this consistent use of technology as a means of education. If an application was developed that was as 'addictive' as these other social media platforms, or existing social platforms were used as a means of education, and Generation Z ended up learning content multiple times every hour, that could surely only be seen as a good thing. Most of Generation Z spend "at least 9 hours interacting" with digital content each day, with videos being the preferred information source, with 95% watching YouTube every day and on average, a member of Generation Z watches around 70 videos a day (BARKLEY, 2017; Talmon, 2019). This constant need to consume video content can surely also be seen as an opportunity for teaching and education; and if innovation is to look for upcoming trends, this is one that is definitely already in full swing.

### **2.3 Pedagogies and the Covid-19 Pandemic**

With all of these statistics pointing towards the idea that video content and consumption may be the best way for Generation Z to learn, it seems somewhat ironic, that since the Covid-19 pandemic began (Clements & Lewis, 2020), and most UK University tuition moving to be online (BBC, 2021b), that this has had an extremely negative reaction from students (BBC, 2021a). Of course this is purely academic, as most of the frustrations are around value for money and false expectations being set (BBC, 2021a). Perhaps as remote learning has become a necessity as opposed to simply an option people choose, maybe the way in which content is being delivered has simply moved mediums, as opposed to considering what the best way to deliver teaching content online is. It could be argued that carrying on teaching in the exact same way that worked well when face to face but doing this remotely is simply not in Generation Z's best interests. Bonk et al. (2020) frame the pandemic, in their paper 'Pedagogy in the Time of Pandemic: From Localisation to Glocalisation', as an opportunity; "Rather than be defined by the pandemic, let us seize this offered opportunity to transform HE from a paradigm that has been to the paradigm of what might be". Perhaps, this opportunity can be used as the motivation for refreshed innovation practices when it comes to designing technology for students in HE.

### 3. DESIGNING EDUCATION TECHNOLOGY FOR A GENERATION

With this understanding of Generation Z's educational needs and preferences, as well as an understanding of their technology habits, it seems clear that video is the way forward (BARKLEY, 2017; Talmon, 2019). But how this is delivered, and how this affects the user experience still requires exploration. Perhaps asynchronous content is the most appropriate way of doing this. Perhaps simply moving traditional teaching structures online is not the best experience for students as users. "Asynchronous content may be best received if it is video-based and personalized" (Talmon, 2019). This supports research carried out before the pandemic, that focused on "understanding learning as multisensory and contingent within everyday place-events, this framework analytically describes how people establish themselves as "situated learners"" (Fors et al., 2013). This paper showed a novel approach to redesigning learning and pedagogies based on environment; and it could be argued that the world in a pandemic is certainly a change of environment. If technology is being built for students by HE institutions, especially to cater to learning needs during a time where remote teaching is essential for safety (BBC, 2021b), then designing this technology with Generation Z in mind cannot be understated. Using innovation and participatory design practices where users are involved throughout the entirety of the project, including planning and design, can no longer be seen as simply good design practice but essential.

### 4. CONCLUSION

With an understanding of the educational needs of Generation Z, and their use of technology, it seems only logical that these should be combined to enable a restructure and redesign of the educational technologies used in HE. Online learning environments, mobile applications and the teaching itself must all be tailored to the generation they are aiming to provide learning to. If not just to improve the learning experience for the students, but to stay ahead of the game when it comes to development. As these technologies are created and predicted (Conole et al., 2008), beginning with the gathering of requirements through workshops and focus groups with students (Ashcroft, 2020), Generation Z's pedagogical needs must be reassessed in order to be catered for. For example, innovation workshops that are often used to work with students to gather requirements for technologies (Ashcroft, 2020; *Kickbox Foundation*, 2021) must take this into account; but they must also adapt to reflect the changing generations and environment. Furthermore, the importance of how these requirements are then designed and implemented, cannot be understated. The increased video consumption and use of ephemeral messaging by Generation Z (Dillet, 2017; Talmon, 2019), for example, perhaps should not be ignored, and these trends should be incorporated into the design process. A deeper understanding of the user base of an application could simply be seen as good design practice, however, generational differences between the designers and the users may often be overlooked in HE institutions. Therefore, this paper poses one simple recommendation to improve the innovation design process of HE digital services. **Looking at upcoming trends as part of an innovation process**, especially when it comes to forward planning for the **generations** about to enter the sector is vital. When using any well-established innovation or design process, this may be stifled by what the users and designers think is possible (Silverstein et al., 2013). However, true innovation design should

look beyond what is possible, and look at what would be best for the users; in this case, Generation Z in HE, and even the generations below this.

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