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THE CHALLENGE OF TEACHING GENERATION Z

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Abstract

Incredible technology changes are defining our current reality, impacting on our approach to society, to planning and to breaking new ground in terms of education. There is a rise of a new generation that is "location-aware" and speaks a "technological-language". This has a great impacts on the teaching-learning environment within the current university structures, as students (the new Generation Z learners) are more equipped with technology, than typical Generation X (lecturers), which increase complexity of education processes involving instruction, guidance, and supervision. This study investigated the preferences of the new Generation Z student, in terms of technology usage within formal educational systems, based on the surveys conducted among the Urban Planning students on the Potchefstroom campus of the North-West University, South Africa, over a 7 year period. It also tested perspectives and technology usage and preferences of current lecturers (of the same group of students), in order to reveal some of the complex realities and challenges faced when teaching Generation Z. The research concluded with the viewpoints of both groups and presented some solutions to bridge the gaps and enhance teaching-learning strategies.

Keywords

Generation X, Generation Z, Urban Planning, Technology hype

1. Introduction

During the time of writing this paper, Pokemon Go was released, and what better proof of illustrating the incredible technology changes and era we are currently living in. Pokemon Go introduced the reality of blending the physical and virtual spaces (Lopez, 2016), but at the same time the great number of people playing this game, revealed something about the changing societal needs. The digital world is a game changer for life as we know it.

The use of YouTube, web blogs, mobile mapping and bar-codes on smart phones is increasing in the everyday life. Spatial representations have been inflected by electronic technologies (radar, sonar, GPS, WLAN, Bluetooth etc.) which was traditionally only used in mapping, navigation, and location and proximity sensing. Social media is transforming society (Sinaga, 2015) and there is a rise of a new generation that is "location-aware" (De Varco, 2004) and “business as usual” is being rewritten by this younger generation of internet users (Van Zyl, 2009). This is also true when considering methods of teaching and learning and communication structures associated therewith.

This paper explored the broad characteristics of Generation Z, along with the technology preferences of this group (with specific reference to social media usage) and possible strategies to bridge the technology-gap with previous generations and enhance the current teaching-learning environment.

The empirical investigation was based on surveys conducted among 3rd year Urban Planning students of the North-West University (NWU) in 2011, 2013, 2015 and 2016, in order to compare differences and illustrate advances, changing needs and preferences with regard to technology usage of Generation Z. The viewpoints of previous generations was captured by means of surveys distributed amongst the Urban Planning lecturers of the said group of students.

2. Who is this generation Z?

The generation typology is well covered in various sources. Five general trends can be identified, broadly referring to: (1) The traditionalists, born between 1928 and 1944, who values authority and a top-down management approach; (2) The baby boomer generation, born between 1945 and 1965 who tend to be workaholics; (3) Generation X, born between 1965 and 1979, a generation who is comfortable with authority and view the work-life balance as important, (4) Generation Y, been born between 1980 and 1995 and who generally grew up in prosperity and have technology savvy and (5) Generation Z, born after 1995, who is still to come into the workforce, but tend to be digital natives, fast decision makers, and highly connected (Consultancy.uk, 2015; Dauksevicuite, 2016) (refer to Figure 1). Based on the recent statistics of Pokemon Go players, the digital preferences of Generation Z is substantiated, with the greatest number of players (46%) aged between 19 and 29 years (in comparison to 22% aged between 13 and 17 years, 25% between 30 and 50 and 6% above 50 years) (Forbes, 2016).

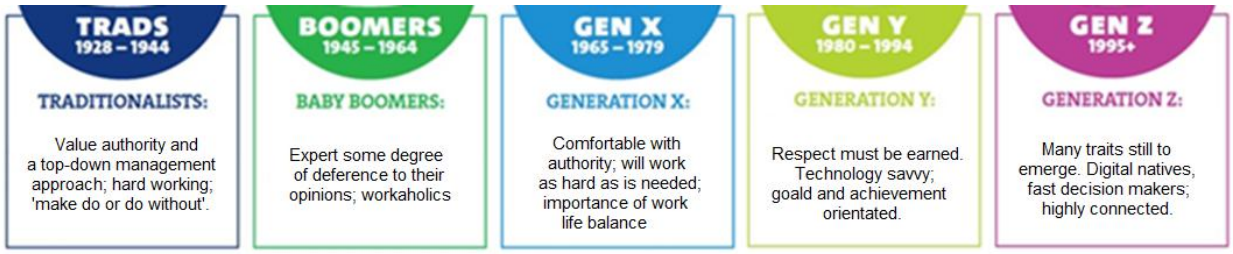

Figure 1. *Generation typology*
Source: Consultancy.uk (2015)

The typical Generation Z person, or digital natives as often referred to (Dauksevicuite, 2016; Rothman, 2016) was the first generation born into a globally (internet) connected world and therefore "live and breathe" technology. This is also true for the higher education environment where Generation Z students rely on PC-recordings instead of taking notes, are more tend to raise questions online, see a lecture as "come and entertain me" and does not like waiting for a response but demand instant information and communication (Dauksevicuite, 2016; Rothman, 2016).

Some research illustrated that the brains of Generation Z are structurally different than those of earlier generations, not as a result of genetics, but as a result of the external environment

and how our brains respond to such (Rothman, 2016). "The brains of Generation Zs have become wired to sophisticated, complex visual imagery, and as a result, the part of the brain responsible for visual ability is far more developed, making visual forms of learning more effective" (Rothman, 2016). Auditory learning, such as lectures and discussions, is very strongly disliked by this group, whereas interactive games, collaborative projects, advance organizers, and challenges, are appreciated (Rothman, 2016).

The technology preferences of the Generation Z student was tested in a local case study conducted among 3rd year Urban Planning students at the North-West University in South Africa. The preferences and technology usage of lecturers of this group of students were also tested in order to shed some light on the teaching-learning challenges associated with educating Generation Z. Findings of these surveys (over a 7 year period) are presented accordingly.

3. Technology preferences case study

3.1 Student preferences

Since 2011 technology preferences were tested among 3rd year Urban Planning students of the North-West University (NWU). Surveys was conducted in 2011, 2013, 2015 (on typical Generation X students) and for the first time in 2016 on Generation Z students, born in 1995. Students completed anonymous questionnaires capturing their preferences with regard to technology use as part of teaching-learning strategies. This research aimed to compare the findings over the different time periods in order to draw some conclusions with regard to the change in need and expectations when considering technology usages (and social media) as part of formal education structures. All (100%) students within al the survey years, indicated that they own their own computer and smart phone, and use such to access social media.

It was evident that the use of social media increased as not all students (94% in 2013 and 93% in 2015) had Facebook accounts, but this increased to 100% in the 2016 survey. Students also contacted their lecturers through social media, and 75% of the 2016 survey identify WhatsApp as the preferred method (none used Facebook for such purposes). 57% of students in the 2015 survey also indicated that WhatsApp improves their learning environment, while 100% (in both 2015 and 2016) agreed that they use WhatsApp to receive academic information from their classmates.

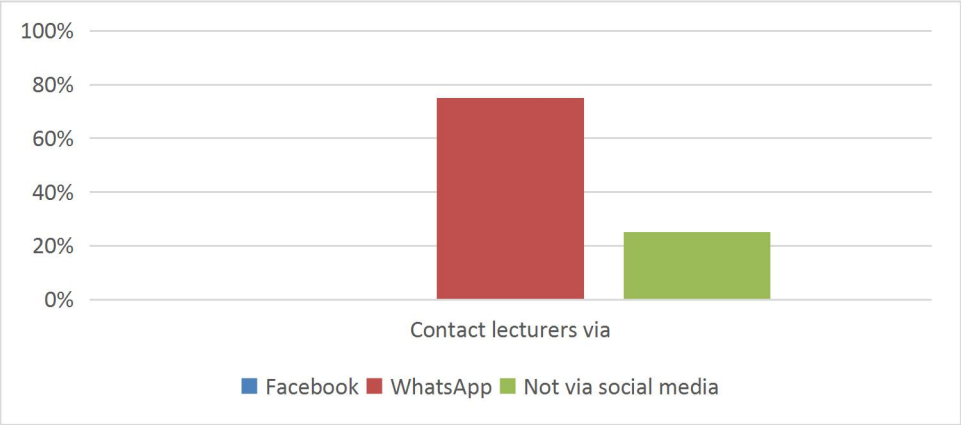

Figure 2: *Student-lecturer communication methods*

It was interesting to note that most students prefer writing written examinations and not electronic examinations, although the trend is picking up and more students are voting in favor of electronic (online) examinations. The same trend was evident with regard to electronic study material, with 63% opting for this option in 2016 (refer to Figure 3)

Most students, in all the survey years, stated that they would rather have more lectures and viewer assignments. The option for lectures (physical contact sessions) increased per survey and 88% of students chose this option in the 2016 survey, as captured in Figure 3.

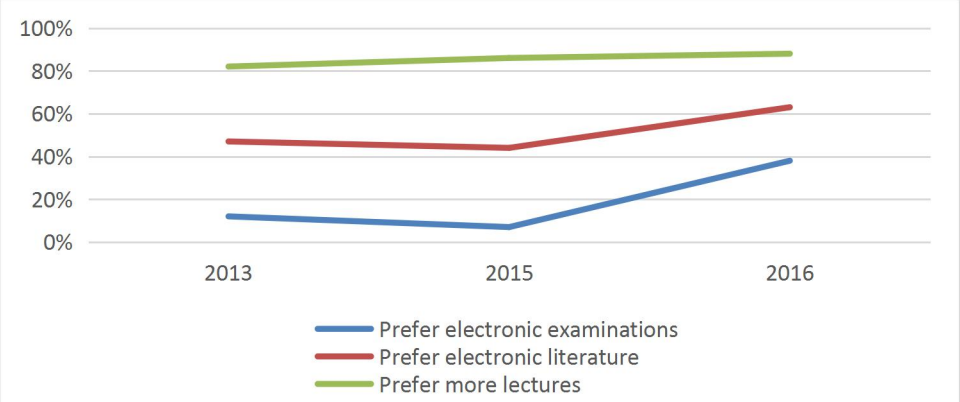

Figure 3: *Student preferences with regard to formal study material*

The perceptions of students regarding the technology know-how of lectures decreased in every survey year, and in the 2016 survey, 100% of students were confident that they know more of technology than (all 14%, most 42% and some 42%) their lecturers (refer to Figure 4).

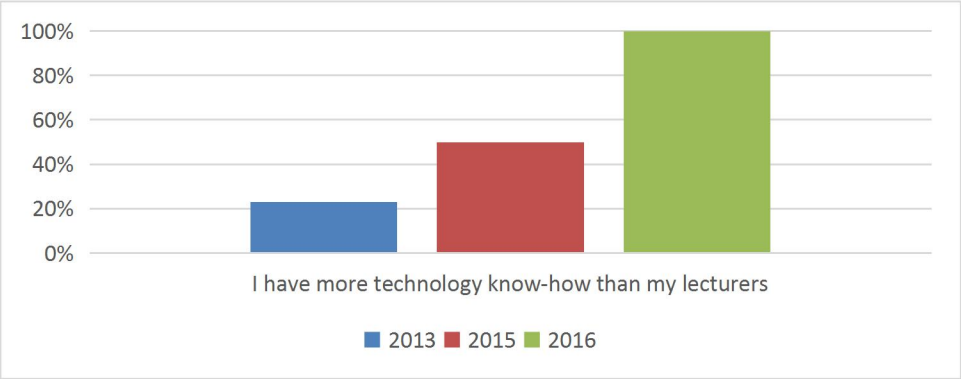

Figure 4: *Student perceptions*

71% of the students of the 2016 survey indicated that they would like even more technology-usage as part of their modules. This findings correlate with previous research of Olivier (2013) indicating that 83% students on the Potchefstroom Campus of the NWU agree that technology elevates the level of teaching and learning.

Since 2011 a change in technology trends were observed in terms of:

- Wifi is more freely available on campus in 2016, enhancing the connectedness of students.
- In 2011 it was valid to ask if students have a smart phone and internet connected computer, whereas in 2016 this was a given for all students.
- In 2016 all students engage in social media and even feel comfortable to contact their lecturers through the use of social media, a trend that is definitely increasing over time.
- There is a growing trend in students opting for electronic study material and electronic examinations.
- There is a growing trend illustrating that students prefer more contact sessions and lectures.
- Student increasingly believe they have more technology know-how than their lecturers.
- Students are requesting more technology-usage as part of their modules.

3.2 Lecturer preferences

In 2016 the technology-usage survey was extended to include the viewpoints of the lecturers teaching the students included in the survey (3rd year Urban Planning students of the

NWU). The identified lecturers completed anonymous questionnaires capturing their preferences with regard to technology use as part of teaching-learning strategies. This research aimed to identify the current reality of technology-usage as part of formal education structures and comparing that to the needs and expectations of the students.

All lecturers indicated that they use technology within the module they teach. 80% of lecturers indicated that they use social media to contact students, but none of them use WhatsApp for academic purposes and only 20% use FaceBook for academic purposes.

None of the lecturers prefer electronic examinations and 100% agree to have more lectures and fever assignments. 80% believe they have less technology know-how in comparison to the students they teach, as captured in the following figure, identifying the correlation between the lecturer and student preferences.

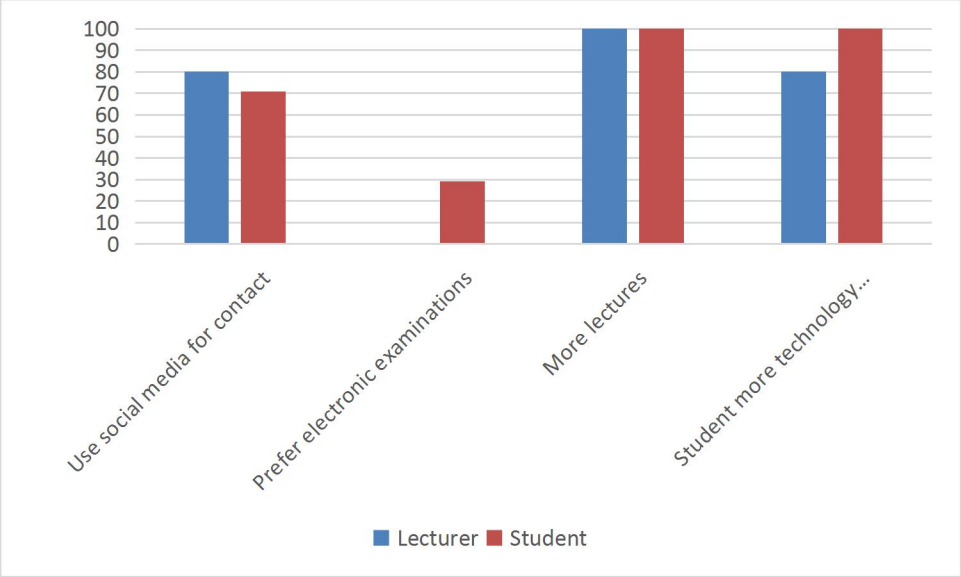

Figure 5: *Student-lecturer correlations*

60% of the lecturers believe that social media can enhance teaching-learning strategies. 60% of the lecturers stated that they are aware of the preferences (understanding, expectations and challenges) of Generation Z, although 100% of them indicated that they are interested to learn more about such realities.

4. Teaching-learning strategies and way forward

The Generation Z students will from now on fill our classrooms, and expect a teaching environment in which they can interact in a similar way they do in their virtual worlds. This imply a demand for instant information, visual forms of learning, and replacing "communication" with "interaction".

Findings presented in this study support the statement of Du Plessis (2011:28) that "there is a need to explore and understand the elements of technology, social media and social networking that students find so compelling and to incorporate those elements into teaching and learning". This does not only imply integrating technology as part of teaching-learning, but seeking a "creative classroom setup" with unique initiatives that introduce more visual-teaching methods and interesting, quick-result participatory methods. Student-centered learning has power (Du Plessis: 2011:71) and technology advances and social media can further enhance such approaches.

The teacher however, needs to think critically and creatively and establish a classroom environment that is conducive to thinking and creating. The creation of the proper learning environment is crucial. New designs for classrooms, desks facing each other to enhance interaction, outdoor teaching possibilities, inclusion of interactive technology and field trips should form part of this new thinking (Stern, 2014).

Table 1 captures a summary of the students-view and lecturers-view as perceived in this research, and offers a possible solutions to bridge these different worlds and viewpoints, and create a way forward for teaching-learning strategies accommodating Generation Z students.

Table 1. *Bridging the student-lecturer view*

Student view	Lecturers view	Possible bridge
Know they have more technology know-how than their lecturers	Realize that they teach a student with more technology know-how	Instructors teaching Generation Z must be prepared to teach using software, hardware, and digital, technological and social media. Creative classroom setups will need to form part of the education process.
Online connected throughout the day resulting in quick information	Include some technology in teaching, but it is limited.	Explore the Internet as a communication tool in a group decision-making process and seek to not work in isolation, but enhancing the interconnectedness of the group.

Requesting more technology-usage as part of their modules	They realize that social media can benefit teaching-learning strategies, but don't have the knowledge to implement such initiatives	Research social networks and their impact on the traditional approach to urban planning as possible integration method. Explore virtual place-making processes and creative classroom setups.
Growing interest in online examinations, online study material	Believe traditional teaching methods (such as written examinations and formal contact sessions) are best strategies.	Explore applications and supporting software to implement a gradual change. Replace PowerPoints with open discussions, lively debate and structured group work.
Prefer more contact sessions	Prefer more (traditional) contact sessions	Move away from traditional teaching approaches to more learner-based learning. Include visual methods and creative teaching sessions (indoors and outdoors).
Born into the internet-era and does not understand a different view	They are not fully aware of the characteristics, challenges and preferences of the Generation Z student but are willing to learn	Some lecturers will need professional development support to help them move from a traditional to a transformational learning model.

Source: Based on Stern (2014); Rothman (2016); Streetline (2013); Hanzl (2007)

The challenge of teaching Generation Z is to move beyond traditional teaching-learning strategies and seek ways to teach in order to grasp the imagination, interest and understanding of this "connected" generation Z.

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