

Tales from the Lands of Digital Natives - A Journey to Neverland

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Abstract

Within educational research it is becoming relatively well-established that the notions of digital natives or the net generation are problematic. We need to move beyond these broad generational terms to gain a deeper understanding of the students coming to Higher Education. This is important if we want to make considered and grounded choices in relation to developing networked learning. Rather than basing our expectations and designs in flawed assumptions about students' digital readiness or broad concepts about generational traits, we need to develop a more nuanced understanding of students' attitudes and ideas about technology. In this paper we provide a first reading and analysis of 130 blog posts produced by first semester students. We discuss central themes emerging from our reading, such as ambivalence and diversity in the students' feelings and attitudes towards networked technologies. We ask what characterises these young university students, and conclude by discussing the wider implications for networked learning.

Keywords

Digital Natives Debate, Ambivalence, Attitudes and ideas of technology, Diversity

Introduction

The notions of digital natives or the net generation have spurred much public, educational and academic debate. Recently, a special section in the *Journal of Computer Assisted Learning* (volume 26, issue 5) was dedicated to discussing and 'debunking' the myth of the digital natives. The articles in the special issue question the generational labels and refer to a number of studies and reviews shedding a critical light on the hyperbole idea of a homogenous generation of young ICT-literate students. They criticise a broad claim or view of students as well versed in web 2.0 technologies and craving an educational, technological revolution to fit their generational needs. We do not intend to re-iterate or discuss in great detail the debates surrounding these terms, as there is now a host of literature reviews and studies which have questioned the usefulness of the terms. The critique of the generational labels, however, does not mean that changes are not happening, as argued in the introduction to the special issue.

"Our final comment would be that these papers should not be read as a denial that changes are taking place among young people; indeed we would suggest that our work should be read as a plea for further research to clarify the nature of the changes that are taking place and to dispel the false dichotomies the Net Generation and digital native arguments have led to." (C. Jones & Czerniewicz, 2010, p. 320)

What is needed is therefore a more nuanced understanding of the university students that are coming to higher education now and in the years to come, as these insights can help us in designing for networked learning in higher education. This is particularly relevant, as public and educational discussions of young people seem to re-iterate either utopian claims, such as a generation of highly ICT-literate students, or more dystopian views of a superficial generation of social media addicts who do not have the capabilities to concentrate or engage in deep thinking (i.e. as reflected in the book 'the shallows' by Nicolas Carr (Carr, 2010)). However, as suggested by Bennett et al. (2008), amongst others, there might be greater variance within this generation than broad generational labels of either type would suggest. We need to move beyond these superficial generational claims if we wish to gain a deeper understanding of the changes in the use of and attitudes towards technologies among young people. This variance, and we would add ambivalence, is what we wish to explore in this paper.

Many of the existing studies relating to the 'digital natives' debate are detailed quantitative mappings and analysis of actual technology use (G. E. Kennedy, Judd, Churchward, Gray, & Krause, 2008; G. Kennedy, Judd, Dalgarno, & Waycott, 2010), reviews of existing studies (Bennett & Maton, 2010; Bennett et al., 2008) or adopting a multi-method approach combining interviews, observations and survey as part of large-scale research projects (Brown & Czerniewicz, 2010; C. Jones & Healing, 2010). Our focus and contribution to the debate is slightly different, and admittedly, more modest in terms of size of data material. However, we believe that the study can both corroborate existing findings, while adding new insights to our understanding of the students entering higher education.

In the paper we offer an initial thematic reading and analysis of blog-posts from more than 130 first semester students entering the programme 'Human Centred Informatics' in Aalborg University. The blog posts were written as reflexive accounts and were assignments as part of a course on 'Media Technologies, Communication and Society'. They included reflections on e.g. students' own use of technology, a discussion of a newspaper article and a discussion of their own participation in the 'convergence or participatory culture'. Both the authors are teachers in the course. From the beginning we were particularly interested in the blog postings more explicitly dealing with their use of technology. However, we became aware that their reflections on the newspaper article and convergence culture were actually more interesting in terms of understanding how students entering university think about networked technologies. In this paper we therefore offer an initial analysis of central themes emerging from the reading of 130 blog posts. We focus mainly on the posts relating to the newspaper article and 'convergence culture', as we are more broadly interested in the students' ideas about and attitudes towards networked technologies. We ask what characterises these young university students (20-30 years) coming to university for their first semester, and if they are not 'digital natives', then what are they? We conclude by discussing the wider implications for networked learning with reference to the insights from the two other papers in the symposium.

Background, Data Collection and Methodology

The blog postings we analyse in this paper were produced as reflexive accounts, and were assignments produced as part of a course on 'Media Technologies, Communication and Society'. This course is held for first semester students entering the programme of 'Human Centred Informatics' (or Humanistic Informatics). Very briefly, this programme combines communication, media and technology studies. It is set within the Faculty of Humanities, while also containing elements from design, engineering and computer science. The core, however, is a common interest in communication and interaction from a humanities perspective, whether the focus is on media, face-to-face or networked communication. We offer this brief account only to say that the programme has a strong focus on digital media, communications and technologies in general, and we can therefore assume that the students potentially have a strong interest in such topics (than might be the case in e.g. the social sciences, psychology or environmental engineering). While these are but assumptions, we offer this reflection to say that the accounts we analyse are from students who we assume have a particular interest in the field of digital media and communication, which is quite interesting in the light of their reflections on technology and media.

Background of the study

Approximately 170 first semester students attended the (mandatory) course, and produced blog postings. Only those students who explicitly gave permission to have their blog-postings used for research purposes are included in the analysis (134). The postings were produced throughout the semester running from September to December 2010 and were part of a broader initiative within the programme to encourage students to build personal digital portfolios. For maintaining and producing these portfolios, the open source system Mahara (mahara.org) was chosen as the platform for students to collect and present their productions in various self-designed views. In Mahara students can compile files, blog posts, videos, documents and present them to a scalable audience (e.g. from a few persons, to a larger network or completely public). Students can create self-designed 'views', where they choose what resources and information to share with the specified audience. We do not wish to offer an extensive analysis of our experiences with Mahara and/or digital portfolios, but will return to them briefly in our discussions (for some of these experiences we refer to (Ryberg & Wentzer, 2011; Ryberg, Dirckinck-Holmfeld, & Jones, 2010)). Apart from the collection and presentation of resources, Mahara also offers some social networking capabilities (such as personal profiles, friending, group creation, communication forums, personal messaging, message walls and import of external resources and RSS-feeds).

Background to the Blog Postings - Data Collection and Treatment

As part of the course 'Media Technologies, Communication and Society' the students were tasked with doing five reflexive blog-posts. These were meant as a help in supporting students to start developing their digital portfolios (and as a way of assessing the course). The five reflexive posts were:

- A reflection and discussion of a news paper article titled 'Zapper Brain'¹
- An analysis of a movie through applying particular concepts from a lecture (e.g. power, anomaly)
- A reflection on surveillance and students own experience of various types of surveillance technologies
- A reflection on their belonging to / participation in the 'convergence culture'
- A reflection on their own use of technology within their first semester - both for social and learning purposes

In this paper we have not included their movie analyses or reflections on surveillance technologies, but concentrate on the remaining three, with an emphasis on postings concerning the newspaper article and convergence culture. The newspaper article was specifically chosen as a 'provocative' piece. It is a discussion of John Carr's claims in the book 'The Shallows' (Carr, 2010). Very briefly, the article discusses claims and counter-claims relating to, whether the internet, social media and social networking deteriorates our (and particularly young people's) minds and neural structures, and lessen our abilities to reflect, concentrate and engage in 'deep-thinking'. The discussion is garnished by referring to studies showing changes in neural activity for new-comers to Google, after a week of using Google search, and with different interpretations of what such changes might signify (negative imprinting/deterioration or learning/adapting). The second blog post was a reflection on the students' understanding of the terms 'convergence and participatory culture', and whether the students felt they were part of a convergence or participatory culture (based on reading an article by Henry Jenkins on 'convergence and participatory culture' (Jenkins, 2004)). The third blog posting was a reflection on their use of networked technologies for learning or social purposes during their first semester, and a critical commentary on the usefulness of the technologies they had been introduced to or used during the period. Students were introduced to e.g. Moodle (the official LMS used in the programme), Mahara, the university's mail system, various administrative systems and a host of web 2.0 tools for their project work and learning (Google Docs, Calendar, Wave, Zotero, Wiggio and others). Some of the latter were introduced by the e-learning unit at AAU and others by 5th semester students running a course on 'study-relevant technologies'.

The postings in average were between 250 and 1500 words, and the entire material is more than 240.000 words (counting only three of the postings pr. student). Postings were retrieved from their blog-posts in Mahara, and students were asked to sign an online form indicating whether the material could be used for research purposes or not (134 students agreed to this). All postings have subsequently been anonymised (removing names, links to blog) and reformatted (removing images, converting fonts). Every set of postings was given a number and indication of gender (e.g. student 19 - female).

Before proceeding to the analysis we should like to add a small critical note on the nature of the material we are analysing. Obviously, the data are different than e.g. a research interview, observational data or forum communication not necessarily related to a particular 'task'. There could potentially be a certain bias in the postings, since they were assignments that were to be assessed as part of a course. Therefore students might have had ideas of 'giving the right answers' or 'being good students', rather than providing personal accounts and opinions. However, in our reading of the material we have not found indications of this, as the accounts are diverse and verse very different opinions. Should the students have tried to 'please the teachers'; they clearly have very different ideas of what would count as being 'a good student' or 'which is the correct answer'. We will, however, remain aware that such biases might exist in the material, and we shall also return to how the content of e.g. the article they were analysing might have affected their postings.

Analysis of the Data - Methodology

All the postings have been read through by the authors, but in this initial analysis we can only offer a broad thematic reading of the postings. The sheer quantity of text has not yet allowed us to go into a deeper and more detailed coding of the material. We are currently working on importing the text into the data analysis software programme NVIVO (and/or CATMA), and intend to conduct a more detailed coding following a grounded

¹ The Danish article the students read was originally an English article published in the Guardian and reprinted/translated in the Danish newspaper Information - the Danish article was titled 'Zapper-hjerne' (zapper brain) - whereas the original title was 'How the internet is altering your mind'. It can be found here: <http://www.guardian.co.uk/technology/2010/aug/20/internet-altering-your-mind>

theory approach, where we iteratively extract categories and themes from the text. Taking a grounded theory approach to data analysis means that we let the empirical data "speak for themselves" rather than accessing them with predetermined theoretical frameworks or concepts (Gibbs, 2002, p. 165; Welsh, 2002). Grounded theory is originally developed by Glaser and Strauss (1967), but has subsequently been developed by several others (see also Bryant & Charmaz, 2007). The kind of grounded theory, that e.g. Nvivo is inspired by, is based on an inductive approach to coding and is related to the approach of Strauss and Corbin (1990) or Charmaz (1995). Although Nvivo is inspired by grounded theory, it is not necessary to adopt all recommendations and guidelines from the framework when coding data in the programme (Gibbs, 2002; Welsh, 2002). Coding is defined as the process of identifying and naming smaller chunks of the data material (Gibbs, 2002, p. 57). Normally, one will go through the data material several times and refine codes and categories and put them in relation to each other. In this sense, the themes we analyse below are based on a first reading of the posts, and represent broad themes and patterns, which have emerged through our readings and discussions of the material. These themes and patterns may well be refined and clarified as we continue our work with coding the data in the software programme.

Diversity and Ambivalence

Can the young be old?

Without falling prey to anecdotal evidence, we wish to start our analysis highlighting two very contrasting statements from the students' postings (all examples have been translated to English by the authors²).

"Because we live in a new age, and it might be difficult for older people to keep up because the Internet/IT breakthrough has happened within the last 20-30 years. But we young people who live in the development, or rather create the development that is happening, don't feel that it is so intense." (student 72 - Female)

"When I was a child, we had a natural desire to play, and we did, both outside and inside. Today, many kids have a tendency to spend many hours in front of a computer - and their parents let them. Kids' access to the internet is at times too easy, and since they have not yet learned to be critical of new things, then they sometimes get into trouble" (student 107 - female)

While the examples have been deliberately chosen and taken somewhat out of context to illustrate a point of diversity within the 'net generation', they do actually reflect a wider theme or thread within the blog posts. As illustrated above there are differences in the blog posting in terms of whether they identify themselves as being part of 'we young people' or refer to 'younger people/kids' as 'they' and 'them'.

These markers can even shift within the blog postings, where 'they' & 'them' become exponents for undesirable behaviours, whereas the 'I' and 'we' are associated with desirable behaviour or attributes. For example, a female student writes (as a comment to whether the internet deteriorates the brain)

"I understand Carr' worries for primarily the young people, but do not fully share the concerns. To me, the concern is not that young people/youth cannot reflect and immerse in e.g. a book [...]. We are getting smarter and are well aware that we internationally need to make it/do well within innovation and creative thinking [...] My worries are more on the social aspects, as Carr also mentions. Carr argues that 'the digital natives' have basic flaws in terms of social/human competences. An online community can in no ways be compared to a "real friendship", and more and more young people live a double life - a real and a virtual life [...] I think, it is scary that more and more persons have difficulties acting in the real world, and therefore take refuge in the virtual world [...] I, at least, will remember to tell my girlfriend something face to face, rather than blogging it" (Student 64 - female)

She ends her posting by self-consciously or ironically writing "Let those be my final words. I also have to check Facebook, as there might be someone who did something interesting this weekend!!!". This closing statement illustrates well the ambivalences we find in many of the blog postings. On the one hand, it is clear that use of

² In cases where it has been difficult to translate a word or meaning without altering the entire sentence we have indicated this with "one meaning/another meaning" e.g. the word "afhængig" can mean either dependent on/addicted to.

mobile, digital technologies in general - and Facebook in particular (occurs 944 times as a word) - is widespread and something the students cannot 'live without', as it is expressed in some of the postings. On the other hand they have mixed feelings about the use of these technologies. The example above reflects a more widespread debate, concern or anxiety around 'social isolation' as an outcome of 'exaggerated use of technology'. It is often in connection with these more abstracted, generalised fears and worries we see how they linguistically distance themselves from undesirable patterns of behaviour (or use irony and self-reflexive meta-comments). For example in the citation above we see a shift from more general markers 'the young people', 'youth' to an inclusive 'we are getting smarter and are well aware', and then back to the more general 'more and more young people'. These are patterns we are yet to explore in more depth, but it seems that they locate themselves in-between a blob of 'older people' (being primarily parents and grandparents) and then the younger or coming generation. In relation to the older generation they express concerns around how it might be difficult to keep up and understand new practices and technologies, whereas their concerns for the younger generations relates to exaggerated use and fears of social isolation and social competences. In relation to the younger generation, some even seem to take on roles as (older and more experienced) concerned parents or teachers (e.g. as student 107).

Keeping it real

Concerns regarding social isolation and social competences are taken up in a number of postings e.g. by a male student:

"On the one hand an internet site like Facebook can benefit ones social network, and one can nurture ones social acquaintances. Yet, on the other hand it can also be a limitation of one's social competences. In a way, I can sort of imagine that one can lose social values and abilities through exaggerated use of these social meeting spaces. I am a part of that life and the user participation on e.g. Facebook. I therefore think it is important, that one is constantly aware of, that one's life outside the site is the real one, and what really counts. Today I cannot imagine a life without the internet - exactly because it offers so many possibilities, but also because one is dependent on it/addicted to it. I am forced/obliged to have it." (Student 1- male)

The notions of 'real' and 'virtual' is a recurrent theme in some of the postings, and are one of the distinctions around which their ambivalent feelings circle, as it is also expressed by a female student:

"The recent generations have grown up with the internet and its possibilities, and the brain is prepared for digital changes. Contrary to the older generations today, who have difficulties understanding that you need to press "start" to turn off the computer. In spite of my positive view on the internet, I stubbornly hold on to, that instead of formatting our life to a new "second life", we should remember to meet with our friends, read a book and remember, that the mail and the facebook profile can wait till tomorrow" (Student 68 - female)

It is interesting to see how the ambivalent feelings being expressed in both citations, seem very far from either the dystopian or utopian descriptions of a generation of social media addicts, or reflects a generation who strives to live virtual lives; rather it seems, that many of the students share a concern about being 'too much' online and 'exaggerated use' of social media (although many of them attributes such behaviours to 'the others' or the 'younger generations'). However, some students also dismisses the worries of Carr, and (like one of the other researchers in the article) attributes them to his age (50+); some with a dash of compassion and tolerance, some with a more dismissive attitude, suggesting Carr is an 'old fart'. It is worth noting that some of the students do make, or refer to, generational distinctions (e.g. as student 68), while actually sharing some of the concerns which they often attribute to this older (40+) generations.

Passing time or doing work?

A pronounced contradiction in the material is 'the internet' as a wonderful resource for knowledge and essential for their academic work, as well as a distraction and potentially disruptive source for procrastination (see also (C. Jones & Healing, 2010)). Many of the students take up this issue and describe how the internet is essential to their academic (and social) life, but also how it distracts them in their work, or even during lectures.

"The only negative thing about Facebook is that I personally, quickly get distracted by following the activities of all my friends. This means, among other things, that my focus/concentration

during lectures is minimised, and I don't get the full benefits of the learning. The solution to this is then to shut down Facebook during the lectures." (Student 10 - Female)

"The internet is truly a supplier of information, used in a shallow way. We zap/scan around on the internet until we find something of interest. Constantly interrupting ourselves in what we are doing because we have to check our mail or update our facebook profile." (Student 103 - Female)

"The internet, and particularly Facebook, is almost a new way of being social because it is very easy following what your friends are doing, and what happens in their lives. One gets addicted to checking one's profile, mail or something else, more often than really necessary and therefore the net is also a distraction and source for procrastination." (Student 133 - Female)

While the students describe the internet and social media (Facebook) as indispensable in terms of academic life and for knowledge creation and acquisition, it is equally visible how they actually struggle with balancing between 'productive' and 'spare time' activities or procrastination. This is a pronounced theme although they ascribe different weight to it. Some of the students emphasise the scanning and zapping behaviour as a potentially valuable trait or competence in a 'post-modern world' or see it as an 'inevitable' consequence of an increasingly fast-paced and fragmented media world (the internet as a 'supplier' that fills or invades our screens with information). Others attribute the zapping or scanning behaviour to a 'lack of character or discipline', either criticising themselves and/or 'the others', as it is visible in the citations above, and in the ones below (student 118 as well).

"In the lectures we are supposed to listen and not surf the internet. In the lectures it is difficult to avoid looking at what others are doing on their laptops. If one is not good at multitasking, then one won't benefit much from the lectures." (Student 6 - Female)

One final analytic remark, before moving on to another theme, is the discourse on 'inevitability'. An interesting observation across the postings is that the phrase "the internet is here to stay" surfaced in a number of postings (28 occurrences). At first, we thought this phrase might have been used in the article, and therefore was a reference. However, this was not the case and we are a bit struck by the meanings of this phrase (although "X is here to stay" is a somewhat common phrase). What is interesting is that the phrase is used both to signify a more optimistic point of view e.g. contrary to Carr's pessimism, but also as a nearly defeatist or pragmatic statement of facts:

"The internet is here to stay, so whatever one likes it or not, one just has to realise that in order to keep up with presents days' communication, the internet is impossible to avoid." (Student 16 - Male)

"Times are changing and we have to keep up with the development and it is pointing towards the global internet. We cannot do anything but adapt." (Student 6 - Female)

"The internet is here to stay and we cannot work against it/fight it, but we can develop it, sort it and optimise it through careful consideration." (Student 61 - Male)

"The fact is that the internet is here to stay and in my opinion the responsibility lies with the individual user. It is a question of being capable of creating a filter that keeps business and pleasure separated, and also having the necessary self-discipline to maintain focus and concentration." (Student 118 - Female)

What can be gleaned from these remarks is that the students have quite different opinions and attitudes towards 'the development', or 'the future', in relation to which some see themselves as more 'passive' adopters, whereas others emphasise their own (or a generalised societal) role in shaping.

Being overwhelmed

As a final theme, we should like to draw out a few observations regarding their reflections on their own use of technology. As similar observations are treated in more depth in one of the other papers of this symposium (Nicolajsen, 2012), we offer merely a few remarks. However, it is striking that some of the students report being

introduced to 'a lot of technologies' or 'almost too many'. Likewise, from the level of actual adoption of the tools and concerns articulated in relation to bringing in 'new' technologies into their group work, it seems clear that many of the students are not heavy users of a complex bricolage of web 2.0 tools, which they can seamlessly weave into their academic activities; rather it seems that they have been introduced to an overwhelming complex, from which they have selected only a few tools which they felt comfortable with. One was dropbox, which almost all groups seem to have adopted. Also Facebook was used for communication within many of the groups. Apart from these two, the adoption of the various voluntary web 2.0 technologies presented to them differs significantly among the groups. Many of the students report that they had difficulties maintaining an overview, and that they were not comfortable adopting new tools, which were not immediately easy for them to use (such as Facebook which they already knew). In particular Mahara turned out to be very difficult to use for the students, who asked for more introductions, or suggested that it should be completely dropped (some students actually gave up and handed in their assignments by mail).

Concluding discussion

While we have only scratched the surface of the data material, and can only provide an initial analysis, we believe that the themes presented do hold interesting insights. It is clear from our readings that the students are a very diverse group, and while some of them might exhibit what we could call 'digital native' traits, these are certainly not 'generationally shared' (see also Kennedy et al. (2010)). We do not mean to understate the fact, that the use of social and mobile technologies, and particularly social networking sites, is pervasive among students. However, their attitudes towards these technologies seem to be much more varied, than the heavy use might suggest (and some hold strong opinions of how 'the others' or the 'younger generations' might suffer dire consequences from this). We were a bit struck by the pervasiveness of the 'real' vs. 'virtual' discourse, and while it is well-established that young people use social media to connect with existing real-life friends, rather than 'strangers', we were still slightly puzzled about online communication being seen by some of the students as somewhat inferior to or more unreal than face-to-face interactions - even as potentially crippling social competences or eroding social values. We also wish to draw out their ambivalence towards social media and the internet as vivid playground, social infrastructure, and an academic cornucopia of knowledge, as well as a source of distraction, procrastination and arena for 'non-productive' or spare time activities. These ambivalences also suggest that students have a more nuanced and reflexive view of their own (and others) use of networked technologies, than the generational ideas might suggest. However, we need to read deeper into the postings and themes to understand the more complex nuances of agency and generational markers. When and how do they distance themselves from particular behaviours, and whom do they see as exponents of these behaviours e.g. 'the other' students or the younger generation? How do they see their own role in relation to such 'bad habits' as procrastination, overflow of information, superficial scanning, exaggerated use, social isolation, loss of social competences? From our initial reading these relations seem to be more complex, and a more thorough analysis might open to understanding deeper-seated differences in attitudes towards networked technologies in terms of perceived agency.

In many ways, it seems reasonable to say that many of these assumed 'digital natives' students, share concerns and anxieties with the alleged, older 'immigrants'. Likewise, many of their concerns are widespread within public and educational debates on the scholarly benefits of social media. Albeit, these worries and ambivalences have obviously been teased out by the content of the article, they do seem to resonate with many of the students' own attitudes and feelings around networked technologies (while some students clearly dismiss and contest these worries).

What then, are the implications for the design of networked learning? Clearly, our analysis or findings cannot directly be translated into specifications for the design of networked learning. Rather, they can be read as a critical input to the emerging and widespread interest in educational change and the uptake of social media within universities. These, as suggested by e.g. Bennett et al. (2008), are often heralded as 'necessary' changes, and as catering to the needs, attitudes and desires of the students entering higher education. However, a more critical question could be whether the educational adoption or colonisation of social technologies is indeed a deep-seated student enterprise and desire? We sincerely do not mean to suggest that educational change and uptake of social media are not needed or should be avoided within higher education (far from). We wish to suggest, that these changes should be grounded in considered pedagogical motivations and thinking, rather than chasing the 'zeitgeist', which may turn out to be exactly 'Geist' (ghost, phantasm). When it comes to generational metaphors, and what the 'young people' need and crave, such broad notions might turn out to be illusions and delusions, which do not help either students or teachers in accomplishing productive networked learning.

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