Is There a Net Gener in the House? [1]
Dispelling a Mystification [2]

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Abstract

The subject of this essay is the so-called 'net generation', the 'generation @', or the 'millennials' and the speculations about the importance of this generation for teaching. This essay represents both a critical analysis of such allegations and assumptions and a discourse, from the perspective of socialization, on the use of media in teaching.

Keywords: e-learning; social behaviour, computer networks, internet, web

1 The Invention of the Net Generation

In 1997 Don Tapscott described those born after 1978 as the 'net generation', in 1999 Horst Opaschowski dubbed them the 'generation @', and in 2000 Neil Howe and William Strauss coined the term 'millennials' to refer to those born in 1982 and thus graduating from high school in the United States at the turn of the millennium. At the same time the successor to generation X was baptised generation Y. Since then, the terms 'generation Y', 'millennials', 'net generation' and 'internet generation' have been interchangeable. In 2001 Marc Prensky spoke of 'digital natives' and 'digital immigrants' and enjoyed a large amount of attention for rhetoric that was undefiled by the slightest brush with scepticism. In 2003 Rena Palloff and Keith Pratt used the characteristics of the net generation for their description of the 'virtual student'. In 2005 wife Diana and husband James Oblinger praised the net generation in Educause. And an idea cannot, apparently, long exist without spawning a handbook: in 2007 'What higher education professionals need to know about today's students' [JM07] came into being as a kind of operations manual for teachers confronting students. But just last year in weblogs the first negative reactions to the notion of the net generation were raised, and in the current year critical voices have been heard in England [CIB07; UCL08] and Australia [BMK08].

What meaning do these authors ascribe to the term net generation? Comparatively harmless attributes, for one thing, such as net geners are conversant with computers, they are optimistic souls, communicative, fond of and interested in computer games. But also some less harmless seeming suggestions and assertions not empirically documented can readily be found; for example, net geners prefer group work, learning by doing, inductive, explorative learning, illustrated learning materials, interactivity, performance-orientated work; they are emotionally open, tend to be visual learners, welcome diversity, are cursed

by short attention spans, are multitaskers and have multiple personalities. Tapscott believes that the net generation is more intelligent than previous generations. Opaschowski maintains that generation @ is in the throes of a short-term concentration culture. Howe & Strauss assert that millennials are characterised by three diseases: asthma, ADHD and adiposis. Prensky even alleges that 'it is very likely that our students' brains have physically changed'.

Why should we in the teaching profession pay attention to the 'net generation'? Had the thesis purporting a net generation augured nothing for the education business, we would scarcely need to pay it any attention at all, but the allegations of Tapscott et al. assert that a generation of media-experienced students will be arriving at the university and posing completely radical demands on teaching; the students of the future are said to differ from their predecessors and even to learn differently, and to such a basic degree that new concepts for teaching are required. The net generation is the ideal clientele for all those who had such high expectations for the didactic consequences of Web 2.0. As a professor of education at a university I should naturally be interested in such a prognosis, but there is no way of avoiding the question whether it is valid. Now the thesis that we require new teaching concepts is for those involved in the reforms of university education in the last few decades not surprising, but finding the justification for this reform in the belief that the coming generation is radically different and learns differently from the preceding one is a little unsettling.

Is there a net generation threatening to batter down the gates of the academy? Or are these students simply badly served by their inventors? While these authors of the net generation proceed on an anecdotal method characterised by 'Are you interested in knowing how net geners learn? Let me illustrate using my friends, me, and my grandfather' [Mc05], in fact a good deal of elaborate canvassing based upon large samples offers solid empirical data. Anyone who erects an existential construction such as the net generation should be prepared to check these assertions against empirical evidence. I have consulted this evidence, and in the following remarks present the results of having analysed this thesis from several perspectives:

Generation: The notion of generation is available as a working hypothesis both in the fields of social sciences and history. But it does not have the same meaning there that it has achieved in the thesis describing the net generation. Multivariate analyses of the use of media always arrive at different contours of the users and describe their diversity rather than their unity.

The Use of Media: The theses describing the net generation imply statements about various empirical situations. In order to evaluate the allegations that media use is a sufficient condition for the existence of the net generation, I have drawn upon more than fifty international empirical studies of media use. It turns out that the use of media alone is not sufficient for the existence of the net generation but rather that the motives for the use of media are essential in the context of such an analysis.

The motivation for the use of media: The preferences of the young for specific internet activities provide information about the spectrum of their interests; the age distribution of their preferences suggests that the actual interests are influenced by socialization.

Socialization: An interpretation of youth people's use of media is the result of the understanding of their ontogenetic development and socialization.

Student Responses and University Didactics: Studies that examine the students' media preferences have concluded that students value live teaching and prefer a moderate use of media. Active self-determined participation required by Web 2.0 is only pursued by a minority of students.

2 The Concept of Generation

The organisation of historical knowledge under the umbrella concept of generation is, especially in the United States of America, traditional. The age groups since 1900 have been given similarly colourful names: 'matures' (1900-1946), 'baby boomers' (1946-1964), 'generation x' (1965-1982) and 'net generation' (1983-1991), all terms featured in Howe & Strauss. If several age groups share a common experience (for example, war) and social upheavals are consciously undergone, the assignment of these groups to a generation is understandable. But new age groups experience the world into which they are born not as change or upheaval, but simply enter into the process of social development. Speaking of generations appears so plausible that the term is used without conscious thought. But quite likely 'the "mythological force", in Barthes's sense of the word, of the concept of generation probably depends upon its assumed implicitness' [PVW08]. The idea has just recently been the subject of a critical discourse that urges a considered scepticism towards the term [We02; JW05]. Weisbrod sees in the 'almost inflationary use of the term' a 'double dilemma': the 'nitty-gritty evidence' that can be traced back to the 'appearance of a natural and thus universal experience of life' and 'emphatic over-determination' [Wei05].

Why metaphors for generations have received so much resonance could depend upon a failure in the individuation of the recipient: 'For significant numbers of well-educated young members of the middle class the metaphors are a ready-made opportunity to become a part of a generation; they represent a helpful instrument for orientation and self-definition' [Ma05]. From a critical sociological and cultural perspective generation is a means of 'graphically organising the social world, of meaningfully orientating oneself in the winds of historical change'.

There are thus pragmatic, not theoretical reasons, for embracing the idea, because it is 'a helpful instrument for orientation and self-definition'. In the light of different motives for making use of the metaphor, Parnes, Vedder and Will conclude: 'It is not important to analyse the question whether a concept generation or generations actually exists, but rather to what degree and serving what interest their existence in each case is declared or constructed' [PVW08].

3 Empirical User Typologies

There are other attempts to devise typologies of media users. They originate mostly in an attempt to be able to appeal to the diverse groups of users differentiated through advertising or a programme. Such user profiles have been obtained with cluster analyses, for example by Yahoo! and Carat Interactive, in the project Pew Internet and American Life [Pe07], in the long-term studies by the German television stations ZDF and ARD and the project in the UK, Children Go Online & Ofcom [Of06]. Here I am able to summarise only

one representative typology. In an ambitious and elaborate study Treumann, Meister, Sander et al. [Tr07] have examined some 3,271 young adults from three German states and three social classes; the study meets important methodological requirements: it includes the subjects' leisure activities, it covers all media, it concentrates on youthful subjects, it uses various methods and triangulates the analyses, it analyses 1,662 youthful subjects by means of cluster analysis and determines seven clusters (see pages 195-214) whose definitions were established differentially by factor analysis:

Cluster	%
The All-Rounder	12.0
The Educationally Orientated	20.4
The Consumer Orientated	17.4
The Communication Orientated	19.1
The Deprived	7.8
The Designer	3.1
The Positionless	20.3

Table 1: Media Typology from Treumann er al. 2007

Not all the studies arrived at identical classifications of users, because the studies represent other cognitive interests and thus pose other questions and choose other methods of collecting data. Depending on the configuration of the samples (for example, age), the kind of subject being analysed (for example, all media or only computers and the internet), the methods of obtaining data and the goals set (for example, consumption or communication), the results will vary. But one thing is common to the analyses: the users repeatedly prove to be a mixture of groups with various interests, motives, and behaviours, and never as a generation with common characteristics [Tr07]. It would be an exciting task to compare the different typologies with respect to the human picture implicit in them. Unfortunately, I have neither world enough nor time for such a discussion.

4 The Use of Media

As stated above I have consulted more than fifty studies of media use. [3] In their general features their findings are in agreement, although the data could not be directly compared, a situation resulting from the circumstances (apart from the differently framed samples) that some studies do not take leisure activities into consideration and thus could not describe media use relative to the total amount of leisure time, while others do not embrace all media and therefore provide a skewed data picture for some media; on the other hand, other studies do not examine media use according to equipment type, the length of use or do not differentiate the function of the medium (content type); finally, those studies that

specifically examine the use of computers do not always distinguish between the contents and the function of the media activity and thus cannot say anything about the motives of the users.

4.1 Leisure-Time Behaviour and Media Use

If media use is examined not as an isolated phenomenon but rather in the framework of total leisure activity (sports, culture, social and political activity, organisations), the picture of the young subjects is put into perspective. The results of a complex compilation of leisure activity is not reconcilable with the idea of a monolithic net generation. First, the non-media leisure activities occupy a larger scope, and, second, the media use often fits into the contexts of the total leisure activities, for example, as a means of communication, making dates and maintaining personal contacts.

Leisure activities independent of the media still have a major significance for children and young adults. Most young people are members of some kind of organisation, and they spend considerable time every week engaging in sports activities. In most studies the leisure activity 'to meet with friends' is by a large margin high on the list of favourite activities [JIM07]. The media are an integral part of their free time, the primary goal of which is to form friendships: 'Face-to-face time still beats phone and screen time for teens' [Pe05] proclaims the American project that celebrates the importance of youth as the motor of society ('Youth are leading the transition to a fully wired and mobile nation').

4.2 Kinds of Media Use

Altogether time spent with the media is increasing. This is something that several studies document, but this development is not something that first began with the appearance of the computer, but was already in full swing with the advent of television, mobile music devices and mobile telephones. This observation applies to all devices and age groups [Se05]. If one concentrates solely on the use of media, it can be established that the classic media, such as television and film, enjoy the greatest priority with young adults and that their entertainment function has not yet become obsolete.

In a study conducted by the Medienpädagogischer Forschungsverbund Südwest (Pedagogical Media Research Centre Southwest) [JIM07], television is the most popular medium, followed by the computer and the mp3-player, the cellular telephone and the internet, music and radio. In American studies television still ranks very high. If one summarises the genres, one gets the impression that the mono-media still play the most important role. Thus the picture media (television, video, movies, DVD) and music (MP3, music CDs, radio) constitute an important factor and even reading (newspapers, books, periodicals, comics), lamented by many as a long-lost art, has not yet been relegated to the closet of history!

It is interesting that listening to music has increased greatly in popularity, which owes much to MP3 and the fact that pleasure in music is ubiquitous. The hypothesis that time spent on media use is not extendable at will and that therefore the increase in internet use must supplant other media use appears not to be tenable [Tr07]. Some media appear to be used simultaneously.

4.3 Computer Use: Convergence of the Media

In many studies the computer and the internet are regarded, like television, as mono-medial. In this respect these studies overlook the fact that the computer is not used solely for one purpose, but has several kinds of usage, such as communicating, gathering information, playing games, doing school or university work, working in general, and so on. The computer and the internet should always be broken down into its functions and interests. The fact that more kinds of data and contents constantly are available in digital form encourages the convergence of the media types. If the use of the computer and internet is broken down into functions, it becomes apparent, first, that the classical media music and film figure proportionally high in the statistics and that, second, the dominant functions, e-mail, chat, internet telephoning and visiting community Websites, make clear that a large proportion of computer use serves communication and maintenance of personal contact and also supports the increasing use of cellular telephones.

The more familiar and natural the access to these media become, the more these activities resemble those outside of the world of the media. IM, e-mail, chatting and internet telephoning serve communications. News groups and weblogs add the community aspect. Music, radio and music downloading form the second focal point [KIM06]. Likewise, in the Pew Internet & American Life study, communication functions, such as e-mail and IM, chat, the search for companionship and the expression of opinion, comprise the major part of network activity, while entertainment functions and music make up the second largest pursuit [Pe02]. Communication in the internet also satisfies the chief needs of the young: if one analyses the methods of this immense need for communication, it becomes obvious that actual contact is still the main driving force. Thus, the use of media per se cannot justify the labelling of today's young as the 'net generation'. Never before have the young had so many forms of media at their disposal and used them so extensively. But we mount a horse of a manifestly different colour if we then stigmatise this group as 'the net generation'.

The media that are in use today are different and more widespread than those current in the 1950s and 1960s and 1970s, and they are considerably cheaper. It is thus not surprising when children and young adults have considerably more media at their disposal. In the meantime they have long formed the background of daily culture. It should be obvious by now that the user behaviour of youth today can no longer be compared to the media use of, say, the immediate post-WWII generation. Still, this difference does not justify the epithet 'the net generation'.

5 Motive for Media Use

The simple duration or the frequency of use says little or nothing about the personal preferences of youthful users of the media. We come closer to the motives of media users if one ascertains their preferences, calculates the weight and evaluation of the functions and contents and investigates the change in their choices as users mature.

Web analysis (evaluating frequency of hits on any given Website) indicates a great deal about user preferences [Pe02; Ma05]: the most frequented Websites offer amusement and entertainment, shopping and communication, and among them are many Websites that involve music and music downloads.

Much can be learned about the attitudes and preferences of youth media users by means of the 'abstinence question' ('What would you least like to do without …?'): television is the medium that children would least willingly relinquish [KIM06]. On the other hand, young adult users would be least likely to give up the computer and internet, followed by the mp3-player, and finally television [JIM07]. But if one looks at the total leisure behaviour, it becomes clear that peer groups rank highest as the answer to the question and that the computer serves to communicate with peers: 'the older adolescents become, the more the circle of friends gains in importance, as well as the frequency of parties and visits to the disco. Young adults also engage in fewer sports, and organised sports activities decline in attraction. Activities with the family and creative pursuits, such as drawing, handicrafts and letter writing, are less frequently practiced by older adolescents' [JIM07].

The observation that motives and attitudes change with the age of the media user, although perhaps not really startlingly original, is one that nevertheless should not, in the evaluation of media use, be ignored. In the course of progressing from the fourth to the eleventh school classes, pupils' interest in games declines, while that in communication and music increases. This development testifies to a completely normal process of socialization. Studies that divide media use and its motivation [Ma05; Sü04; Tu04] make the development of user preferences clear and arrive at the conclusion that the need to communicate increases and the interest in pure media activities (such as games and the like) declines. Concentrating on user motivation thus puts into perspective that the 'new cultural technology' for those who grow up with it is not a new cultural technology at all but merely a normal part of daily life whose main purpose is to communicate.

All this media use accomplishes the highest leisure goal, 'to spend time with friends'. Even the membership in online communities serves this end, as well as e-mail, Skype, iChat, IQ, MSN and so on. And even for students older than eighteen, communication seems still to be the most important motivation for media users. I see nothing unusual in such an image describing the activities of young adults. The fact that today other media are being used is not a justification for mystifying an entire generation as different. Today's youth who have grown up with the new media look at them as a no more remark-able concomitant to their daily lives than earlier generations regarded the media (or other technical devices) available to them in their day.

6 Socialization

How can the discrepancies and the contradictions in the debate on the net generation be accounted for? Research on socialization can explain that the media behaviour of today's youth centres on the all too human questions that occupied young people before the advent of today's media. If one lumps together leisure goals, media usage, usage motivation and functions, this ensemble comprises a thoroughly classical picture of growing up. Making friends and communicating with peers have always been, as far back as we can go in history, the most important goals of socialization. Entertainment and games play a role in group activities, but also in phases of being alone, and comprise a useful and meaningful means for the processes of social negotiation, the acquisition of rules and the cognitive and emotional confrontation with obligations and problems.

Cultivating friendships is the driving force for the leisure activity of the young. This principle explains the great importance of communication by means of cellular phones and the internet [Tu04]. These two media have become common tools organising communication with peers and cementing of relationships [Man05]. Adopting a perspective based upon ontogenetic development and socialization places the criterion of media use on firm ground. Media are used when they satisfy the demands of daily activities, and they will be used in the attainment of goals that had long been important in their own rights: 'the commonplace stands for the quotidian course of life, for the development of rituals and behaviour sequences that are not always consciously questioned but rather obviously prove valuable in providing orientation and meaning in life. The media will be pressed into service for specific functions and thus help to structure everyday life' [Sü04].

This perspective agrees with the basic assumption of the Uses & Gratification-approach, which presupposes that the needs of youth determine the choice of the media and not, to put the cart before the horse, assuming that media make the young. The young take up the media they require in order to satisfy their needs: 'The basic interests of the young will be continued and expanded with the new media—but as a rule these needs will not be changed' [Tr07]. For someone who has grown up with the computer the new media are not a novelty but rather simply something they find alongside the road of life. Tully as a consequence speaks of the 'normality of growing up with technology' [Tu04].

The Canadian study of the media, Awareness Networks [Man04], has trenchantly described this condition in the phrase: 'The Internet just is'.

The internet has become so natural and ubiquitous that questioning young adults as to how the computer has influenced their life threatens them with terminal boredom [Man05]. For Hartung and Schorb the media are for the young simply part of the ritual of everyday life, an emblem of life and a field for experimentation, a social interface and one of the accessories and props of their self-image [HS07]. Only the complexity of such a theoretical view of socialization justifies, in my opinion, the assertion that for the young the media could 'have a constituent significance in the process of forming an identity'.

7 Media Competence, University Teaching and Web 2.0

7.1 Media Competence

Are we forced to assume, in light of the prophecies of the inventors of the net generation, that all students will soon be learning and working with the applications of Web 2.0? Or does Web 2.0 comprise the environment for, and constitute a tool of, a qualified minority? Is the development towards simplicity everything we need in order to generate a mass medium from the environment of Web 2.0? Or are there reasons why Web 2.0 cannot become a mass medium? For example, that the highly demanding ability to learn on one's own is a precondition? Or that Web 2.0 presupposes active participation?

The Medienpädagogische Forschungsverbund Südwest (Pedagogical Media Research Centre Southwest) investigated the computer competence of several children and established that less than half of them had mastered the requisite skills [KIM06]. The study of older adolescents also shows 'that the sharpening of computer skills of even those adolescents who have grown up in the media era is also necessary' [JIM07]. If competence (defined as being able to handle the media) is defined, as do the studies done by Ofcom and the London School of Economics, as 'media literacy', then the conclusion to be drawn is that the abilities of the young to a large degree consist solely of being able to locate information. The competence required by the goal set is to be able to evaluate the information found, and it is precisely this ability that is underdeveloped [Of06].

The UK 'Children Go Online' project [UK04] gloomily concludes that the youth it studied quickly abandoned the valuable and serious opportunities to improve these skills. This shortcoming has been born out by the CIBER study at the University College London commissioned by the British Library and JISC [CIB07]. The authors clearly betray their disappointment over the lack of ability of the young people studied to perform research and to evaluate information. But perhaps we should not be disappointed, but rather point to the opportunities open for education and the effects of socialization: the study conducted by the Media Awareness Networks shows that between the fourth and the eleventh classes the spectrum of pupils' activities shifts and a development in their attitudes also takes place [Man05]. In other words, children grow older, become young adults, and shift their mature interests from games to communication. As college students they then prefer a meaningful use of media.

7.2 Transference to Learning

A transfer of the abilities gained from using the computer to learning does not seem - or at least not to the degree expected - to take place. The use of the computer, for school assignments as well as for work done at the university, is soberly regarded by users as a means to an end. Possessing a high degree of e-competence does not mean that the wish to transfer e-methods to learning is in the blood. Precisely those technological savvy

students would rather find their own niches for their activities than take part in the general social mix. Other groups, too, seem to regard a reserved stance or a even a guarded aloofness as appropriate.

Robert Kvavik and Judith Caruso questioned 4,374 college students in the United States of America, 95% of whom were younger than 25 years of age [KC05]. For me completely contradictory points of view emerge: it is not surprising that over 94% of these American students own their own computers. Nor is it surprising that today's students spend a considerable amount of time hunched over their machines. What is surprising, however, is the observation that these students - when asked about the importance they put on the use of media in their classes - responded just like the others: the mass of today's students prefer a moderate use of the media as teaching devices, value live teaching very highly and show a decided bias in favour of charismatic instructors who enthusiastically present their own research and serve as role models for their students [Kv05].

7.3 Attitudes and Web 2.0

The interest in special teaching and learning methods, such as Web 2.0, does not originate with the students themselves [KCM04]. Kvavik und Caruso report that elder students show a higher preference for e-learning than do younger students and attribute this difference to the contagious example of the professor who gradually persuades them of the advantages of e-learning. High professional competence, however, seems to increase the preference for moderate use. The seriousness of the preoccupation with the computer increases in proportion to the growing importance of the course of study.

A certain familiarisation with the new media does not necessarily entail a desire for increased use of the media, but the desire to use the media in classroom situation appears to increase when the use of media has been positively experienced (p. 49). Nevertheless, the difference between 'reading' users of the internet and 'contributing' users will exist as long as people's interests differ. Many reports on e-learning mention 'lurking' and 'procrastination' as obstructive behaviours that frequently occur, for example, in the course of online seminars. Lurking is meant to suggest passive participation, for example listening from the back rows; procrastination, of course, indicates a reluctance to get on with things, to put off until tomorrow what could be done today. Both behaviours, it goes without saying, are not especially conducive to learning in a virtual context where communication and group work are required. But avoidance behaviour and fear of failure are especially detrimental to cooperative processes, since active cooperation builds upon the contributions of others and requires responses to their contributions. [4] It is not to be expected that with the appearance of Web 2.0 this behaviour would simply disappear; in fact, we must expect something like the opposite effect, that the high demands made by Web 2.0 on the competence of the users' active participation will result in a only a minority of students taking advantage of the programme.

What are the perspectives resulting from this discourse for university education and the pragmatic consequences for the uses of the Web 2.0 technology? Since students do not possess the requisite ability to competently and critically navigate through the choppy waters of the internet and master the complexities of Web 2.0, university teaching per-

sonnel are confronted with an additional challenge. They must themselves first acquire the know-how and the experience with this technology before helping students to acquire the skills to use Web 2.0 intelligently.

8 Digital Divide

In concluding this discourse I would like to mention an observation made in some studies that I regard as much more significant than the question concerning the existence of the net generation: this is the disadvantaging of children from economically weak families consisting largely of people of colour (Kaiser Family 'Survey Snapshot'). Awareness of the 'digital divide' is mounting. The English study 'Inequalities and the Digital Divide in Children and Young People's Internet Use [UK05] emphasises these social barriers. A higher degree of computer activity and multi-tasking behaviours do not automatically guarantee a larger entitlement to education. The 'digital divide' continues to perpetuate itself despite the increasing spread of technology among the socially weaker classes and educationally deprived families. 'The web is the medium of the better educated' [Se05]. Social extremes and an education gap continue [Tr07]. A new breach is in the making, one that coincides with the opposition between those who have everything and those who do not and which could also be described as a opposition between those who are joining in and those who are being left out: 'a new divide is opening up, one centred on the quality of use' [UK04].

Here much remains to be discussed: the changing world in which we live, working parents, the increased number of single parents, the problematic single child [Sü04] and social and ethnic discrimination [Sc06]. These factors determine, at least in part, the use of media in our societies. The world in which the coming generation lives is as diverse as that of their parents. Many studies emphasise that the 'class division' as embodied in the 'digital divide' plays a more significant role than other diversities [Sc07].

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[1] This essay is a shorter version of a longer study, which can be downloaded from the following Website: http://www.zhw.uni-hamburg.de/uploads/schulmeister-net-generation_v2.pdf ; the present version dispenses with graphics and tables and much documentation.

[2] The German title of my essay ('…Widerlegung einer Mystifizierung') alludes to the warning that the Deutsche Jugendinstitut (German Youth Institute) felt obliged to offer on its Website (http://www.dji.de/cgi-bin/projekte/output.php?projekt=786): 'It is a popular misconception to believe that children are more capable than adults of handling new technology—mostly they are simply less self-conscious using a computer and navigating the internet. The mystification [Mystifizierung] of a "generation @" cannot stand up to rigorous scrutiny'.

[3] The complete citation of sources can be found in the extended German version of this work: http://www.zhw.uni-hamburg.de/uploads/schulmeister-net-generation_v2.pdf .

[4] As for procrastination as a chronic condition among college students, there are self-help groups organised to combat it: for example, Procrastinators Anonymous [http://www.procrastinators-anonymous.org/].