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DIGITAL NATIVES IN A MULTICULTURAL WORLD: A NEW DIMENSION OR A NEW MYTH?

Introduction

The Digital Natives and the Net Generation became a popular descriptor of entire generation. Some young people most familiar with digital media challenge educators and traditional educational institutions with new forms of learning and their knowledge of new technologies. Is that a sign for an upcoming new learning culture in modern, so called knowledge society? Or do we lose the perspective for the whole by forgetting to ask: But what about the others?

In countries with low Internet penetration like Russia or China we can observe some forms of digital divide. Does the gap becomes smaller or can we expect it further grows? Should we think about the development of a new dimension for multicultural world – digital cultures?

Writing about new generation of learners M. Prensky distinguishes two types "digital natives" (born in the age of new technology) and "digital immigrants" (born earlier – see Prensky, 2001). According to this metaphor and Prensky's radical view we could expect a growing digital divide or gap between generations or even within a generation. At least in

countries like Russia and China young people from different regions have dramatically different access to information technologies and education.

S. Bayne and J. Ross argue that the 'digital native' discourse of M. Prensky is a racialized perspective, which is associated with a description of 'immigrant' as backward-looking, unable to change, 'heavily accented, unintelligible foreigners and etc. (S. Bayne and J. Ross, 2007). According to this discourse 'immigrant' would never be 'native' and we could predict a creation of a new dimension of division in culture: the 'digital dimension' is characterized by 'digital identities', which exist without, independent from ethnic identity and traditional culture. In fact this scenario might let us observe a growing digital divide and with bad luck it leads to discrimination based on removing people without proper understanding of technologies from social life and etc.

Prensky's metaphor represents a powerful image, but should we not be aware about the logic behind it and the problem of a growing new ethnical identity?

Another possible scenario could be associated with the metaphor of 'Digital post-colonialism' by R. Sandford. S. Bayne and J. Ross write that: "'digital colonist' could be a better way to describe a generation who were and are the creators of many of the infrastructures the younger generation appropriates" (S. Bayne, J. Ross 2007, p. 4). In this scenario we probably would not observe drastically distinction in usage of technologies and the digital divide would not influence more then the divide in levels of education

Reviewing literature on the influence of new media on society we could find arguments for both scenarios.

For example, reviewing research on young people and digital technology in information sciences and education Selwyn pointed out that there is no empirical evidence for the assumption of new generation of children and young people being innate, talented users of digital technologies, but elder people show abilities to cope with new technology (N. Selwyn 2009; Margaryan A., Littlejohn, A., 2007).

In case of use social networks we could see a wide range of different behavioral patterns and we could not conclude that using social networks leads to the creation of a 'digital identity' (Stald G., 2008). The fact of existing ethnic social network sites, for example AsianAvenue.com, BlackPlanet.com, and MiGente.com, supports the idea of a prevalence of traditional culture on influence of ICT.

In most of the countries, even with low Internet penetration (for example Russia), start programs for establishing e-government and private companies follow international trends to increase Web existence and reduce traditional offices. This could be regarded as a step for discrimination of citizens less familiar with digital technologies. But would we see this trend in empirical research?

So in most of the countries we can observe changes that affect the role of digital technology in society. First of all this is due to its role in modern production. New products are inconceivable without applying new digital technologies. Nowadays we can find these products

in nearly all spheres of economical, social and cultural life. They create a new digital environment. A main question consists in how humans behave in that environment. Do they simply adapt to the new environmental conditions by using new technology in more or less old cultural settings? This could lead to different kinds of discrimination because the possibility of adaptation is closely tied to the penetration rate of new technologies in cultural life. Or is there a chance existing to acquire this technology use (in the sense of digital media) in order to create and participate in a new quality of culture? This would give the chance to create new features of cultural life even if the penetration rate of digital technology is small. So bringing up a new kind of culture (in digital society) is not first of all dependent from a penetration rate of digital technology (for example web-technology/ internet) but need further conditions, first of all education.

Looking particularly at education the problem we face is: How affect digital technology education and in particular learning? Does new digital technology lead to a new learning culture that corresponds to the demands of knowledge society? Which effect has the penetration rate of digital technology in society on learning activity? Which role plays the educational culture on this occasion?

In our research we concentrate on one characteristics of a learning culture – learning attitudes. We compare Russian students with students from Germany (country with higher Internet penetration rate, but with similar to Russia educational culture). We expect that we could find some first signs of changing and probably development new forms of 'digital learning' or shifts in students learning in more digital Germany.

The main question of our study was: do new technologies provide fundamental changes in students learning?

Methodology

We create two equivalent forms of questionnaire in German and Russian languages. We did several blind back translations with corrections of the questions and put our questionnaire on-line by using professional service of Survey Monkey.

Our questionnaire consists of 93 question (from 3 sections: demographical - 9, behavioral - 50, motivational - 34) (Porshnev A., Giest H. 2010; Porshnev A., Giest H. 2011).

We send invitations to participate in the study to the leading universities in Germany and Russia. To identify the leading universities the data of independent ranking in Russia - www.reitor.ru and data from CHE-Ranking 2008 for Germany were used. In Russia we also obtained assistance from universities' administration in the data collection process (in 8 out of 18 Russian Universities students' participation was organized by administration). The main amount of data - 95.7% was collected during September-October of 2009. In Germany students were reached through the network of our colleagues, who sent invitation to the

email-list of all University students. The participation in the survey was voluntary, no compensation was given for participation in both countries, but respondents from Germany had a possibility to win one from 15 USB sticks. The main amount of data - 97.9% was collected during November-December of 2009. Participation in the survey was not restricted, thus not only the senior students, but first and second year students, as well as teachers could participate if they were willing to do so. After filtering incomplete or irrelevant data entries we receive sample with 825 Russian and 332 German students.

Study

Data from demographic section show us that there are significant differences between Russian and German Universities in categories: access to Internet in University, learning materials in electronic form, access to data bases, possibility to solve organizational problems via Internet (Chi-square test, p<0,01). For example, "Possibilities to sign up for courses, a schedules and to solve other organizational issues via Internet" in Germany have 83,7% students and in Russia only 34,9%.

Analysis of behavioral section show less expected picture. In following categories of usage differences are non-significant: reading study materials, reading scientific books or articles, reading blogs, editing pictures, rest and relaxation.

More German students use possibilities of ICT for games and entertainment, communication via Skype or email, editing texts and presentations, reading news (Chi-square test, p<0,01). Although more Russian students use social networks and download pictures and tones for mobile devices (Chi-square test, p<0,01).

We could conclude that there are no significant differences according to questions related with formal learning.

Next we compare motivational orientations of German and Russian students in scales intrinsic motivation, extrinsic motivation, test anxiety and digital learning. For scales we used modified questions from Motivational Strategies for Learning Quesionnaire, P.Pinritch et al, 1991. (P. Pintrich et al 1991)

We use Mann-Whitney U Test to analyze significance of differences. In Intrinsic motivation scale (10 questions, a-Cronbach$_{Russia}$ = 0,733, a-Cronbach$_{Germany}$ = 0,733) and Digital learning scale (6 questions, a-Cronbach$_{Russia}$ = 0,726, a-Cronbach$_{Germany}$ = 0,775) there are no significant differences in Russian and German samples. Significant differences were found by Test Anxiety scale (4 questions, a-Cronbach$_{Russia}$ = 0,68, a-Cronbach$_{Germany}$ = 0,73) and in Extrinsic motivation scale (7 questions, a-Cronbach$_{Russia}$ = 0,587, a-Cronbach$_{Germany}$ = 0,649) where German students demonstrate higher level of Anxiety and Extrinsic motivation.

According to results of our survey we should say that we found no empirical evidence for first approach – devoted to creation of new forms of learning, which could characterize the development of a new digital dimension. At the same time second approach devoted to a more powerful influence of a traditional culture receive new argument – differences in use of types of technologies. Social network are more popular in Russia then in Germany, although Germany have higher Internet penetration rate.

Conclusion

Whilst we receive new arguments that ICT provide less fundamental changes in society that are expected in 'digital natives' metaphor, the questions about tendencies and value of still remain open. We should also admit that sample of our research contain more future oriented and more educated people, so we have to continue our study and check our hypothesis at wider sample, as well as include questions to find students' attitudes towards less technological powered people.

Acknowledgments

References

Bayne S. and Ross J. The 'digital native' and 'digital immigrant': a dangerous opposition / Presented at the Annual Conference of the Society for Research into Higher Education (SRHE) December 2007 access 31.03.2011 http://www.malts.ed.ac.uk/staff/sian/natives_final.pdf

Byrne, Dara N. "The Future of (the) 'Race': Identity, Discourse, and the Rise of Computer-mediated Public Spheres." Learning Race and Ethnicity: Youth and Digital Media. Edited by Anna Everett. The John D. and Catherine T. MacArthur Foundation Series on Digital Media and Learning. Cambridge, MA: The MIT Press, 2008. 15–38

Ito M. et al. "Foreword." Learning Race and Ethnicity: Youth and Digital Media. Edited by Anna Everett. The John D. and Catherine T. MacArthur Foundation Series on Digital Media and Learning. Cambridge, MA: The MIT Press, 2008.

Margaryan A., Littlejohn A. Are digital natives a myth or reality?: Students' use of technologies for learning / access 31.03.2011 http://www.academy.gcal.ac.uk/anoush/documents/DigitalNativesMythOrReality-MargaryanAndLittlejohn-draft-111208.pdf

Prensky, M, 2001. Digital Natives, Digital Immigrants, On the Horizon, Vol. 9 No. 5, NCB University Press.

Selwyn N. The digital native – myth and Reality / Aslib Proceedings: New Information Perspectives, Volume: 61 Issue: 4, 2009

Stald G. "Mobile Identity: Youth, Identity, and Mobile Communication Media." Youth, Identity, and Digital Media. Edited by David Buckingham. The John D. and Catherine T. MacArthur Foundation Series on Digital Media and Learning. Cambridge, MA: The MIT Press, 2008. 143–164

Porshnev A., Giest H. Entwicklung einer neuen Lernkultur in Deutschland und Russland: Eine kulturvergleichende Studie (Berichtsentwurf in Tabellen und Diagrammen) 12c. 2010. German language http://www.lkultur.com/report_de_11072010.pdf Russian language http://www.lkultur.com/report_ru_01072010.pdf

Porshnev A., Giest H. University students' use of ICT in Russia: focus on learning and everyday life / (in press) 2011