

Digital inequalities in children and young people: A technological matter?

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Introduction

In spite of recent attempts to build an authentic Sociology of Childhood (Prout, 2005), in the last decades many analyses and studies - based mainly on secondary sources - have led to consider youth and childhood as homogeneous groups made out of passive and non-autonomous individuals permanently in the process of becoming rather than being. Particularly, the study of the relationship between childhood and technology, including the most recent ideas regarding the internet, has long been dominated by deterministic - and in some cases even simplistic - theories.

These theories have spread rapidly and adapted to each new technological development, to become today sociological metaphors for our relationship with a wide range of technologies (Wartella & Jennings, 2000; Selwyn, 2003). At the extremes of these conceptions, in which technology is regarded as an exogenous variable driving social change, we find, on the one hand, a pessimistic concern with regard to the risks and negative effects that technology might present for a vulnerable group such as youth and childhood. On the opposite extreme we find an optimistic promise, but not less deterministic, about the potential benefits of technology, based both on the belief in the almost innate ability of young people to use it, and the unquestionable capacity of the technology itself to transform learning.

In order to rigorously study the relationship between youth and technology it is necessary to assume an approach capable of incorporating the complexity of the social construction that such a relationship involves. Therefore, and with empirical studies at hand, we might be able to move beyond the old debates and begin to understand the current and future consequences resulting from the unequal appropriation of technology by children and young people. Indeed, we hope to show how this process occurs in the case of the internet - the information network characteristic of the Network Society (Castells, 2001). We aim to maintain a multifaceted perspective that will enable us to overcome the limitations of the reductionist, technological and dichotomic approach on which the notion of “digital divide” has been built (among others, see Lievrouw, 2000; DiMaggio & Hargittai, 2001; van Dijk & Hacker, 2003).

Our point of departure will be the differences in the appropriation of the internet in everyday life by children and young people, who we will treat as a socially autonomous, diverse and active group. Our goal will be to analyse inequalities not just in access to the internet, but also in motivation, effective use, and acquisition of basic and necessary digital skills. In particular, we will consider the influence of academic performance and familiar influence on these factors, and we will also examine the role of the school in such processes.

This research has been conducted under the Catalonia Internet Project (PIC)¹, an interdisciplinary research programme that focuses on the characteristics and development of the Information Society in Catalonia, and conducted by researchers from the Internet Interdisciplinary Institute (IN3), Open University of Catalonia (UOC). Our specific line of analysis concerns “School in the Network Society” (Sigalés, Mominó et al., 2004), which is a larger exploratory and ongoing study focusing on the integration of the internet into primary and secondary schools in Catalonia (Spain). The multivariable analyses we will refer to throughout this paper are based on 6,602 in-depth questionnaires administered to children and young people from a statistically representative sample of 350 primary and secondary schools in Catalonia.

Results

The usual question is, “*Is there sustained evidence regarding the effects of technology on academic performance?*” However, from the approach we are taking to tackle such matters, this question should probably be reformulated in order to take into account the way individual differences such as academic performance and familiar influence generate inequalities in the use of the internet outside the school. Our question becomes, “Is there sustained evidence regarding the effects of individual differences on the appropriation of the internet?”

From a preliminary analysis of the data available, we could easily reach the conclusion that prevention is paramount, given the risk that the internet represents for young people as a consequence of the unrestricted access to public spaces it provides them with (Jackson & Scott, 1999; Holloway & Valentine, 2003). We have tried to go beyond this essentialist vision of youth and determine, using a multivariate analysis, to what degree the variability of young people’s academic performance can be associated with their level of access to the internet, controlling for other important variables e.g. sex, age, language etc.

Therefore, by deepening the analysis we will be able to look more closely at the fear of the negative impact on academic performance that is usually expected from mere access to the internet. Yet we will not go either to the opposite extreme by highlighting the supposedly intrinsic benefits that should derive from a connection to the internet. We will aim to take a step further and enquire into the differences in which some young people use the internet compared to others. From our perspective, we understand that the differential effect of technology fundamentally depends on inequality in goals and effective kinds of use, and less on mere access, place and the frequency of use (Thrift, 1996; Bingham et al. 2001).

Our analysis examines how the internet is appropriated in different way by different kinds of young people. We look at inequalities in the opportunities that some youngsters more conspicuously may find in the internet as a public space. Consequently, we are interested in the effect that parents, as main educational agents, may have in the use that young people make of the internet when they are outside the school. To answer this question, we understand that a fundamental influencing factor derives from the relationship that the parents themselves have with the internet. In order to identify it, we have therefore paid attention to the frequency of the parents’ use of the internet.

With the intention of understanding this differentiated approach to young people's digital inequalities, we have also looked at their goals, interests and, in the last analysis, their various ways of using it. Specifically, we have paid attention, on the one hand, to the use of the internet for academic purposes, and on the other hand to other ways usually related to leisure. From this perspective we can observe, firstly, to what extent, beyond the impact of other variables, the academic performance of young people may be associated with different ways of approaching the internet for those different purposes. Secondly, we will analyse to what extent the behaviour of parents with regard to the internet is linked to differences in their children's specific use of the internet. We are interested in finding out how this factor of family proximity to the internet may contribute to. This will lead us to identify a reduction of inequalities appropriation of the internet by young people.

Drawing from the enhanced approach of 'digital inequalities', our intention is to analyse from a multi-dimensional perspective children and young people's appropriation of the internet, first in access and then in use. Thus, finally, we will focus on the acquisition of the abilities or knowledge required for successfully developing an active and meaningful use of the internet. Far from any mythological vision about a literacy that "leads inevitably to a long list of 'good' things" (Gee, 1996, p.42), our conception is based on the potential benefits of digital literacy as a set of cultural practices at the core of the informational and communicational processes of a specific society that is founded on the intensive use of ICT. While internet access seems to become progressively unproblematic in our immediate circumstances, we approach digital literacy as the unequally, diversely and socially mediated opportunities to learn and practice the specific rudiments of the internet as a prosaic object of our culture.

This is indeed the third kind of inequality we examine. According to recent formulations of the new literacy studies (Gee, 1992; Barton, 1994; John-Steiner, Panofsky & Smith, 1994), the acquisition and development of literacy is not simply the achievement of a neutral and decontextualized cognitive ability to read and write. On the contrary, this is a learning practice embedded in, and interwoven into, wider and irremediable social practices developed in meaningful settings. Thus, extending this framework to the specific case of the acquisition of basic internet skills, the everyday life settings of children and young people are our primary concern in the comparison between in-school and outside-school influences. Interestingly, after the appropriate statistical controls, we will also be able to take account of the specific contribution of outside-school internet use, comparing independent effects for every context.

Discussion

Answering the fundamental question of inequalities - in Sen's (1992) words "inequalities of what?" - our attention is drawn to the study of inequalities in children and young people's appropriation of the internet, the socially constructed artefact (Abbate, 1999) that clearly epitomises the new type of informational networks characteristic of the Network Society (Castells, 2001). Taking as a point of departure the socially autonomous and heterogeneous nature of this collective with regard to the internet, we do not simply intend to establish the evident unequal access to technology in terms of socio-demographic characteristics. Rather, we propose a complex analysis that goes beyond these typical formulations found in the "digital divide" framework.

According to the classic reformulation by Katz (1959) regarding the influence of the media in our society, our goal has shifted from what technology does to children and young people to what they actually do with such technology. Applied to the specific case of the internet, and controlling for socio-demographic characteristics, multivariate analysis models allow us to demonstrate the differences in access, types of effective use and acquisition of necessary basic abilities focusing on their academic performance and their family influence.

The internet, in this respect, is not only more present in the daily life of lower-academic performance students. Furthermore, we can also identify the Mathew effect, whereby the rich get richer and the poor get poorer. Those who enjoy a better situation in terms of academic performance and family context are more regularly connected and make a more frequent use for educational purposes. Additionally, regarding to the reduction of inequalities in digital literacy, the school seems not to be the most important setting for the acquisition of basic digital practices. Heavy internet users outside the school appear to be the better skilled users. After appropriate controls, we may conclude that a frequency of use both during class-time and school-time are not statistically related.

Therefore, the question of digital inequality does not seem to be a strictly technological matter. It is necessary to take into consideration social-construction processes to better understand the reciprocal influence between technology and children and youngsters. Access to the internet, far from being beneficial or damaging in itself, probably responds to different ways of appropriation. These different ways must be identified in order to reduce the disadvantageous situations with regard to the internet, which in our analysis we have linked to academic performance and family influence. Given the complexity of such a task, our analysis offers elements for reflection on the role of the school's contribution to their present and future inclusion in the Network Society.

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