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Does the New Digital Generation of Learners Exist? A Qualitative Study

Jaime Sánchez, Alvaro Salinas, David Contreras, and Eduardo Meyer

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Abstract
This paper seeks to contribute to the discussion on the current generation of students and their relationship to technology, providing qualitative, empirical information obtained in the Chilean context. The study analyses and discusses the ideas regarding the emergence of a new generation of learners, or digital natives, as characterised by wide-ranging access to digital media and by having new skills and abilities. In-depth interviews held with students and teachers from four different cities in the country are analysed. The data shows evidence of a generation of learners without shared traits, with segments of learners presenting practices that do not characterise the entire generation. In addition, the data shows that the skills and abilities described in the literature do not represent a precise description of those that the students exploit when using technology. Beyond the ability to work simultaneously on several tasks, some learners have the ability to manage the attention that they pay to their work on the computer in sophisticated ways, and although some prefer images to words on paper, among others, there is still a taste for reading actual printed books. All in all, students and teachers describe a certain distance and conflict between the practices with the use of ICTs and their everyday school experiences.

Introduction
The massive access to and use of ICT among the youngest members of the population has led numerous authors to suggest the existence of a generation that has been socialised in a media-based world (Carstens & Beck, 2005; Montgomery, 1996; Oblinger & Oblinger, 2005; Pedró, 2006; Prensky, 2001; Rideout et al, 2005; Tapscott, 1999). This new generation is familiarised with media-based languages and feels comfortable performing several tasks at once. Its members are used to immediacy and have an ability to learn by rapidly processing parallel and discontinuous information. Some of the ways used to describe the members of this generation have been as ‘digital natives’ (Prensky, 2001), ‘new millennium learners’ (Pedró, 2006), ‘the net generation’ (Tapscott, 1999), ‘the gamer generation’ (Carstens & Beck, 2005) and ‘generation M’ (Rideout et al, 2005).

The hypothesis that points to the existence of a new generation of learners has led to discussion and controversy. Bennett, Maton and Kervin (2008), for example, point out that the arguments established by Tapscott and Prensky have weak empirical substantiation, and the hypothesis regarding the emergence of a new generation does not consider the variety of experiences that
subjects have with technology (Bennett et al., 2008; Kennedy, Judd, Churchward & Gray, 2008). Other authors point in the same direction, criticising the absence of empirical evidence that would feed the discussion (Cabra-Torres & Marciales-Vivas, 2009). In addition, new publications have continued to contribute arguments and empirical evidence to the ongoing discussion. Tapscott’s book, published in 2009, for example, provides new evidence obtained from a vast sample of interviews with people from different generations in a variety of countries, and from ethnographies performed inside people’s homes. In his work, the issues analysed a decade before are reconsidered, and the changes that have occurred throughout the period are also studied (Tapscott, 2009). According to the evidence presented in this book, the experience of the current generation has changed radically compared to previous generations. The current Net Generation, in the words of Tapscott, with its vast experience and familiarity with digital technology and its varied associated practices, is called upon to play a central role in the political life of the 21st century.

This new generation of digital natives also seems to demand more participation and is applying more power through the Internet, supervising the performance of the political class and making its voices heard more directly within the political sphere. It is a generation that, in the area of education, feels more comfortable with a customised, collaborative and interactive learning.

In this paper we seek to contribute to the discussion on the current generation of students and their relationship to technology, providing qualitative, empirical information obtained in the Chilean context. The existence of this new generation, as well as the traits that would be distinctive of it, are discussed, based on the experiences of the teachers and students interviewed for the study.

Related work

New millennium learners ‘is a term widely used to designate those generations born from the 1980s onwards and who have been raised in a context where digital technologies form an inextricable part of daily life (...), in the broadest sense (they) are mediated by these technologies’ (Pedró, 2006, p. 2). Access and use of ICTs is practically universal in the richest European countries (International Telecommunication Union (ITU), 2009b) and in the USA and Canada (ITU, 2009a). In other contexts such as the Chilean context, the situation is somewhat different. In Chile, access to ICTs among the youth is widespread, and with a relatively equitable degree of distribution regarding the various socio-economic levels. Still, it is far from the levels of developed countries (ITU, 2009a; PNUD, 2006). One point in particular illustrates this matter. While the schools in developed countries have a student to computer ratio of almost 1:10, in Chile the current ratio is 1:26 (Enlaces, 2008), although unpublished statistics point to the fact that this ratio will have arrived at 1:10 levels in Chile by 2010. At the same time, the school has operated as a point of access to ICTs among the youth, especially in contexts in which there is no other possibility for access (PNUD, 2006; Sánchez & Salinas, 2008).

The traits that best describe the current generation of young people tend to appear with different nuances depending on the different authors that work on this matter. The most frequently described attributes have to do with cognitive and social aspects. Among the cognitive attributes, Prensky points out that ‘today’s students think and process information fundamentally differently from their predecessors’ (Prensky, 2001 p. 1). According to Prensky, ‘digital Natives are used to receiving information really fast. They like to parallel process and multi-task. They prefer their graphics before their text rather than the opposite. They prefer random access (like hypertext). They function best when networked. They thrive on instant gratification and frequent rewards. They prefer games to “serious” work’ (Prensky 2001, p. 2). Pedró (2006), for his part, points out that the new millennium learners are used to performing several tasks at the same time, have a
limited capacity for paying attention to the same thing for a prolonged amount of time, prefer multimedia to written texts, and are able to obtain knowledge by processing discontinuous and non-linear information. Regarding their social attributes, the new learners seem to make use of their free time by consuming different media simultaneously, and especially digital media (Pedró, 2006; Prensky, 2001; Rideout et al., 2005). This tends to cause an increase in socially isolating activities, in which there is a preference for rapid-fire communication that uses a jargon that is not easily understood by older generations (Pedró, 2006). Tapscott, in turn, describes a series of traits specific to the Net generation: they prize freedom of Choice; they want to customise things, they collaborate naturally, they enjoy conversations over reading, they are interested in scrutinising organisations; they insist on integrity; they want to have fun at work and at school, and for them speed and innovation are a part of life (Tapscott, 2009).

The institution of education appears to be distant from or at conflict with the new generation of students (Pedró, 2006). As Prensky says, ‘our Digital Immigrant instructors, who speak an outdated language (that of the pre-digital age), are struggling to teach a population that speaks an entirely new language’ (Prensky, 2001, p. 2).

In sum, several of these authors argue in favour of the hypothesis that points to the emergence of a new generation characterised by having lived all its life surrounded by and immersed in digital technology, that is familiar with the use of such technology, and that is developing new practices, values, preferences and interests that are having an influence on institutions such as the school. In this study we follow two hypotheses. The first is that experience with ICT in Chile is socially distributed in such a way that the traits of a digital native generation are only specific to certain social groups or niches, in which this digital experience is distinct from the rest of their peers. It has to do with cultural practices associated with specific groups, and not traits that are shared by an entire generation. The second hypothesis is that for the groups that make more sophisticated use of technology, the practices associated with ICTs will not imply certain skills described in the literature as different and distinctive from those present in previous generations. The text also discusses the students’ relationship with technology in light of both hypotheses.

Methodology
This study is of an exploratory and descriptive nature. The material analysed corresponds to the subjective perceptions of teachers and students regarding practices using ICTs, which includes their descriptions of the practices and opinions that are held on this matter. Several dimensions of the experience with using ICT expressed by students have been incorporated into the analysis in order to explore where and how this experience is shared in generational terms. The study takes on a qualitative perspective, and seeks to critically analyse the emergence, or not, of a generation with traits described by authors such as Tapscott, Prensky and Pedró. In the first stage, which is reported in this article, it was sought to identify how the traits of the new generation of students are expressed in their opinions and in their perceptions of their own actions, or if they are expressed at all, based on the in-school and out-of-school experiences of the subjects themselves. The focus was also on understanding the role that such traits play in the development of relations between the students, the educational institution and their teachers.

Sample
A theoretical sampling method was used, selected according to the criteria of diversity and utilising a critical saturation point at which time no new information was obtained from subsequent data collection. In order to obtain a diverse sample, the gender of the interviewees and the socio-economic level of the families that attended the schools were used as the primary criteria. Chilean society in general and the educational system in particular, is strongly differentiated by class. In fact, according to the widely used Gini coefficient for measuring inequity within society,
Chile is one of the most unequal societies in both Latin America and the world (World Bank, 2009). These levels of inequity are mirrored in the educational system, in which school performance and test results have been shown to be highly correlated with socio-economic status. Thus, the use of a criteria for diversity based on the socio-economic status of the families associated with the participating schools is quite suitable to our purposes.

In order to obtain the socio-economic level of the families attending the participating schools, a national Index expressed as the percentage of students that attend the school who are in a socio-economically vulnerable situation was used. From this index, we were able to configure three groups classified according to whether the schools are situated in the upper third, the middle third or the lower third of the index.

In this way, a sample of students to be interviewed was obtained, with the following distribution (Table 1).

The details of the student sample are summarised in Table 2.

In the same way, a sample of teachers to be interviewed was obtained, with the following distribution (Table 3).

The details of the student sample are summarised in Table 4.

The student sample was made up of students between eighth grade and senior year of high school education (approximately 13–18 years old). The teacher sample obtained includes teachers of science, art, language, technical-professional education, mathematics, and music classes.

The data was obtained from in-depth interviews conducted with teachers and students of both elementary and high school education from urban schools located in five different important cities in Chile: Santiago, Concepción, Valparaiso, Viña del Mar and Iquique.

**Instruments**

The interviews were held for 4 months. In order to conduct the interviews, a semi-structured guideline was used that specified the major issues to be discussed during the interview. According to this method, a guideline was previously prepared by the researchers involved in the project in which the major topics of interest to the study were included through the use of questions that would guide the respondents in speaking on their uses and perceptions of technology. As the guideline is of a semi-structured nature, room was left for the interviewers to be able to move from topic to topic while still touching on all of the essential points involved in the study, in order to allow the respondents to speak freely on each issue (Sellitz, Jahoda, Deutsch, & Cook, 1959; Taylor & Bogdan, 1998). In order to assure the quality of the material obtained, the interviews were applied directly by four of the researchers responsible for the project.

The interview sessions lasted approximately 45–60 minutes each, and were audio-recorded. Prior permission was granted for the researchers to conduct their interviews by the principal of each school, and all participants provided their consent to willfully participate in the study prior to the interviews, and verbally agreed for the interviews to be recorded.

The interviews were held in environments that were appropriate for generating a climate of trust with the subjects. Research has demonstrated that subjects generally feel more comfortable and speak more openly when the interview is conducted on familiar grounds, which in this case implied the school (Taylor & Bogdan, 1998).

**Procedure**

Prior to the interviews, at the same time as the process for the creation of the interview guidelines, the research team compiled a list of schools by using the socio-economic level of the families that attended each school as the initial selection filter. The schools were contacted in order to obtain their approval and confirm their participation in the study. Next, student participants were
<table>
<thead>
<tr>
<th>Gender</th>
<th>Grade level</th>
<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Male</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Female</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Low</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>8</td>
<td>12</td>
</tr>
</tbody>
</table>
selected according to their gender, in order to maintain a gender-balanced roster of participants. These students were also selected in order to obtain the highest possible degree of diversity regarding the classes that they were taking at the time of the interview. The teachers, in turn, were chosen from the same schools, seeking diversity as far as the subjects that they taught.

The data obtained were analysed by using criteria of the Grounded Theory, in such a way as to progressively clarify the categories for the analysis of the teachers’ and students’ discourses. To these ends, open codes and axial codes were identified (Strauss, 1987). As is customary in this technique, the data obtained provided interpretive keys that allowed us to understand the way in which the participants talk about the issues brought up at the interviews, as well as to identify emergent dimensions that were not previously considered in the analysis. The following presentation of the data is organised according to the keys that were used (Table 5). The first column indicates the most general dimensions used in the analysis of the interviews. Each of these dimensions includes several sub-dimensions, and each of these is illustrated by ideas taken from the interview transcripts that more clearly exemplify the respective sub-dimension.

**Table 2: Details of the student sample according to socio-economic level, gender, grade and city**

<table>
<thead>
<tr>
<th>Student name</th>
<th>Gender</th>
<th>Grade level</th>
<th>School SES</th>
<th>City</th>
</tr>
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<tr>
<td>Franco</td>
<td>Male</td>
<td>10</td>
<td>Middle</td>
<td>Santiago</td>
</tr>
<tr>
<td>Ignacio</td>
<td>Male</td>
<td>11</td>
<td>Upper</td>
<td>Santiago</td>
</tr>
<tr>
<td>Marisel</td>
<td>Female</td>
<td>10</td>
<td>Middle</td>
<td>Santiago</td>
</tr>
<tr>
<td>Felipe</td>
<td>Male</td>
<td>10</td>
<td>Middle</td>
<td>Santiago</td>
</tr>
<tr>
<td>Carolina</td>
<td>Female</td>
<td>8</td>
<td>Lower</td>
<td>Santiago</td>
</tr>
<tr>
<td>Victoria</td>
<td>Female</td>
<td>8</td>
<td>Middle</td>
<td>Santiago</td>
</tr>
<tr>
<td>Marcos</td>
<td>Male</td>
<td>11</td>
<td>Lower</td>
<td>Santiago</td>
</tr>
<tr>
<td>Daniela</td>
<td>Female</td>
<td>8</td>
<td>Middle</td>
<td>Santiago</td>
</tr>
<tr>
<td>Gabriela</td>
<td>Female</td>
<td>8</td>
<td>Middle</td>
<td>Santiago</td>
</tr>
<tr>
<td>Valeria</td>
<td>Female</td>
<td>10</td>
<td>Middle</td>
<td>Santiago</td>
</tr>
<tr>
<td>Matias</td>
<td>Male</td>
<td>12</td>
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<td>Santiago</td>
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<td>María</td>
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<td>Upper</td>
<td>Santiago</td>
</tr>
<tr>
<td>Carlos</td>
<td>Male</td>
<td>11</td>
<td>Lower</td>
<td>Iquique</td>
</tr>
<tr>
<td>José</td>
<td>Male</td>
<td>10</td>
<td>Lower</td>
<td>Viña del Mar</td>
</tr>
<tr>
<td>Manuel</td>
<td>Male</td>
<td>10</td>
<td>Lower</td>
<td>Viña del Mar</td>
</tr>
<tr>
<td>Catalina</td>
<td>Female</td>
<td>11</td>
<td>Middle</td>
<td>Valparaíso</td>
</tr>
<tr>
<td>Paulina</td>
<td>Female</td>
<td>11</td>
<td>Middle</td>
<td>Valparaíso</td>
</tr>
<tr>
<td>Pamela</td>
<td>Female</td>
<td>10</td>
<td>Lower</td>
<td>Concepción</td>
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<td>Claudia</td>
<td>Female</td>
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<td>Lower</td>
<td>Concepción</td>
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<td>Female</td>
<td>10</td>
<td>Lower</td>
<td>Concepción</td>
</tr>
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</table>

SES, Socio-Economic Status.

Results

1. **Perceptions of practices using communications media and other digital technologies**

The students who participated in the interviews describe having a variety of practices for using technology. They mix traditional, audiovisual media (television, radio) with new media and technologies (Internet, IPOD, video games, cell phones). Among the media that are most present in the everyday lives of the students is the television, the cell phone and the computer. Franco spends most of the day in his room, where he has a computer, Playstation and television. Ignacio, on the other hand, has several video game consoles (Playstation, Wii, PSP), a computer and a television in his room. Marisel also has a computer, a radio and a television at her disposal in her home. All of them have a cell phone and Internet at home. While Franco and Marisel go to a middle class school, Ignacio attends an upper class school.
Table 3: Summary of teacher sample according to socio-economic level, gender, subject taught and city

<table>
<thead>
<tr>
<th>Socio-economic level</th>
<th>Gender</th>
<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M/F</td>
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<tr>
<td>Low</td>
<td>2/2</td>
<td>1</td>
</tr>
<tr>
<td>Medium</td>
<td>1/1</td>
<td>1</td>
</tr>
<tr>
<td>High</td>
<td>1/1</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>3/4</td>
<td>1</td>
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</table>

<table>
<thead>
<tr>
<th>Subject</th>
<th>Lang</th>
<th>Tech</th>
<th>Music</th>
<th>Total</th>
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<tr>
<td>Mat</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Sci</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Art</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>3</td>
<td>5</td>
<td>3</td>
<td>11</td>
</tr>
</tbody>
</table>

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The respondents reported making use of these various technologies on a daily basis, and during periods of time that oscillate depending on the different users and on whether it is used on a weekday or over the weekend. In effect, during the school week, some students claim to use the computer everyday for a few minutes or hours. Felipe, for example, says, ‘I get home (from school), clean my room, make my bed, and then I do my homework and get on the computer (...) at around 11:00 p.m. I turn it off and go to bed.’ Carolina is in eighth grade at a lower class school. She says that when she leaves school, ‘I get home, do my homework or stuff like that, and then, if I have time, I play (on the computer) (...). I don’t (use the computer) everyday.’

On weekends or during vacations, the periods of time spent on the computer increase considerably, with some students claiming to spend all day playing video games or on Facebook. Ignacio, for example, says that during vacations, ‘when I am in my house, I play all day,’ but during the school year he does not play more than an hour and a half daily. Ignacio even confesses, somewhat ashamed, to an excessive use during vacations, although ‘some classmates play even more’ than him. Victoria, on the other hand, uses ICTs much less intensely and describes the negative consequences that the excessive use of video games has had for some of her male family members and friends. She is in eighth grade at a middle class school, and says, ‘my mom doesn’t let me use it during the week, but I do use it to do homework and that kind of stuff ... I always get on Messenger and that kind of stuff anyways, but not very much. I use it more on the weekends.’ Valeria prefers to watch TV during the week, stating, ‘I’m not much for being on the computer all the time ... more on weekends. I could be on it all day, but not so much during the week.’ On weekends she uses Messenger or downloads music for several hours a day.

2. Perceptions of use and meaning of ICT

In general, computers and Internet have permeated a large part of the students’ everyday activities in their work, at school, in socialisation and parties, in the search for information and in their personal interests. However, in the interviews it was discerned that direct contact with their friends is irreplaceable. According to Marcos, ‘Getting together with my friends, I wouldn’t trade that for all the gigabytes on the Internet.’ Technology is used in order to take advantage of all the possibilities for sociability, but not to replace it. A significant portion of the meaning that students attribute to ICT resides in its capacity to open up more possibilities to be in touch with their peers. Franco, for example, says: ‘my friends are my friends ... I love them and we have a good time.’

Chatting with friends is a lighter extension of face-to-face sociability; it does not at all replace it. Chat is useful for coordinating actions and keeping in touch, but always in the context of a light record that does not replace face-to-face contact (eg, Daniela, Gabriela, Felipe and Marisel).

In general, when using the computer, students described having several software screens open at the same time on their computer screens. Marisel, for example, says: ‘sometimes I turn on the subwoofer and I listen to music, and I’m chatting and I have other things open, and sometimes the

<table>
<thead>
<tr>
<th>Teacher name</th>
<th>Gender</th>
<th>Subject taught</th>
<th>School SES</th>
<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elizabeth</td>
<td>Female</td>
<td>Science</td>
<td>Lower</td>
<td>Santiago</td>
</tr>
<tr>
<td>Claudia</td>
<td>Female</td>
<td>Science</td>
<td>Lower</td>
<td>Santiago</td>
</tr>
<tr>
<td>Pablo</td>
<td>Male</td>
<td>Art and design</td>
<td>Upper</td>
<td>Santiago</td>
</tr>
<tr>
<td>Claudio</td>
<td>Male</td>
<td>Foreign language</td>
<td>Middle</td>
<td>Santiago</td>
</tr>
<tr>
<td>José</td>
<td>Male</td>
<td>Music</td>
<td>Middle</td>
<td>Valparaíso</td>
</tr>
<tr>
<td>Angela</td>
<td>Female</td>
<td>Math</td>
<td>Middle</td>
<td>Valparaíso</td>
</tr>
<tr>
<td>Paulina</td>
<td>Female</td>
<td>Technology</td>
<td>Middle</td>
<td>Viña del Mar</td>
</tr>
</tbody>
</table>

SES, Socio-Economic Status.
TV is even on, and I watch it for a second here and there.' Daniela says, 'I have Messenger, music, 
Skype, and the Internet with several windows open ... for videos, to read.'

Having several software programs or Internet sites open does not necessarily mean that the 
students pay equal attention to all these different activities at the same time; instead what we found 
were cases of sophisticated attention management. The case of Ignacio is especially clear in this 
regard. He resolves the difficulty of managing the multiple tasks that he performs on the computer 
by administering the amount of attention he pays to each one. Ignacio usually has four windows
open at a time: a couple for games, another with Messenger and another with Google. When he is at an important part of one of the games, his attention is totally concentrated there. When the tense moment passes, he can use one of the other windows that he has had minimised. When one of his friends says something on Messenger, Ignacio quickly discerns if it is necessary to pay attention to it immediately, or if it can wait until he finishes doing whatever he is doing at the moment.

The same mechanism used by Ignacio is also used by Franco, Matias and Daniela, and other intensive ICT users. In their cases, it is about administering attention and not paying the same amount of attention to different things.

In general, no significant differences were detected in the frequency of use or the general access to ICT between boys and girls. The differences were expressed more in the uses that each of these groups makes of technology. In several interviews with girls, we detected a discourse in which they distinguish themselves from their male friends and family members regarding their preferences for video games. Marisel, for example, says that her brother is especially fond of action or combat games, while she prefers chatting, Facebook and logic or card games. In the cases of the other girl students, chat, Facebook and Fotolog are the most commonly used ICT tools (Valeria, Gabriela, Daniela). The boys also use these mediums to communicate with their friends, but less intensely and in combination with games (action, war, or role-play games) (eg, Franco, Ignacio and Felipe). ‘When I’m in my house, I play all day,’ says Ignacio, although he also has the Messenger window open at the same time. Gabriela, on the other hand, has Facebook and Messenger open all the time on her computer.

3. ICT, school and perceptions of study practices

The relationship that the students have with the school is ambivalent. On the one hand, they complain about having to study because it is boring, but they also consider it necessary for life and their future (Valeria, Ignacio and Matias). On the other hand, they value the friendships they develop there, and the space for interaction with friends and classmates provided by the school environment (Franco, Daniela). Ignacio says, for example, that, ‘the computer is more fun, but the other is more useful (studying) (...) because you learn things and you can go to college and have a good job.’ Homework represents an area in which this tension between utility and interest is particularly well expressed. It is boring, but you have to do it. When Ignacio succumbs to video games instead of homework, he experiences this weakness with a twinge of guilt.

To do their homework, a common practice among the students is to look for information on the Internet, which they then copy and paste in its original form, after having checked to make sure that the information corresponds to what they need (Marisel, Ignacio). Teachers tend to describe this mode of work as harmful to the development of skills for being able to make adequate use of information (Elizabeth, Claudia). According to some teachers, this represents a failure of the students’ abilities to process information and to distinguish superfluous information from significant information (Elizabeth, Claudia, Pablo). As Elizabeth says, ‘sometimes they look for things that they find on the Internet, they cut them, and paste them just like that, without even filtering the information, they don’t process the information, and they don’t take the time to read.’

The extended practices using ICT among students also implies, according to the teachers, a diminished level of other fundamental skills such as imagination, the ability to concentrate on one task and a reduction in the quality of research assignments (Elizabeth, Claudia). The students also describe the copying and pasting of texts obtained from the Internet in their school work as an extensive practice, and that they often write very little or none of their own information: ‘if I looked well and I like the text, I copy it just as it is and paste it just like that’ (Carlos).
For teachers, ICTs represent the potential for both harmful and problematic developments of learning behaviors, as well as possible benefits from their use. Taking advantage of the potential benefits depends on how teachers use ICTs with their students. Among that which is most commonly mentioned by teachers is the ability to communicate with other people from different cultures, access to an enormous amount of information, multimedia and its contribution to different learning styles, and the possibility to collect and process information (Pablo, Elizabeth).

Conclusions
This work has sought to contribute to the discussion on the current generation of students and their relation to ICTs, providing qualitative, empirical information obtained in the Chilean context. This is to be achieved by discussing the existence of traits that could be associated with this generation, and thus determining if there is enough evidence to consider that such a ‘new generation’ of users even exists, based on the experiences of teachers and students described in the interviews conducted for the study. In this study we have followed two hypotheses. The first is that experience with ICT is socially distributed in such a way that the traits of a generation of digital natives would only be attributable to specific social groups and niches, in which this particular experience is quite distinct from other such groups. It is thus more about cultural practices associated with specific groups and not characteristics that are shared by an entire generation. The second hypothesis is that for those groups with more sophisticated uses, the practices associated with using ICTs do not imply certain skills and abilities described in the literature as being different from those that can be attributed to current or past generations.

The analysis of the key dimension ‘Perception of Practices Using Communications Media and Other Digital Technologies’ shows that all the students interviewed have wide-ranging access to ICTs, but even though their consumption of such media is frequent and heavily integrated into everyday activities, there are differences in the intensity of this use. However, in the analysis of the ‘Perceptions of Use and Meaning of ICT’ dimension, in no cases of the subjects interviewed was it shown that ICTs replaced those activities that are the most significant and valuable for the students, such as those related to their sociability. In effect, getting together with friends in school or in their neighbourhoods is an activity that is highly valued by all the students, and in no way are these kinds of experiences replaced by electronic communication or by other uses of ICT. To the contrary, electronic communication is performed in the service of sociability, by expanding the possibilities for contact and coordination with friends. At least in the case of Chile, it is not a more solitary generation, as Pedró (2006) hypothesised, but rather one that is more connected than previous generations, and that has more possibilities to meet with their friends. And in this context, face-to-face contact maintains its validity and value among the interviewees. This does not mean, however, that the students interviewed relate to each other either better or worse online than face to face (Prensky, 2001); rather, in the discourses reviewed, the students indicate that they assign more value to face-to-face sociability than to virtual communication.

The data obtained shows that the uses that students make of technology are partially distinctive of the generation as a whole. As the analysis of the ‘Perceptions of Practices Using Communications Media and Other Digital Technologies’ and ‘Perceptions of Use and Meaning of ICT’ dimensions show, although there is a common background (sociability), in the case of some boys, there is a clear preference for computer or special console games. This area is far less explored by girls. The male students and the male family members and friends of some of the female students are far more interested in video games than their female peers. Pedró (2006) and Rideout et al., (2005) point in this same direction when they distinguish between boys and girls regarding their distinctive practices using traditional media and ICT.

It is interesting to point out that the experience with ICT by youth in the Chilean context seems to be distributed not so much according to socio-economic level, as it is to gender for some specific
practices such as the use of video games. In this way, the weight of variables that have traditionally been used to distribute the social experience, such as socio-economic level, would seem to be relative to specific spheres of ICTs in the younger generation. The equitable role that schools have had in accessing ICTs would seem to also be expressed in the experience and practices of the young people (PNUD, 2006; Sánchez & Salinas, 2008).

The analysis of the ‘Perceptions of Practices Using Communications Media and Other Digital Technologies’ and ‘Perceptions of Use and Meaning of ICT’ dimensions point towards the first hypothesis that was proposed. All the students interviewed share a common trait characterised by the wide-ranging presence of ICT and other communication media in their everyday experiences, but they use them differently and with differing degrees of intensity depending on their pertaining to specific groups and niches, on their representing certain kinds of users, and on the uses and meanings that they attribute to ICTs. Thus, it is not so much a generation with common traits connected to the use of ICT. Some students make highly intense and sophisticated uses (Ignacio, Matias, Daniela) of such technology, but others make a far less intense use of it (Victoria). For some of the intense users, video games play a major role (Ignacio), but not for others (Daniela). In this way, the image that emerges from the interviews do not coincide with the image of a more homogeneous generation, as proposed by Prensky (2001), and is instead closer to what Bennett et al (2008) propose regarding young people that have a variety of cultural experiences.

Regarding the second hypothesis, we did not find any clear evidence that the students develop certain skills or abilities described in the literature as being different from previous generations. The analysis of the ‘Perceptions of Use and Meaning of ICT’ and ‘ICT, School and Perceptions of Study Practices’ dimensions show that they use many different media at the same time, and have computer windows opened simultaneously, but it cannot be concluded that they are multitaskers or that they have special abilities to process parallel information, as claimed by Pedró (2006) and Prensky (2001). What we did find in the cases of students that make a more intense use of ICT is a higher level of sophistication in practices for managing attention. As Ignacio points out, the operation basically consists of putting some tasks in the foreground, and leaving others to the side.

The kind of communication that is still most valued by the students interviewed is face to face. Chat and applications that facilitate sociability are extensions of the pre-existing networks of friends and contacts, and tend to prolong the connections when there are not any better options. More than multitasking, students appear to tightly manage their attention, like a good car driver manages his/her attention regarding traffic lights, pedestrians, and changes in the speed or direction of other cars. Rather than being isolated and preferring rapid, multimedia communication, the students value verbal communication and face-to-face interactions with their friends. The multitasking skills and abilities, as well as the new ways of communication described by Pedró and Prensky, then, seem to not accurately describe the skills that the students exploit when using technology.

Although among the qualitative evidence collected we have not found data that point to the existence of a generation of new learners with shared practices that are strongly linked to ICTs and new ways of working and learning, we have found evidence for a distance and conflict between students’ in-school and out-of-school experiences, and their interests in the area of ICT and traditional media. The students claim that schoolwork is not very interesting, but that it is necessary for their future. This contrasts with the abundant time that they admit to dedicate to practices using the computer and the Internet for non-school activities.

In this way, the contribution of this paper is to provide evidence on a field of research regarding the fact that there is still little empirical information, discussing some of the central ideas and situating the discussion in the Chilean context. We find that this context differs from those in the
developed countries, where the idea of new learners has emerged. Our analysis puts the uniformity of the current generation’s experience into question on the one hand, while on the other raises questions on the precision of the description of skills and abilities provided by Prensky and Pedró. In particular, we call into question the multitasking character and the new ways of communication of the current generation. In the Chilean context, a variety of experiences are observed, which are not necessarily determined by the socio-economic context. Sociability with a strong value placed on face-to-face contact situates electronic communication as a complement and prolongation of the possibilities for sociability. Finally, sophisticated attention management practices are expressed, rather than a specific capacity to be able to process information simultaneously.

One line of future work would be to analyse whether this distance and conflict between the school and the students is a trait that is unique to current generations, or if it were structurally part of an institution that, by definition, involves differing cultures and generations, as history would imply.

Another line of work would be to analyse how important different kinds of uses and practices made by the students are among the school-aged population, and to analyse such tendencies over time and between different countries. Although the results presented here do not provide clear evidence in support of a new generation of learners, it is possible that these findings are simply the current state of a much longer process that effectively points towards that which Pedró, Prensky or Tapscott describe in their works. In other words, the question remains open if the changes described by these authors are assumed to emerge at differing paces, in such a way that what occurs in the younger generations of the more developed countries is initially verified as well in some specific segments of less developed countries, and then tends to expand throughout all societies. To answer this question, an in-depth comparative analysis over time of the eventual differences in access, practices, uses, interests and skills in distinct national, social and cultural contexts would be necessary.

All in all, the idea of the emergence of a new generation of learners (also referred to as new millennium learners) that some authors have pointed to so insistently and vehemently, and that little by little has become integrated into the language of many in the field of education (as in the case of ‘digital natives’), must be backed up by scientific evidence that provides empirical foundations. In this way, it will go beyond being merely a speculative proposal and a hyped up discourse.

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References


