Literature Review on Digital Inclusion and Digital Divide

From Digital Divide to Digital Inclusion

The term digital divide holds a particular social and academic caché, but it is problematic in that it can lead to technologically deterministic thinking and does not necessarily offer nuanced understandings of socioeconomic conditions under which the marginalized live in. The term digital inclusion might be more useful, but it is still ambiguous. This paper explores the different ways that scholars have been thinking about the digital divide and digital inclusion. It starts with notions of the digital divide that address issues of physical access to Information and Communication Technologies (ICTs), issues of education and technological savvy, as well as issues of culture and socio-political empowerment. It also considers the scholarship that appropriates the perspectives of digital inclusion and different definitions of the term, different criteria by which inclusion is determined, implications of such perspectives, and the problems such scholars aim to solve by exploring digital inclusion. This literature review examines issues around the digital divide and digital inclusion focusing on the proposed initiatives to use digital technology to decrease the gap of access that exists between groups of different socioeconomic backgrounds.

Research on the bridges between the spread of ICTs and social and economic development has been undertaken for decades. It has in many ways been limited by initial efforts at conceptualizing, understanding, researching and responding to the issues of the digital divide (West, 2006). Perhaps the most obvious factor characterizing the digital divide is the extent of physical access to ICTs and the internet\(^1\) (Loader & Keeble, 2004). Chinn and Fairlie (2004) describe digital divide as the inequalities between any groups in terms of access and use of digital technologies. In this sense, digital divide is usually concerned with statistics of access and can contribute by acknowledging where the gaps and problems are situated.

During the 1990s into early 2000s, scholars and government sponsored studies had mostly focused on the physical access to technology as the solution to the digital divide; the Australian government (Australian National Training Authority, 2002) tried to promote better education to isolated students by simply offering internet access in order to improve the communication between students and teachers. Caspary and O’Conor (2003) advocated that providing ICT access, as a given, to rural communities in developing countries would bring them economic benefits, and the office responsible for online government services in the United Kingdom, e-

\(^1\) “Internet” is often spelled with a capital “I”. But according to Markham and Baym (2009) capitalizing means that “internet” is a proper noun and implies either that it is a being or a specific place. Both metaphors lead to granting the internet agency and power that are better granted to those who develop and use it.
Envoy, claims that the “opportunities to physically access the internet are now available to all” (Office of the e-Envoy, 2003, p. 5).

Although this overall picture of increasing opportunities for access to ICTs appears as a significant step towards tackling the digital divide, the literature also suggests that it may act to disguise widening differential access and use of ICTs (Loader & Keeble, 2004; Correa 2008). The appearance of digital technology has shown the development of a digital divide, since it is a reflection of broader social divides which pre-existed within society (West, 2006). In other words, digital technologies have advantaged those who already had access to other resources than people who didn’t have such resources (van Dijk, 2006). These digital gaps may aggravate current disparities between social groups because new technologies provide convenient access to information, a tool needed for taking part in a democratic society, as well as access to education, employment, trade, wealth and health (Correa, 2008).

Studies have shown consistently that individuals who have access to ICTs, from the telephone to the internet, tend to have more schooling, higher incomes, and higher status occupations than do those who do not have access. Chinn and Fairlie (2004) propose a model that confirms the importance of per capita income in explaining the gap in computer and internet use, and based on this model they were able to tell the percentage of the population from countries such as USA and China that were deprived from accessing computers and internet. Helsper (2008) argues that regardless of this evidence, there remains significant debate around the existence, nature and causality of these links, such as the social and cultural aspects that may have helped or hindered the digital divide. In this sense the digital divide cannot simply be understood as an absolute measurement of exclusion from ICTs (Loader & Keeble, 2004).

As already mentioned, the digital divide has been conceptualized as a gap between those who have and those who don’t have access to digital technologies (van Dijk, 2006). This approach offered that once the gaps to access are bridged, the use of internet would be equal. In other words, spreading digital technology within the marginalized population would solve the problem of inequalities of the digital divide (Peter & Valkenburg, 2006). Thereupon, to reduce these inequalities, the primary effort of policy makers have been on providing physical access to digital technologies such as computers and the internet (Correa, 2008). Conversations regarding access focused on the digital divide, and as one might expect, largely relied on “haves” and “have-nots”. Such terms are problematic because it overemphasizes technological solutions, such as donation of laptops or programs like one laptop per child (OLPC) (Warschauer, 2004), not leaving space for other ways in which people come together around and benefit from community technology programs, including those providing community labs (such as Community Technology Centers) in which are used to find ways for community involvement in determining the technology services useful for them (Bailey & Ngwenyama,
Van Dijk (2005) and Selwyn (2004) warned about the negative consequences of such a simplification of the issues around the digital divide: providing software and hardware and not paying enough attention to the human and social systems must change for technology to make a difference (Warschauer, 2004).

Furthermore, simply providing access to ICTs may induce the belief that as digital technology expands through society the issue of the digital divide is solved. In addition, it may also lead to the conclusion that digital inequalities are vanishing among developed countries and connected people (Hargittai & Hinnant, 2008; van Dijk, 2006). Accessing ICTs and the internet is different from accessing the content that nest on them (van Dijk, 2004). People may be casted off politically, economically and socially if they don’t attain the ability and appropriate the skills to use the internet (Newhagen & Bucy, 2004). Consequently, as more people are using the internet to communicate, retrieve information and even contribute with content, academics and policy makers have increasingly conveyed that it is necessary to shift the focus from a simplistic and binary conceptualization of internet access to a more advanced and complex approach (Correa, 2008). For example, e-Envoy has identifies such necessity:

“Encouraging remaining non-users onto the first rung of the internet ladder will remain an important challenge to guide policy in the next few years. However, for individuals to fully realize the benefits of the internet we must help them move up the ladder – to move from basic activities such as e-mail and browsing to more advanced uses” (Office of the e-Envoy, 2004, as cited in Livingstone & Helsper, 2007).

As a result, since 2002 research on the digital divide is moving beyond physical access to pay closer attention to concepts that are concerned with issues around culture, empowerment, social mobility and differentiated uses of the internet (e.g., de Haan, 2004; Hargittai, 2002; Newhagen & Bucy, 2004; van Dijk, 2006). The emergence of this second wave of research on digital inequality has been called differently by various scholars, as following:

“Usage gap”: van Dijk (2005) has argued that access problems of digital technology gradually shift from the first two kinds of access, mental and material access, to the last two kinds, skills and usage access. When the problems of mental and material access have been solved, wholly or partly, the problems of structurally different skills and uses come to the fore. The author proposed to define digital skills not only as the skill to operate computers and network connections, but also as the skill to search, select, process and apply information from a superabundance of sources and the ability to strategically use this information to improve one’s position in society. They are called instrumental, informational and strategic skills respectively.

“Second-level digital divide” (Hargittai, 2002; Correa, 2008), also referred to as the production gap, describes the gap that separates the consumers of content on the internet from the
producers of content (Reilly, 2010). As the technological digital divide is decreasing between those with access to the internet and those without, the meaning of the term digital divide is evolving. New applications have made it possible for anyone with a computer and an internet connection to be a creator of content, yet the majority of user generated content available widely on the internet, like public blogs, is created by a small portion of the internet using population (Reilly, 2010).

The “emerging digital differentiation” approach conceptualizes digital divides as recursive, and thus dynamic phenomena (van Dijk, 2002; van Dijk and Hacker, 2003). If gaps close at one stage, they open at another. For example, if internet access gaps are bridged, internet skill gaps or internet usage gaps occur. In this approach, the characteristics of internet users play a more important role in shaping internet adoption and use than the characteristics of the network. The emerging digital differentiation approach tends to evaluate the social and political role of the internet critically, with slightly pessimistic, dystopian undertones (Peter & Valkenburg, 2006).

“Digital inclusion”: Crandall and Fisher (2009) see digital inclusion as the rallying cry of the twenty-first century. They claim that digital inclusion goes beyond access to computers and the internet for all, regardless of physical, cognitive or financial ability; it means technological literacy and the ability to access relevant online content and services. Hache and Cullen (2009) extend the definition by arguing that digital inclusion is the process of democratization of access to ICTs, in order to allow the inclusion of the marginalized in the information society. The authors claim that digital inclusion should be seen as a wagon to social inclusion that ensures individuals and disadvantaged groups have access to, and skills to use ICTs and are therefore able to participate in and benefit from electronic mediated growing knowledge and information society.

Digital inclusion definitions, just like digital divide’s, carry misunderstandings; the term has often been used, particularly by international organizations and the public sector as a jargon in appealing and populist policies, for example providing tablets in exchange of popular votes (Vicknasingam & Mazlan, 2008). It is also seen as a new and dazzling solution for almost all gaps in contemporary society: poverty, social inequality, educational needs, social injustice, unemployment, violence, crime, among others (Bonilla & Pretto, 2011). Such inconsistencies lead to ambiguities in understanding why and what it takes to be included in the so-called information society (Bonilla & Pretto, 2011). Lemos (2003) proposes to question the widely accepted assumptions, calling them the tenets of digital inclusion. He proposes a discussion about what is meant by "Information Society", inclusion and exclusion. For the author, inclusion is a dogma and reflects the absence of discussion, meaning, in most cases, provides the material conditions to access to technology, without questioning the cognitive processes
involved. For example, providing tablets to public schools expecting to improve the quality of children’s education. Some may believe this is the way that society should be included in the information age. The author rhetorically asks:

“What is this Information Society? Who is this included person? And what would he do with the possession of these new tools? Never mind. Let this be the happiness of companies, NGOs and tech companies which are going to sell us, under this ideology, more and more “technological toys”. “ (Lemos, 2003, p. 1)

Therefore, it is not just a terminological or semantic discussion about the term “digital inclusion”, but a social reading, combined with the analysis of political interfaces between the actors involved, seizing their critical and constructive senses (Kok, 2008). It should examine the extent to which digital inclusion initiatives enhance interactions and possibilities of the marginalized people to engage participative and actively in current sociotechnical dynamics, and afford new social realities.

**Practices and Approaches to Digital Inclusion**

Bonilla (2005) proposes possible ways to escape from an inclusive logic which is linked to an economistic perspective meaning that being "included" means to be a consumer. The author seeks perspectives that create opportunities so the marginalized are able to participate, question, produce, decide, change, and become an integral part of social dynamics, in all instances. Such perspectives are summarized in one ideology: appropriation of technology, and it should be at the core of every attempt to promote digital inclusion. For example, the Program of Socio-Digital Inclusion in Brazil (2004) tries to tackle the issue of digital divide by “allowing the appropriation of technology and development of people in the most different aspects, stimulate job creation and income, and promote quality of life for families, provide greater social freedom, encourage the construction and maintenance of an active society, educated and entrepreneurial.” (Bonilla 2005, p. 12).

The appropriation of technology presented in the definition above, and in many other digital inclusion initiatives, must be understood in order to promote personal and community empowerment, so the use of technology can actually make a difference and improve people’s lives. Anthony Akubue (2000) defines it as the technology that is suitable to the social and economic conditions of the geographic area in which it is to be applied, is environmentally sound, and promotes self-sufficiency on the part of those using it. According to Mori and Assumpção (2007), appropriating technology means that people who attend Community Technology Centers (CTCs), e.g.: telecentres, infocenters and “LAN Houses” (units of public ICTs access), would be "taking over" the digital technologies; "making these people" own them.
The CTCs are also seen by Gomez (2012) as potential units of digital inclusion, to do so, people in communities need to act with autonomy and independence, which has not been much observed in CTCs. In these units, managers enforce rules of use for the digital technology, which goes against the autonomist perspective. Thus, the marginalized people are submitted to a passive use and limited access to the ICTs, since they have to follow the guidelines imposed by the units. Not only internal CTCs policies hinder people’s appropriation of technology, but also governmental policies that don’t take into consideration institutional and community structures (Bonilla & Pretto, 2011).

For example, the standard model of dissemination of CTCs for access to digital technologies (telecentres, infocenters and LAN Houses) seem to be the main strategy for promoting digital inclusion, especially in countries like Brazil and India, where most of the population does not have the financial resources to buy their own ICTs (Neves, 2010; Rao, 2005; Warschauer, 2004). Dias (2011) argues that although mobilizing large investments and efforts by the government may seem significant actions to promote digital inclusion, the results and consequences of such programs are still poorly evaluated, especially as to their social and political aspects; for example, Bonilla and Pretto (2011) shows that only 4% of internet users in Brazil use the free public access centers, while 45% of the Internet users goes to LAN Houses (cybercafes). The authors wonder if the reason why LAN Houses are more sought than public free units could be linked to the fact that they have more freedom in LAN Houses than in free public units, where there is an excessive control of the digital technology.

These public policies are critiqued by Pretto (2001) who supports initiatives that allow the "inclusion of citizens, not as mere consumers of products or information, but as reasonable people that participate in the contemporary world as ethical beings, and autonomous decision-makers." (p. 45) In this sense, it would be necessary, for example, to evaluate whether or not the basic computer courses provided to the marginalized population, actually contribute in some way with the formation of participative and autonomous individuals.

Alternatives like the one offered by Pretto (2001) invite scholars to reflect on the course of policies and actions that call themselves digital inclusion. In addition to the ambiguities and shortcomings pointed out in promoting digital inclusion, there are also issues around the management and operation of projects, which should be defined around their target users, since the world is organized according to their values, ideas and beliefs (Ugarte, 2008). Changing social policies is not an easy task, it requires coordinated and focused in its multiple dimensions. Berwig (1997) argues that the security and realization of human rights and the social transformations associated with them are "embryonic" at the heart of the construction of citizenship demanded by the contemporary times:
“These new exercises and new forms of citizenship, aimed at transforming the existing social reality, should set up a practice of human liberation that allows human beings to recognize themselves as subjects of rights, participating in society.” (p. 10)

Another alternative is proposed by Schwartz (2006) which consists in “a concept of digital emancipation as a way to enhance the results obtained from traditional digital inclusion programs or to redesign them." (p. 2) Schwartz's critique of public policies aimed at digital inclusion shows the various political and conceptual errors that characterize the actions taken by the governments, such as providing lines of credits with low interest rates so new “LAN House” would be opened, but no education or training is given to the owners to run the facilities. The digital emancipation, proposed by the author, aims to "organize the production and demand for goods and services produced digitally by the communities served by digital inclusion programs." (p. 2)

The emancipatory perspectives, as proposed by Schwartz (2006) and Bonilla and Pretto (2007), seek to change the focus of policies and actions, emphasizing in the production of digital content combined with the digital and traditional cultures, overcoming the barriers in the communities and encouraging them to be autonomous. This approach emphasizes the importance of coordination of digital inclusion initiatives with educational and cultural issues, and promoting political participation of citizens through ICT. In general, it is observed that the cultural and educational issues are present when discussing digital inclusion (Castells, 2005). However, these issues are also often insufficiently addressed:

“The digitally marginalized have three great ways to be excluded: first, they do not have access to the internet. Second, they have access to the communication system, but with a very low technical capacity. Third, (for me is the most important form of exclusion and the least addressed) they are connected to the internet and do not know how and what information to seek, how to combine information with one another and how to use it to improve their lives. This is more serious because it broadens and deepens the most serious exclusion of all history, is the exclusion of education and culture because the digital world increases dramatically.” (Castells, 2005).

**Beyond the Digital Inclusion: the role of education, poverty and citizenship in empowering communities**

Education is seen as an area that benefit digital inclusion, since it shares the same belief that people’s relations to digital technology should go beyond the technical perspective and mere access of it, it should promote its use with critical consciousness (Freire, 2005). Palacios (2005) criticizes the digital inclusion initiatives that address the low educational and cultural aspects, highlighting the interplay between literacy, hegemonic culture and digital inclusion:
“Since we are in a society of exclusions, of extreme polarizations, the population that is digitally excluded is also excluded educationally and culturally. Even in the sense of culture that we call hegemonic, from the elites, or academic and school [...] So if you give access to a person and she is semi-literate, she would have great difficulty reading because she doesn’t have a major skill in terms of western culture - a culture that is driven by capitalism, that person would do very little in having access to a computer.” (p. 2)

Palacios (2005) understands that literacy is a prerequisite for the use of ICT, which reflects on the need, or not, to be literate to interact in digital environments. The more inserted and participate into the contemporary dynamics, such as to be enrolled in school, faster the people will understand and be familiar with the digital process. However, nowadays, with the convergence of media, it’s possible that a semi-literate person could produce, interact, and trigger dynamics of content production, in several languages, including increasing the person’s literacy processes in all these languages. The great difficulty is found among those that are raised in a strictly analog culture, literate or not, they wouldn’t understand, at least not immediately, the digital logic, such as the need of electricity and the on and off button. Some people from this culture, by facing an unknown environment, may feel alienated and scared, requiring a longer process of familiarization and understanding of the digital context, in other words, they might require a training process to feel comfortable in the digital environment and culture. Palacios (2005) believes there are several possibilities at play in the dynamic construction in contemporary culture, not a single path.

Other studies also point in this direction (Oliveira, 2007; Buzato, 2007), that the link between digital inclusion and education in developing countries boils down to the holding of school activities in CTCs. This seems to be a very useful opportunity for students. However, the authors highlight a continued consumption of information by the students at CTCs and they don’t see any links between the practices at these spaces and pedagogic dynamics learned at school. Also, these “links” are not proposed, planned or encouraged by public policies. Unfortunately, public schools find themselves in great pedagogical, structural and technological difficulties (Oliveira, 2007). Few students have access to computers in their schools and the number of teachers who propose learning or cultural activities articulated directly with ICTs is even lower. In such situation, ICTs are used in an instrumental perspective, with poorly taught basic software courses, or to do a search on the internet, which does not alter the dynamics already established by the school in which has been criticized (Buzatto, 2007).

Bonilla (2009) argues that the technological spaces, in the public schools, should be considered public centers to access ICTs. Since they are already inserted in the schools, it would be a great opportunity to link the digital culture and the pedagogic places to better digitally include the students. That is, such spaces should be used for several purposes, since the author considers
important the intertwining of school with everyday life, with the community, with the work, culture, and promote a "space for the integration of young people in the culture of their time - and their time is marked by contemporary digital processes." (Bonilla, 2009, p. 186). Such approach would educate and create a digital culture among the population allowing them to better understand the role of digital technologies in their lives, increasing the chances of appropriation and conscious use of ICTs (Bonilla, 2009).

Since the great social and educational needs are precisely concentrated in the poorest parts of the population in developing countries, the focus of digital inclusion programs, thus, is to fight poverty in a sustainable manner. Fighting poverty is also constituted as one of the central arguments in the formulation of public policies, which is usually addressed with an assistencialist approach, people is seen as a passive recipient of aid rather than an active transformer of their environment, and becomes another issue superficially tackled in studies and digital inclusion initiatives (Virilio, 1996).

According to Schwartzman (2004) poverty comprises a complex issue, which has no simple cause or treatment. According to the author, studies around the theme have given an understanding of the survival strategies of the poor, the way how public and private resources aimed at solving the problems of poverty come (in) effectively to the concerned sectors, and the difficulties of adopting policies that could change the living conditions of these marginalized populations, which "often fail to achieve the expected results, or have negative results, even when resources are available" (2004, p. 97). This happens because the generation and maintenance of poverty is part of the capitalist economic model and public policy, which are focused on compensation, seek only to maintain the balance between the forces in tension, without effectively solve social issues, and not offering the "instruments" - training, communication channels - required to the marginalized in order to demand their rights (Schwartzman, 2004). In this sense, we can assume that hunger is not the greatest problem of the poor, but the lack of citizenship, because it prevents them from becoming subjects of their own history, even to see that hunger is imposed (Demo, 1998)

The argument of citizenship becomes the justification for political actions. Several authors, including Lafer (1988), Corrêa (2002), and Arroyo (2001), have discussed and focused on citizenship as a dynamic concept that evolves according to the different historical contexts. Arroyo (2001, p. 43) by performing a historical analysis of the concept in the Brazilian society, notes that "they need to redefine the concept of citizenship, restoring the issues of citizenship in other words, social citizenship rights, human rights, the basic human rights. "

Not only there is a need to rebuild the notion of citizenship but also to build different technologies of citizenship (Eubanks, 2011). In order to do so, there must jettison the thinking that binds the marginalized to the distributive paradigm and narrows the vision of social justice
in the information age. Within the confines of access-only approaches, it is impossible to acknowledge or understand the experiences the marginalized have with ICTs in communities, the social service system, and the low-wage workplace. Eubanks claims that "It is impossible to recognize, and therefore transform, the real world of information technology" without adding the sense of citizenship (p. 98).

Promoting digital citizenship also encourages digital inclusion; digital citizens effectively use the internet regularly and effectively (Mossberger, Tolbert, & McNeal, 2008). This perspective of citizenship is linked to the effectiveness of social and human rights by building participatory and dynamic public space. Public space, according Lafer (1988) "is not the territory within the meaning of geographical locations and boundaries, but first and foremost a political and legal concept [...] results from the action of its members." (p. 219) Therefore, public space is a prerequisite for the construction of citizenship and the realization of rights. Arendt (1988) states that "the process of assertion of human rights, while the invention for living together, requires a public space, to which only you have access through citizenship." (p. 22) Also to Corrêa (2002), the political process of building citizenship "aims to create opportunities equal access to public space as a condition of existence and survival of humans as members of a political community." (p. 221) Based on these authors, therefore, citizenship can be understood as a constructive political process and constitution of the realization of social and human rights.

The understanding and experience of public spaces as spaces comprised of claims, constructions and realizations of human rights, as argued by Correia (2002) and Berwig (1997), or as "spaces of all spaces and not the government," as claimed by Toro and Wernerck (1996, p. 16), it is therefore an essential condition for citizenship. Equal access to public space goes beyond the elimination of poverty and social inequality, it means promoting democracy, political participation and social engagement. Such issues are not addressed in the measures of compensatory policies, as observed in many policymaking and digital inclusion projects, it represents human rights "institutionally legitimized" by the "capitalist State".

Considering that, through ICTs, various spaces and digital information resources have been established in recent years, making a space for dynamic communication and in constant expansion - the cyberspace - where social, economic, political, cultural and subjective processes flow, and considering that the right of accessing information and of communicating is part of the fundamental human rights. Citizenship is effective through living collectively in public space, and the cyberspace is also part of the contemporary public space and access to communication through ICTs, therefore it should be on the list of human rights in the contemporary society (Bonilla & Pretto, 2011).

Equal access to ICT extends beyond the proposed digital inclusion, which is based predominantly in overcoming poverty and social inequalities. The full use of ICTs is comprised
by human rights, citizenship and the dynamics of generation of "new human rights". It is part of the contemporary conditions of self-organization, collaboration and horizontal processes that build the foundation for the establishment of a new social organization.

Therefore, no single technological solution will be an answer to the digital divide however it may be defined. There are no silver bullets, whether wired or wireless, state- or market-driven, mobile or fixed. And these technologies need to be seen in the wider communication and informational environment in which they operate (Wilson, Best & Kleine, 2005). Issues related to the digital inclusion are much more complex and multilayered, they cross economic, social and cultural boundaries (Helsper, 2008). In this sense, the term "digital divide" is insufficient to explain the potential of ICTs in organizing the people around their goals and to social transformation, even though it has a broad power of communication. However, in the absence of a term that best expresses the potential of ICTs and has “communication power”, using the popular "digital inclusion", while pointing out their ambiguities, contradictions and implications, seems to be the right way to go.

References


