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Chapter

Daily Use of Digital Literacy among Young People with Intellectual Disabilities: A Capability Approach Study

Marie-Eve Boisvert, Delphine Odier-Guedj, Floriane Moulin and Marie-Eve Lefebvre

Abstract

Although recent studies have highlighted young people with intellectual disabilities' (ID) difficulties with reading and writing, it is not well-known how these skills are used in their daily life and, even less, regarding their digital literacy. Consequently, the aim of this study was to describe the daily use of digital literacy among adolescents, aged 15–21 years, with ID. An additional aim was to identify the factors that facilitated or hindered the various reading and writing practices beyond the classroom context, including home and other familiar spaces like the grocery store. To do so, the digital literacy practices of two adolescents were identified through an ethnographic multi-case study by using creative methods to generate qualitative data. Through Sen's and Nussbaum's capability frameworks, it was found that these two young people employed digital literacy through applications on mobile phones and electronic tablets. They developed different capabilities and functionings, particularly "affiliation" and "senses, imagination, and thoughts". The discussion section of this study focuses on how daily- and school-based digital literacy usages can be bridged to support young people with IDs' learning and engagement at school.

Keywords: intellectual disabilities, digital literacy, reading, writing, capability approach, technology

1. Introduction

The Organization for Economic Co-operation and Development (OECD) has confirmed that technology has become an integral part of young people's lives. It states that "over 90% of 15-year-olds frequently chat online" [1, 2] and that technology has an essential role to play in the social life of young people [3, 4]. Importantly, technology is part of young people's digital literacy practices. From a social perspective, literary practices include all interactions, such as writing (i.e., from writing a letter to using the ATM) [5], a diversity of semiotic systems (e.g., letters, numbers,

images, and symbols), a variety of discursive genres, and the social relations in which they develop [6].

The development of digital literacy implies a broadening of knowledge and cognitive skills required to use technology, as well as the multimodal (visual, oral, and written, among others), socio-emotional, and other social dimensions [6, 7]. For Ollivier [8], digital literacy takes on different forms of literacy, including technological literacy, which engages varying knowledge and differs from what is typically transmitted in school during reading and writing lessons. Indeed, school literacy practice considers only a fragment of what literacy comprises, reflecting societal choices to prioritize certain practices over those that may be more inherent to daily life [9].

1.1 Digital literacy of people with intellectual disabilities (ID)

Scholars argue that certain groups of people have less access to digital literacy practices, such as young people with ID [10]. It is important to note that ID is a developmental disorder characterized by significant limitations in intellectual functioning and adaptive behaviors [11]. Various issues arise for individuals with ID, who often end their schooling without building sufficient literacy foundation for everyday activities [12, 13].

Both people with ID [14] and researchers in the field [15] emphasize the need to learn to read and write better [14, 16]. Literacy difficulties, experienced by people with ID, position them in a state of enhanced disability [17]. This is particularly pronounced in the case of digital literacy practices given that reading difficulties are one of the main barriers in the use of digital technology [18]. Yet, several studies also highlight a varied daily use of technologies by adults with ID, including the use of mobile phones, tablets, laptops, video cameras, video game consoles, and radio [19–26]. It shows how important these practices are for adults with ID in terms of engaging with others, having fun, and pursuing personal interests. Similar to individuals with ID, those without ID also find technology useful to support social interactions for people with ID [9, 27–29].

A recent review of research with young people with ID [18] shows that studies mainly address risks associated with the use of digital technology. For instance, studies by Alfredsson Agren et al. [10] and Glumbic et al. [30] indicate that adolescents with ID use the Internet less than those without ID due to limited access to, and difficulties in navigating, the Internet. Still, adolescents with ID use digital tools to chat, to listen to music, and to research on subjects that interest them [10, 31]. Importantly, studies point that young people with ID should be assisted to engage with different digital tools. Barlott et al. [19] emphasize that the most important concern is not whether people with ID have material access to technology, but if they have access to real opportunities to use technologies to enhance their social participation. Thus, digital literacy is equally important for people with ID as it is for others. However, current research does not offer us much understanding from the point of view of young people with ID on how they can be supported in their digital practices. What it does offer us is the need to focus on extracurricular activities of young people with ID to understand their use of digital literacy. These practices are indeed more a matter of daily practices, often undervalued at school. In this sense, Penloup [31] stresses the importance of taking an interest in students' extracurricular literacy practices to discern their various uses of reading and writing, and to address the "ignored knowledge" of these students by educational institutions. For students with developmental disabilities, a comprehensive understanding of their extracurricular practices can

make it possible to understand the meaning these practices hold for them. It can also help us explore the relationships between school and extracurricular practices [32], and thereby develop school activities that can support young people with ID's daily literacy practices [32].

1.2 Social justice through the lens of the capability approach

The above discussed understanding of young people with ID's digital literacy raises the concern of the opportunities offered to people with ID as a social justice concern. Indeed, inequalities emerge when not everyone has the same capability or the freedoms and opportunities to use digital technology [33]. In fact, the transition towards digitalization by many organizations and social interactions exclude individuals without access to it, thus creating a "digital divide" in marginalized individuals' capacity to participate [34]. This social justice concern leads us to examine the personal and collective differences that mark human beings in their relationships with one other [31].

In this article, social justice is viewed through the lens of Sen's capability approach. Sen proposes to consider the links between the available resources, the ways in which people use them, and the contexts that make their use possible (or not). In other words, genuine individual freedom resides in one's ability to use the resources at their disposal to achieve the goals that they desire and value [35]. For instance, educational policies should favor the development of an "enabling" environment, in which both resources and opportunities are offered for all individuals to master their capabilities and thus support the various choices valued by them. In turn, this ability to make choices helps people develop their agency and self-determination. Agency involves acting and changing things according to one's own values and goals [36], while self-determination concerns the development of skills and abilities to exercise one's agency [37]. Thus, making technologies available to students can be considered as a first step towards developing their agency. However, it is essential that these tools are used in a way that young people feel are useful to them. This aspect of usefulness is important as research shows that people with ID exhibit fewer self-determined behaviors than people without ID [37, 38]. Consequently, this article attempts to document how students with ID express their capabilities in digital literacy.

2. Theoretical framework

2.1 Literacy as a social practice

This study is based on the conception of literacy as a social practice by focusing on both social uses of and the contexts in which literacy occurs [5]. This conceptualization of literacy is derived from the field of New Literacy Studies (NLS), which emerged in the 1990s from the works of Gee [39] and Street [5]. NLS scholars propose that literacy practices in school do not represent all forms of literacy that people use in their daily living [9]. They also argue the limited view of literacy by reducing it to a series of personal skills. Instead, NLS scholars emphasize the significance that various literacy practices hold for individuals as they engage in the learning process [5]. Indeed, NLS views literacy practices as multifaceted social practices, depending on the context in which they take place, and that are a part of the various social norms, social relations, and individuals' diverse life circumstances [9]. Thus, it is important to observe literacy

events in context [5]. These events include all the moments when reading and writing are a part of the interaction or when they contribute to the interpretation process [5]. These clustered literacy events make it possible to discern literacy practices as social practices [40]. Morgan et al. [41] highlight the need to understand the various literacy practices of people with ID, which sometimes go beyond the scope of school-based literacy practices and cannot be evaluated with standardized tests.

In this article, the focus is specifically on digital literacy events and practices related to the use of technologies. When referring to “technologies”, all those tools that provide access to information or facilitate communication, encompassing both material technologies (e.g., smartphone, computer, tablet, CD, DVD) and intangible technologies (e.g., Internet and online networks) [42], are considered.

2.2 Capability approach

While the exploration of literacy events and technological practices can facilitate discussions about their meanings and the motivations driving participants to engage with them [43], it may not necessarily be the case for adolescents with ID. This is because adolescents with ID may experience difficulty with expressing themselves verbally. However, as a concerted effort to practice the inclusion of youths frequently excluded from research projects [44], the meanings of their literacy practices is analyzed through the lens of the capability approach. This framework enables the examination of individual choices as the conversion of available resources [45].

The capability approach was developed by Amartya Sen [36]. For Sen, poverty is not only a lack of goods, but a lack of possibilities to make choices—a lack of capabilities. To determine one’s possibilities of choosing, Sen [35] distinguishes “functionings” from “capabilities”. Functionings are the active realizations of one or more capabilities [36], that are the result or implementation of capabilities [45]. In other words, it is what a person does and is able to do. Within this article, functionings are made up of all the digital literacy events and the experiences they entail. While Sen [36] was careful not to identify a list of capabilities, Nussbaum [45] established 10 central capabilities, necessary for a dignified life. These are life (i.e., not dying prematurely), bodily health (i.e., being able to eat, have shelter), bodily integrity (i.e., moving around, being protected from violence), senses, imagination, and thought (i.e., using one’s senses, imagining), emotions (i.e., to attach oneself to people, to love, to regret), practical reason (i.e., to form a conception of the good, having a critical reflection on one’s life), affiliation (i.e., living with, and for, others, engaging in different social interactions), other species (i.e., being in relation with animals, plants, and the natural environment), play (i.e., being able to play, laugh, have hobbies), and control over one’s environment (i.e., political environment or being able to voting, freedom of speech and association, and material environment or being able to own property and being employed) [45].

The implementation or application of these capabilities depends on the individual’s characteristics (or internal resources), the external circumstances (or external resources) [46]. According to Fernagu [46], internal resources are those that are developed over time and can be considered as an individual’s competencies, experiences, or abilities, while external resources are those that are made available like financial resources, materials, and tools. However, usefulness and relevance of resources can only be determined through the various conversion factors (i.e., personal, social, and environmental factors), which help transform resources (i.e., internal and external) into valued capabilities and functionings [47]. Conversion factors are important to

analyze since no two individuals, having the same resources, will necessarily be able to achieve the goal(s) they set out to achieve. Indeed, both Sen [36] and Nussbaum [45] emphasized the importance of education to develop valued capabilities.

2.3 Research goals

Consequently, this study aimed to:

- Describe digital literacy practices (functionings) of adolescents with ID outside of school settings
- Describe internal and external resources and conversion factors that enable digital literacy practices, and
- Identify the meanings given to digital literacy practices in terms of valued capabilities.

3. Methods

This chapter presents a part of a larger project and focuses on the reading and writing practices of two adolescents with ID outside of school settings. The participants of the larger research project were four adolescents with ID. One participant was from Quebec, while the other three were from Switzerland. This chapter considers the data generated with two of the four participants, who talked about their digital literacy practices at length. The participant from Quebec, called Léa (16 years old; female), was recruited through an invitation sent by her school to her parents, while the participant from Switzerland, called Julia (15 years old; female), was recruited through an invitation sent to the organizations where she engaged in cultural activities.

The participants' literacy practices are explored using multiple qualitative case studies design [48, 49] and the mosaic approach. Clark and Moss [cited in [50]] defined the mosaic approach as “a multimethod approach that enables young children to participate actively in the decision-making process in matters that affect their lives, through the co-creation of meanings with adults. This approach combines a variety of verbal and non-verbal tools to enable adults to understand in greater depth the young children's lives” [50]. The multiple case studies design purpose was to develop an in-depth understanding of the similarities and differences between the two cases. In particular, a range of contexts in which the two adolescent participants engaged in literacy practices is explored.

Processes of data generation with each of the two participants began with an initial meeting designed to explain the research project to them after a brief discussion with their parents. During this initial meeting, visual aids were used to ensure that the participants' consent was informed. At each of the following meetings, this consent was reaffirmed. Subsequently, three meetings were organized with the two participants to film and photograph how they engaged with reading and writing at home (meeting 1), in a familiar place (meeting 2), and in a place suggested by the researchers (meeting 3). The third meeting place was suggested by the researchers in order to understand the young people's literacy practices within an unfamiliar space. The use of visual tools was premised on the understanding that visual productions lead to creative work, help engage the participants, and, thus, enhance

our understanding of their experiences [51]. Apart from the films and photographs produced by the participants using a GoPro or a DGI camera, the principal researcher also had a camera to document the entire process. Subsequently, the participants were offered the opportunity to video edit their creations and develop a “short film” which presented what reading and writing meant to them. Through the discussions in the various meetings, the participants described different literacy events, explained the stages of their engagement, and the differences between the various practices [52].

Data analysis for all three research objectives was done simultaneously. First, the production of written descriptions for each video recorded by the participants made it possible to segment the different literacy events. These also helped substantiate what the participants said about the events when they talk about them. Second, a deductive thematic analysis by following the six-phase framework recommended by Braun and Clarke [53] was conducted to describe the events, and then the literacy practices. Visual and textual data were analyzed concurrently and iteratively [51].

4. Results

By combining the framework of literacy as social practice with that of the capability approach, the analysis considered digital literacy events and practices. To meet the three research goals, resources and conversion factors (goal 2), capabilities (goal 3), and functionings (goal 1) of the two participants will first be present, followed by a more detailed analysis of one specific digital literacy practice by each participant.

4.1 Analysis of the concepts of capability approach

The two participants’ digital literacy events were grouped into literacy practices, which were conceptualized as functionings based on the capability framework. A list of these practices can be found in **Figure 1**.

4.1.1 Internal and external resources

The participants of this study demonstrated different internal resources, allowing them to execute the digital practices or achieve functionings. First, they both possessed some ability in reading and understanding texts in the digital format. Julia could make sense of the texts she read, while Léa was in the process of acquiring reading skills. They were also capable of producing certain texts on a digital medium (i.e., sentences, words, images, videos, drawings) and so also possessed fine motor skills to use digital devices. Finally, both Julia and Léa knew how digital devices worked (i.e., turning them on and off, charging them, navigating between different applications, and magnifying fonts, among others). External resources were present as well, enabling the two participants to carry out these activities. They not only had access to the digital devices at home (i.e., a tablet, a mobile phone, an iPad), but also had access to the different applications and games on these devices. The fact that their loved ones also use these different applications can be considered as external resources.

4.1.2 Conversion factors

The individual conversion factors were multiple and represent the agency of the participants. First, both participants demonstrated a desire to interact with others

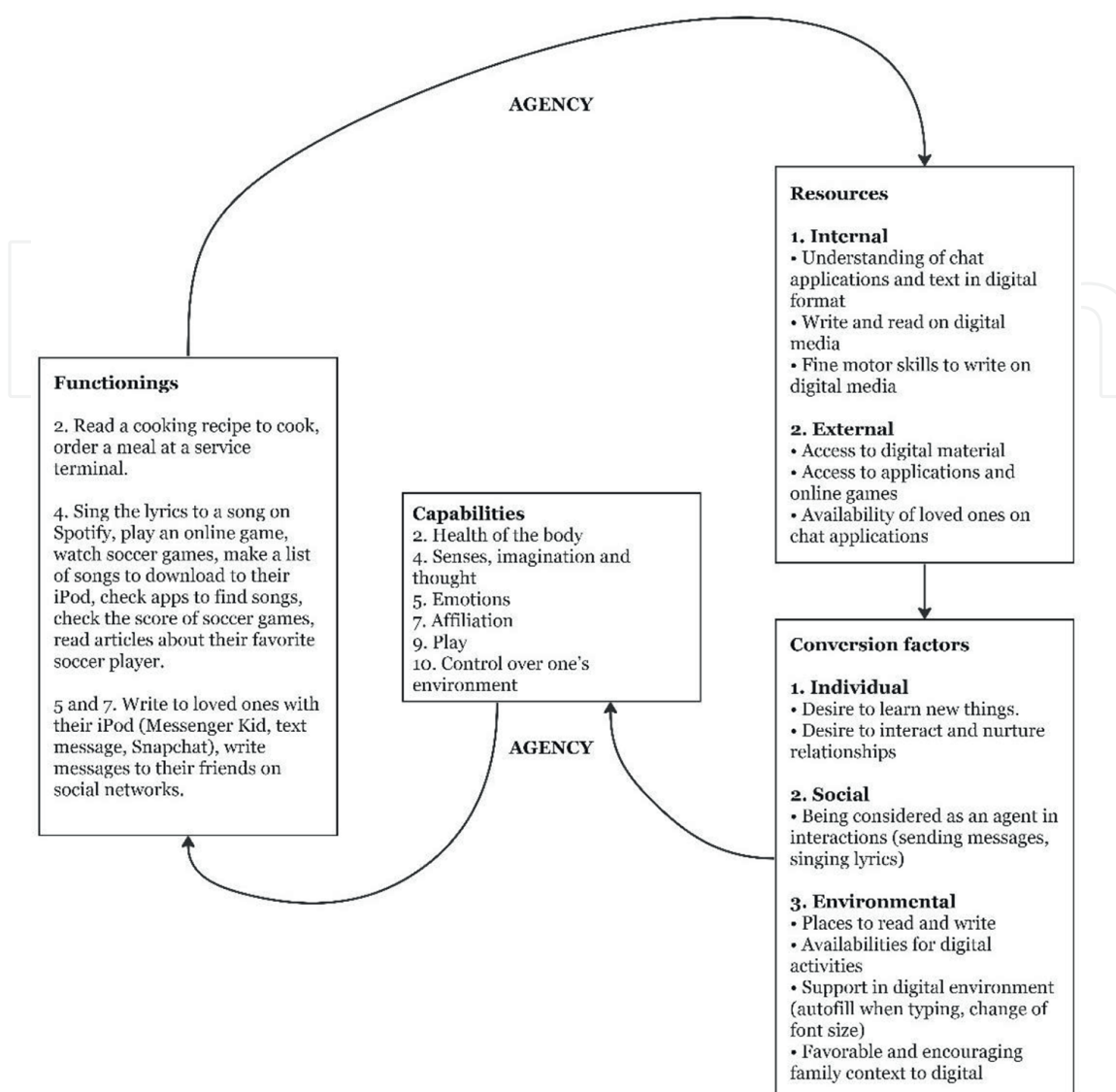


Figure 1.
 Diagram of the resources, conversion factors, capabilities, and functioning of the participants.

and to nurture their relationships, as well as possessed an appreciation for digital devices. One of them also expressed her desire to learn new things. Social conversion factors pertained to the participants' relatives and friends' interest and availability to interact with them through text messages and social networking platforms. Finally, environmental factors pertained to the places (e.g., space with continuous supply of electricity or uninterrupted access to the device) and the availability of time for the participants to engage in their digital literacy practices. For example, Léa could use the applications on her iPad for a certain duration before her access was restricted. Moreover, the adaptability of font sizes on digital devices could also be considered as an environmental factor pertaining to the device. Finally, favorable family context for digital technology was also crucial. Participants' agency was manifested in the use of these conversion factors to attain certain capabilities that were important to them.

4.1.3 From capabilities to functionings

Through the transformation of resources by conversion factors, the two participants of this study displayed an array of capabilities which were also observed in

their functionings. Thus, digital literacy empowered the two adolescents to attain different capabilities, as categorized by Nussbaum [45]. These were bodily health, senses, imagination, and thought, emotions, affiliation, play, and control over one's environment. By reading recipes on the tablet or the menu on a self-service terminal, one of the participants was able to develop capabilities tied to her health. By searching for songs, reading words, or watching football games online, both the participants applied capabilities related to play and meaning. Through writing, texting, and using social media, they performed the capabilities of affiliation and emotions. Finally, by reading the news, they gain some control over their political environment.

4.2 Analysis of Julia's digital literacy practice: julia reads song lyrics on Spotify

Julia is 15 years old and lives in the French-speaking region of Switzerland. During the study, Julia was finishing the last year of mandatory schooling (11th Harmos). She played sports and enjoyed video games. Julia used digital literacy in her daily life, including reading and singing song lyrics on the application, Spotify. Throughout the first meeting at her home, Julia showed her mobile phone to the researchers and talked about what she liked to do with it. She liked listening to music and singing along by reading the songs' lyrics on Spotify. Julia read the lyrics and presented how she had access to it, "And if I choose a music, any music... for example... (looks for a song in her playlist), this one, we go here... (shows how to have access to the lyrics)". Moreover, during the editing sessions, Julia decided to include a video of herself reading the lyrics and singing, justifying her choice by stating, "I love music and help me with the lyrics to become a YouTuber".

4.2.1 Internal and external resources

During the different meetings, Julia highlighted many resources in her environment and in her daily life, which supported the functioning of reading song lyrics on Spotify. In terms of internal resources, Julia clearly possessed skills in reading texts in a digital format (e.g., reading on her phone) and had a good understanding of its content. Julia also had fine motor skills (e.g., moving her fingers in specific ways to type on her mobile phone) and she can quickly read song lyrics by scrolling down to the beat of the music. In addition, Julia demonstrated external resources to the researchers when they were at her house. She had access to equipment like a mobile phone and the Internet which enabled her to use Spotify. She also possessed a Spotify account and several playlists, including the music she liked to sing.

4.2.2 Conversion factors

Among individual conversion factors, Julia had the desire to sing a song, and an interest in music, especially recent pop and rap music. She explained during a meeting, "Me, what I like to read as lyrics... I like music to sing like that ... but, in fact, I said to myself why not be a YouTuber and to show my singing talent or whatever ... to make music videos like some YouTubers have done". Social conversion factors are also essential in the transformation of resources into capabilities. These were in the form of Julia's loved ones' encouragement to perform her skills. For example, Julia discussed with her parents about how she used Spotify. Finally, environmental conversion factors included Julia having access to a conducive and calm environment (e.g., her room), allowing her to sing her songs without interruption. She also had time to use Spotify and engage in the activities she enjoyed.

4.2.3 From capabilities to functionings

In Julia's example of digital literacy practice, reading and singing song lyrics highlighted the achievement of the capability of "play". Although resources and conversion factors are important to support capabilities and functionings, it is necessary to consider the central role of Julia's agency. Indeed, the exercise of choice and Julia's opinions were essential during the process or the conversion of resources into capability and the transformation of capabilities into functioning. Julia could have all the resources and conversion factors stated above, but also could have decided not to read the song's lyrics. Therefore, her autonomy is fundamental to achieving the capability of play.

4.3 Analysis of Léa's digital literacy practice: léa chats with her loved ones

Léa was living in Montreal, Quebec, at the time of this study. Over the course of data collection, she celebrated her 16th birthday and attended a secondary special school in her neighborhood. During the meetings, she shared many of her hobbies, including listening to music, reading with her parents, and going to the park with her boyfriend and friends. For Léa, one of the most valued functionings was writing text messages to her loved ones, especially her friends, her boyfriend, and her family. During the second meeting, she showed the researchers some of the conversations she had using her iPhone. For example, she displayed a discussion with a school friend. The researcher asked her what they wrote to each other and Léa replied, "Photos, writing, everything". She then scrolled through their conversation and showed that they were a mix of texts, drawings, and photos. She specified that she and her friend sent each other drawings. When asked who she chatted with on the different applications, she opened a conversation with her boyfriend, with whom she had shared a photo of her birthday cake (see **Figure 2**). In the following meeting, Léa again presented some conversations on her phone with her boyfriend, some with her friends, and some with her grandmother. She clarified that she used certain applications, such as Messenger Kid and Snapchat to "call, text, write and send photos" to her social circle.

4.3.1 Internal and external resources

In terms of internal resources, Léa had an understanding of using the various chat applications—both in terms of their functionality and usefulness. During the third meeting, Léa used her phone to quickly respond to several people who had written to her. She also showed the researchers the messages she had saved on the Messenger application. The use of Messenger brought her into contact with her loved ones. Further, despite having a beginner's level in reading, Léa learned to write and read on a digital medium, thereby giving her the possibility of reading, sending, and responding to the messages in different manners (i.e., with words, images, and drawings). On this subject, Léa's parents acknowledged the ease and the abilities of their daughter with technology, "it seems that her thoughts are intertwined with electronics, you know! They grew up with it". Additionally, Léa had developed fine motor skills to use the keyboard of the iPhone, which had a narrower numeric keypad than other devices (e.g., a computer or a tablet; see **Figure 2**). In terms of external resources, Léa had access to digital equipment (i.e., an iPhone with access to the Wi-Fi), which further provided her with the possibility of accessing chat applications (e.g., Messenger Kids, Snapchat). Finally, her loved ones were accessible on chat applications, giving Léa further opportunities to talk with them and use the device.

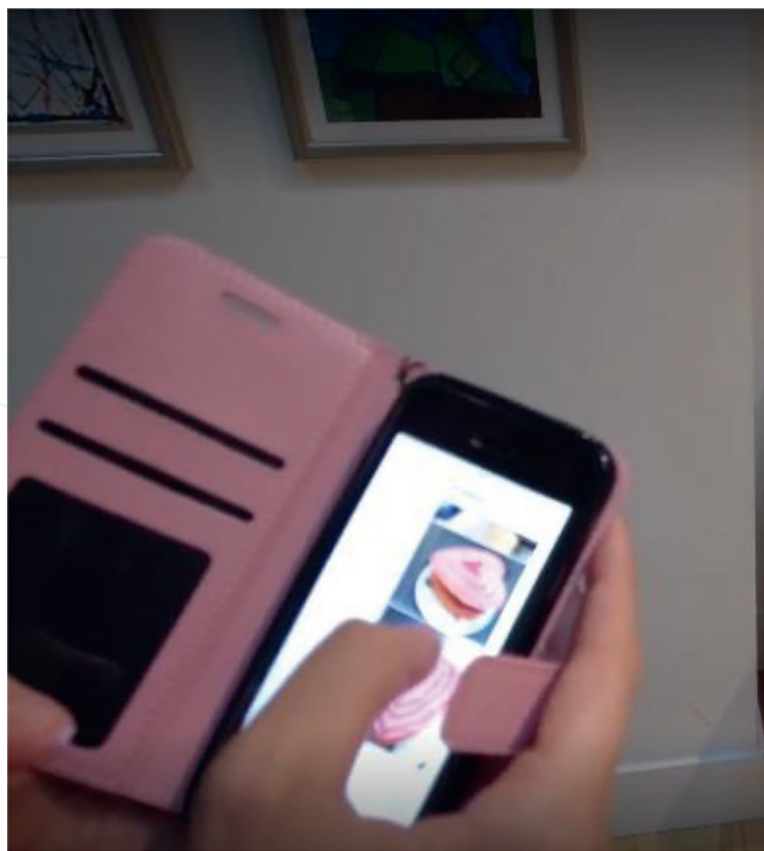


Figure 2.
Screenshot of the second meeting's video.

4.3.2 Conversion factors

Conversion factors support the transformation of internal and external resources into capabilities and functionings through the exercise of one's agency. Léa's personal factors included her drive to interact with her loved ones using chat applications. Indeed, access to the device (as an external resource) and her skills to use the device (as an internal resource) were not sufficient to achieve the functioning of chatting if she did not have the motivation to interact with her social circle. From a social point of view, the conversion factors included the online availability of her family and friends through text messages. The availability of her friends and family supported the transformation of her external and internal resources into her interactions with her loved ones. To demonstrate this point, she replied to her messages while simultaneously showing them to the researchers during the third meeting. She was thus available and responsive to the messages she received. In return, her loved ones were aware that she could be reached via chat applications. In other words, Léa was recognized as an agent of her social interactions by her loved ones, which motivated her to chat with them.

From the environmental point of view, the digital environment in which Léa interacted with her loved ones supported her level of digital literacy, specifically through the auto-suggest function. During the meeting with Léa's parents, her father explained that, "sometimes, it's a bit like the mechanism of suggestions on [the] iPhone. When you write something, it offers you three words right away". Considering her beginner level, the auto-suggested words helped complete her messages, thereby giving her the opportunity to interact through text messages. Without

this function, Léa may not have been able to interact through the support of only her internal resources. In this sense, the auto-suggest function was a conversion factor that supported her internal reading and writing resources.

4.3.3 From capabilities to functionings

While chatting with her loved ones, Léa realized two main capabilities: affiliation and emotions. By sending messages to her loved ones, she participated in social interactions and experienced relationships “with” others and “for” others. Additionally, this interaction leads her to further develop her relationships and become attached to her loved ones, as well as demonstrate her love for them. Like Julia, Léa revealed her agency in the way she used the resources and the conversion factors to achieve capabilities and functions which were important to her. For example, she chose whom she communicated with through text messages, indicating that her relationships with those people she communicated with were significant to her. She could have opted to exchange with certain people and not with others. Through her agency, she also decided what she retained from these activities, to then transform them into further resources.

5. Discussion

The objective of this study was to describe the digital literacy practices of adolescents with ID outside of school settings. This study also aimed to describe the resources and the conversion factors that enabled these practices, and to comprehend the meaning of these practices. By understanding the extracurricular use of digital literacy, the research highlights the potential of digital inclusion towards the enhancement of young people with ID’s agency and self-determination. This study also improves our understanding of young people’s literacy practices and the role of various conversion factors, which can be used in classroom teaching and learning. Consequently, in this section, these two major themes are addressed.

5.1 Expression of agency and self-determination

Digital literacy practices displayed by the two participants of this study demonstrated the role of digital technology in enabling the expression of agency and to support the development of self-determination. Throughout the analysis, the participants’ agency was observed when mobilizing the various conversion factors to transform their resources into valued capabilities. These instances of agency became apparent when choosing to listen to one song rather than another or by deciding to respond to people who sent them text messages. The demonstration of agency was essential to the development of their self-determination, which was the participants’ ability to make decisions and act independently. Existing literature also indicates this potential of digital technologies to support the development of self-determination of young people with ID by facilitating social interactions and reducing their reliance on others [17, 19].

With the integration of self-determination in the school curricula for young people with ID, as is the case in Quebec (Canada), this observation raises inquiries related to the place given to digital inclusion in educational settings. Is quality education that empowers young people to use digital tools in their everyday activities being provided? Are there guidelines promoting or limiting the use of information and communication technology? This study supports certain directions for future research.

5.2 Practices and conversion factors

Through the description of the two participants' digital literacy practices, several similarities were noted with those of people without ID [10, 54]. Indeed, these practices are universally employed to interact with others, to conduct various search activities (e.g., music, subjects of interest), and to listen to music [10, 17, 55, 56].

Through the mosaic approach, the descriptions of the digital literacy practices revealed a wide array of uses by the two participants. Previous research has also indicated that digital activities can be used for entertainment and social connections [25, 57]. However, the mosaic approach, as a methodological tool, and the capability approach, as a theoretical framework, highlighted how digital technology supports decision-making across varied fields and the development of critical capabilities, such as bodily health, affiliation, senses, play, emotions, and control over one's environment. Recognizing these diverse benefits can also enrich teaching and learning at school to help students participate. By considering the different uses digital tools offer, it can be possible to create diverse learning activities in and out of school. However, these activities should align with objectives that are meaningful to students, and by extending their use beyond entertainment or social interaction; even though both are also equally important. For young people, including those with ID, Barlott et al. [19] point that there are further uses of mobile phones when compared to those of computers. However, one can wonder if this is acknowledged in teaching. Is the predominant focus on computers, which are seldom utilized and often less accessible to individuals with ID outside of school? To understand the diversity of their students with ID's daily practices, teachers can draw inspiration from the mosaic approach by encouraging students to illustrate (e.g., through video, photography, drawing, and writing) the different ways in which they use digital tools.

This study also recognizes that various resources and conversion factors are essential in the development of young people's digital literacy. With respect to internal resources, the skills and knowledge that enabled young people with ID to put digital literacy into practice were discussed. Regarding external resources, the role that access to digital tools played was identified. The link between student abilities and access to digital tools is also highlighted by other existing studies [16, 19]. However, Björquist and Tryggvason [16] emphasize that while access to technological tools is necessary for their use, it is not always sufficient. Barlott et al. [19] stresses the importance of understanding the opportunities individuals with ID have to actually use the technology they have access to. In this regard, this study demonstrates the relevance of social support as a conversion factor which provides opportunities for young people to practise their digital literacy. To enable young people's agency, friends and family play a key role by recognizing young people's ability to interact with them through digital technology or listen to the music they like. This observation aligns with those of other scholars [57–59]. Nevertheless, these findings raise concerns about the kinds of support provided to young people with ID at school. The attitude of the participants' social circle functioned as a social conversion factor, because they believed in the participants' abilities to use digital technology. This study asks, do these same opportunities exist in classrooms, for young people to exercise their agency through significant activities? When asked to write, do young people have the freedom to write about topics which interest them in appealing formats? Are young people with ID writing to people who interact and respond to them? When reading, is their motivation practical or pleasurable, driven by curiosity, or a desire to learn? All these questions seem central to support the literacy and digital literacy practices of young individuals with ID.

At the same time, it must be acknowledged that the support offered can either enhance or hinder opportunities in digital inclusion for young people with ID [19]. Encouraging personal choice fosters digital inclusion, while controlling access to technology can undermine young people's participation. The restrictions imposed on young people's use of digital technologies must be challenged. While one can understand the need for teachers to restrict access and the use of digital tools in the classroom, they could also consider including students in discussions about how technologies can and cannot be used in the classroom in a more democratic manner.

Several studies related to digital technology use highlight the associated risks with it [18]. Instead of educating people with ID on responsible and safe digital practices, their access to digital technology is arbitrarily restricted as a means of risk management [19]. However, this approach poses significant limitations in the provision of learning opportunities. It also fosters people with ID's reliance on others for their digital technology use. Barlott et al. [19] emphasize the importance of providing support rather than enforcing control over the use of information and communication technology. Therefore, the teaching of safe digital use practices at school for all students, including those with ID, must be included. While naivety is often associated with ID [13], Alfredsson Agren et al. [10] point that young people with ID exhibit fewer risky behaviors than those without ID. In this regard, that study clearly illustrates the capacity of young people with ID to learn to use digital technologies safely and responsibly.

6. Conclusion

This study offered an understanding of the significance that out-of-school digital literacy practices held for two adolescents with ID. By analyzing the participants' data through the lens of the NLS and the capability approach as a theoretical framework, it was clear that young people with ID build skills and knowledge which allowed them to make choices in the practice of what they valued most. The role of schools in empowering students, such as the participants in this study, is well recognized in the current body of literature [60]. However, very little research explicitly attempts to define how young people with ID's agency in digital literacy can be enhanced through teaching and learning practices at school. An interesting avenue for future research would involve asking students about their extracurricular practices and mobilizing them as a pedagogical resource person. As Mumbardó-Adam et al. [61] indicate, the empowerment of people with ID is more effective when connections are forged in a structured and lasting way between families and school activities. Given the importance of digital literacy for these young people and its role in fostering their participation, in both the society and at school, it seems essential to continue exploring young people with ID's existing and aspirational digital literacy practices.

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Conflict of interest

The authors of this chapter have no conflicts of interest to declare.

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Author details


Marie-Eve Boisvert^{1*}, Delphine Odier-Guedj², Floriane Moulin¹
and Marie-Eve Lefebvre²

1 University of Montreal, Montreal, Canada

2 Vaud University of Education (HEP de Vaud), Lausanne, Suisse

*Address all correspondence to: marie.eve.boisvert-hamelin@umontreal.ca

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