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## Chilean deaf adolescents' experiences with reading: beliefs and practices associated to different types of reading activities

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### ABSTRACT

Deaf and hard-of-hearing (D/HH) students' difficulties with written language have been consistently reported, but there are few studies about deaf students' reading practices and experiences. This study aimed to characterize past and current reading experiences of Chilean D/HH adolescents. There were 46 participating students (7th–12th graders). Semi-structured interviews were conducted, which addressed students' beliefs about reading, early experiences with books, preferred reading material, and perceptions of themselves as readers. The interviews were analyzed using qualitative content analysis. Results show that, for students, reading is an arduous and not much enjoyed activity; it becomes a task they try to avoid and which they circumscribe mostly to the school context. Some of them report enjoying interacting with other types of texts, especially when these include pictures, but they do not seem to consider them as true reading activities. Reading difficulties faced in their early school years are still present. Students tend to blame their difficulties on limited vocabulary knowledge and to ask for help from teachers and parents in order to understand text. Most of them are not independent readers, and having to rely on someone else to understand text perpetuates their view of themselves as non-readers. Results are interpreted within a sociocultural framework to understand learning and motivation; the discussion includes suggestions for improving teaching practices.

### ARTICLE HISTORY

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### KEYWORDS

Deaf students; reading practices; reading experiences; beliefs; motivation

### Introduction

Deaf and hard-of-hearing (D/HH) students' low levels of reading comprehension keep being reported by many authors (Kelly 2003, Albertini and Mayer 2011, Marschark *et al.* 2012).

This situation poses great challenges for our educational systems. After the first school years, one of the goals of instruction is that reading skills are developed well enough to support learning of new content in written formats; that is, the passage from learning to read to 'reading to learn' (Jitendra *et al.* 2011). But available data shows us that such goal is not being satisfactorily met when it comes to D/HH students. Studies carried out in Chile have also reported low levels of achievement with regard to literacy skills among deaf students (Lissi *et al.* 2003, Herrera 2010), which rises an important barrier to access higher education institutions, and even to complete their secondary education.

Reading difficulties faced by D/HH students are diverse in nature and comprise many levels of reading skills. While we will draw upon prior studies on the topic, our proposal considers a theoretical twist in the way reading is conceptualized, moving from an individual-centered perspective towards a cultural-historical one. The former understands reading

motivation and reading achievement as processes explained by individual resources. Instead, a cultural-historical view assumes that reading practices and motivation take different shapes depending on the context in which they develop and take place. We will review research regarding reading motivation and reading practices of deaf students, but interpreting them from this cultural-historical view. Adopting such perspective, we think, may be especially fruitful in understanding D/HH students' relation with reading.

### Theoretical and empirical framework

#### *Reading skills of deaf adolescents*

Several studies have reported that deaf students, reading comprehension is considerably low compared to their hearing peers. As a consequence, in average, deaf adolescents end leaving school with reading comprehension achievements equivalent to a fourth grade level (Traxler 2000). Deaf students reading difficulties are evidenced at different levels, such as word recognition, decoding, knowledge of grammar sentence-level processing, and text comprehension (Kyle and Cain 2015). They also show lesser metacognitive awareness during reading than hearing students (Morrison *et al.* 2013).

In a study including deaf high school and university students, Miller (2013) found that low reading comprehension skills were associated with difficulties to process text at the supralexical (sentence) level. He points out – as an alarming result – that an important number of high school students ‘seem to approach written text in a nonstrategic manner, skipping both its structural (syntactic) and its semantic processing. As a result, reading for them is likely to remain a mere technical and meaningless activity’ (p. 10).

Another important issue is the relevance of world knowledge in reading comprehension. In the process of comprehending texts, an important role is played by the reader’s previous knowledge on the topics presented in the text (Diakidoy *et al.* 2011). A limited knowledge on the topic, or the presence of misconceptions can generate serious problems when trying to comprehend written text (Diakidoy *et al.* 2011). This is particularly critical in the case of deaf readers, for whom their world knowledge is more restricted than that of hearing readers because of lack of opportunities for complex and meaningful communication with adults, limited access to oral sources of information, and scarce incidental learning opportunities (Reichenberg 2010).

### ***Reading as a social activity within a historical-cultural framework***

Our view of reading is grounded in historical-cultural theory, as it was proposed by Vygotski (1989). Within this framework, reading is conceptualized as an advanced higher psychological process (HPS). These type of processes can be defined as outcomes of socially organized activities that become internalized. In particular, advanced HPS are not acquired by generic socialization as it happens with rudimentary HPS (e.g. speech), but they require contact with institutions aimed at developing those skills, such as school (Baquero 2009). As internalization of reading activities occurs in particular social and historical contexts, the way reading develops in a group of individuals varies according to the characteristics emphasized on the social activities taking place in those contexts. Therefore, reading is not understood as a mere individual cognitive process; it is the concluding point of a genetic process in which inner-psycho functions develop through internalization of processes that were inter-psycho in the first place. In that sense, it is participation in activities that involve written language what allows for its progressive mastery as a meaning-making tool, as opposed to mere exposition to it (Sebastián and Moretti 2012).

Two premises can be derived from this proposal to comprehend reading acquisition. Firstly, we understand reading mainly as a social activity that acquires meaning within specific cultural contexts. For this

activity to be internalized, it requires progressive appropriation of mediational tools and articulation of phonological, orthographic and semantic processes (Sebastián and Moretti 2012). Secondly, this emphasis implies that attention must be drawn to moments of shared reading and how these activities, potentially, can develop a future autonomous reader as long as they provide appropriate scaffolding, or – in Vygotskian terms – as long as they generate a zone of proximal development, which allows the child – in collaboration with a more experienced individual – to participate in reading activities that he or she could not manage on his own (Vygotski 1989).

### ***Reading motivation and involvement in meaningful reading activities***

Several authors have highlighted the role of motivation in reading (Baker and Wigfield 1999). From a social-cognitive perspective, as the one represented by Wigfield and Eccles (2000), motivation is a complex construct used to explain why individuals choose to get involved in a particular activity, invest effort carrying it out, and persist at it, even if they are not immediately successful. Authors from the expectancy-value tradition in the study of motivation argue that these behaviours can be explained by the individual’s beliefs about how well he or she will do on the activity, and the extent to which they value the activity (Wigfield and Eccles 2000).

According to this theory, in order to get involved in a particular activity – reading, for example – the child or young student needs to believe he or she is capable of accomplishing it with a certain degree of success, and – at the same time – he or she has to assign some value to that activity. With regard to this last point, the theory has considered different components of the value assigned to a task, including: (a) the importance of doing well in the task; (b) the enjoyment one gains by doing the task; (c) the utility of the task for my future plans; and (d) the cost involved in the activity, in terms of time and effort, as well as the emotional cost. Engagement in reading activities can be perceived as fruitless and costly effort for individuals who – for different circumstances – have not developed enough reading competence to be autonomous readers. This is the case of many deaf students, at all levels of the education system (Albertini and Mayer 2011).

However, our theoretical lens compels us to widen the scope beyond the individual. Motivation must not be understood as an individual characteristic, but a process that can be developed in certain social contexts (Herzig 2009). According to Fox and Alexander (2011, p. 7) ‘learning to read is becoming able to participate in the behaviour of reading in ways that support one’s purposes and satisfy one’s needs’. Thus, reading

may be understood as a meaning-making behaviour, more than just a set of skills, which is developed through the lifespan and is oriented to ever-changing goals. In the same line, Bourgeois (2009) states that mastering a cultural tool such as reading, involves attaining a place within a society that values that tool. Therefore, we should also consider how engagement in this type of activities is crossed by identity tensions, which might imply different values attached to reading. Consistently, Herzig (2009) highlights that motivation is not located solely within the individual, because it has to do with activities the students develop in a social context. This is particularly relevant in the case of D/HH students, taking into account that, for many of them, their identity involves being part of the Deaf culture (Most *et al.* 2007).

Parault and Williams (2010) conducted a study with D/HH adults, currently enrolled in universities at the undergraduate or graduate level. They measured the different dimensions of reading motivation described by Wigfield *et al.* (1996 cited Parault and Williams 2010), as well as reading comprehension and reading practices. The only significant predictor for text comprehension among all the dimensions was reading for personal enjoyment. The only significant predictor of reading amount was intrinsic motivation. Low reading comprehension leads to avoidance of reading tasks, which causes a negative situation, since practice is needed to improve reading comprehension. Therefore, it is crucial to generate conditions in which reading experiences are rewarding, hopefully to the point of producing a state of flow (Kelly 2003).

Although many deaf students do not find reading rewarding (Herzig 2009, Pakulski and Kaderavek 2012) they believe is important to become competent at it. Herzig (2009, p. 73) reports that for deaf adolescents reading motivation 'was not static, but dependent on whom they were with, what they were reading, and the reason for reading', and that reading became an enjoyable activity when it was related to social purposes, such as sharing information with friends and family.

### **Reading practices as contexts for acquisition of written language**

Different communities have differing patterns of literacy, or ways in which contexts shape the meaning of written languages on daily activities, as well as the attitudes that people in those communities have about reading and writing. Given that, research must recognize the unique needs of deaf communities and their literacy contexts (Maxwell 1985).

Reading activities for deaf children, both at home and at school, can be structured in such a way that they might promote their development as autonomous readers. Activities that emphasize giving meaning to texts seem to be favourable for acquiring competency

in written language -in opposition to activities aimed to merely decoding phonemes from graphemes-. Researchers have shown that families that use sign language with their deaf children are able to provide environments that promote literacy acquisition in different ways. Sign language allows them to talk extensively about texts (Andrews and Zmijewski 1997), and to make meaningful connections between fingerspelling, signs and written language (Padden 1998). Other family practices such as having books and magazines available, using closed captions for TV and teaching words to their children while writing joint texts are also present in successful deaf readers (Mouny *et al.* 2014).

Data regarding school practices point in a similar direction than research on home reading activities. An ethnographic study on two schools for the deaf in Sweden show that dialogical practices, that is, activities in which students have multiple opportunities to talk about rich and complex texts, provide more access to written language, allow for more appropriation of them and promotes more interest than activities in which deaf students are taught specific skills or abilities individually (Bagga-Gupta 2002). Also, teachers in bilingual contexts develop proficient deaf readers by making their students reflect on texts beyond the word level through metacognitive and metalinguistic questions (Mouny *et al.* 2014). Overall, good practices for deaf readers are very similar to good practices for hearing readers. What changes is the logic associated to them given the use of a visual-gestural language (Andrews and Zmijewski 1997). These practices might be related to what Mayer *et al.* (2002) define as 'dialogic inquiry', which includes thoughtful dialogues and inquiry over reflexive questions.

In a more general sense, a variety of opportunities to interact with texts and enjoy them is a crucial component in the process of becoming competent readers. Cunningham and Stanovich (1998) state that providing reading practice is crucial for developing reading comprehension skills, and that the amount of reading can be a predictor of future reading volume. However, some authors have stated that one of the causes of deaf students' low reading achievement is that they do not get enough reading practice at school (Kelly 2003, Donne and Zigmund 2008). Schools should provide more opportunities to practice reading for D/HH students, and this practice must be enjoyable and stimulating in order to increase engagement and learning opportunities (Kelly 2003, Pakulski and Kaderavek 2012).

### **Changing contexts and D/HH youth views on reading**

Deaf adolescents and adults have a complex relationship with literacy, beyond what can be grasped with

standardized reading comprehension tests (Garberoglio *et al.* 2014). In spite of the challenges involved in reading comprehension, they interact with different types of text in different contexts in their daily life. They use reading as a way of having access to information, to communicate effectively and efficiently using technology, and to get involved in informal literacy activities (Akamatsu *et al.* 2005). In this sense, Garberoglio *et al.* (2014, p. 50) state that:

The relationship that deaf people have with literacy is often examined explicitly in school settings through assessments of English skills, but individuals' literacy practices exist beyond the school setting in a multitude of life experiences from childhood to adulthood and is often broader than what can be captured through school-based assessments.

This is coherent with current trends on reading habits of young people. Readings are no longer constrained to educational institutions in which adults mediate and select their reading materials. Literacy now involves meaning-making from different formats; it is a multi-modal enterprise in which young people are active selectors of their reading materials (Lluch 2010, Garberoglio *et al.* 2014). An interesting fact, supporting that argument, is that most deaf school-age children perceive themselves as good readers of online material, and describe it as an easy task (Donne and Rugg 2015). This fact might be related to the support provided by images included in such type of text, which facilitates comprehension (Gentry *et al.* 2004/2005).

Despite this current proliferation of reading activities, in her qualitative study carried out with struggling deaf Latino readers, Herzig (2009) found that they seem to hold a restricted view of reading. On the one hand, they tend to consider reading as a school-related activity, more than a tool used in their life outside school; on the other hand, their view of themselves as readers was closely tied to the amount of vocabulary they could understand when facing written text. Although they reported using Internet and accessing information through e-mails and magazines, they did not seem to consider such activities as reading.

There is not enough research on everyday literacy practices of deaf people in their communities and educative contexts (Bagga-Gupta 2002). All in all, it seems we require new research questions concerning those literacy practices and research methods able to represent the complexity of the matter. Methodologically speaking, Vygotskian theory invite us to focus on practices in which humans actively participate, instead of restricting us to properties and characteristics of individuals. It is on daily activities where cultural tools are impregnated with meaning, and provide development opportunities (Bagga-Gupta 2002, Baquero 2009).

Inquiring about deaf adolescents' experiences with reading could contribute to the design of better strategies to promote interest and engagement in reading practices that, at the same time, could help improve their reading skills. Thus, in this study we aimed to answer the following questions: What are the reading experiences and practices of Chilean D/HH adolescents in school and non-school contexts? What are the beliefs held by Chilean D/HH adolescents with regard to reading, and about themselves as readers?

## Method

### Participants

Participants were 46 students (43 deaf and 3 hard of hearing), grades 7th–12th, ages 13–22 (16 females and 30 males). Fourteen of them attended a special school for the deaf and 32 attended a large regular high-school which has a special mainstream programme for deaf students who receive support from deaf education teachers. A description of the sample is shown in Table 1.

Informed consents were signed by their parents, and students were asked for their assent as a way to ensure voluntary participation.

**Table 1.** Sample description.

	<i>n</i>	%
<i>Gender</i>		
Male	30	65.22
Female	16	34.78
<i>Age</i>		
13–15	11	23.91
16–18	22	47.83
19–22	13	28.26
<i>School placement</i>		
School for the deaf	14	30.43
Mainstream	32	69.57
<i>Grade</i>		
7th–8th	11	23.91
9th–10th	20	43.48
11th–12th	15	32.61
<i>Degree of hearing loss</i>		
Moderate	3	6.52
Severe	12	26.09
Profound	31	67.39
<i>Onset</i>		
Prelingual	43	93.48
Postlingual	1	2.17
Missing information	2	4.35
<i>Preferred mode of communication</i>		
Sign Language	20	43.48
Oral Communication	7	15.22
Both	18	39.13
Missing information	1	2.17
<i>Amplification</i>		
Not used	18	39.13
Hearing aid	24	52.17
Cochlear implant	4	8.70
<i>Deaf relatives</i>		
Deaf Parents	1	2.17
Deaf Sibling(s)	3	6.52
Other deaf relatives	4	8.70
No deaf relatives	37	80.43
Missing information	1	2.17
<i>Total number of participants</i>	46	

## Procedure

Semi-structured interviews were conducted with each student. This type of interview was chosen, because it allows to explore the same topics with each participant, while providing opportunities for them to express in their own words their experiences, preferences, dislikes, and the meanings attached to them. Interviews were held using each student's preferred language; most of them were conducted using Chilean Sign Language (ChSL). The interviewers were two deaf adults, users of ChSL, and two hearing adults, who worked as interpreters in higher education and in the public service.<sup>1</sup> Questions addressed early experiences with print, reading habits, preferred readings, perceptions of themselves as readers, and reading strategies. Interviews were videotaped and then transcribed by a team comprised of a deaf person and a hearing person, both proficient in ChSL.

## Data analysis

The analytical procedure included two main steps. Firstly, qualitative content analysis (Cáceres 2003) was conducted with 19 interview transcripts. The team of researchers started to analyze these interviews in order to develop a coding system. It was continuously reviewed and refined until became stabilized through theoretical saturation (Strauss and Corbin 1998).

The process involved deliberate sampling and analysis of the interview transcripts in order to promote constant comparison (Flick 2002). Secondly, all other 27 transcripts were analyzed and memos were written along with analytical notes, as a way to complement the categories constructed and ensure theoretical saturation. During the whole process, teams of two or three researchers worked together in the analysis to promote triangulation of perspectives, consistently with rigour criteria in qualitative research (Krause 1995). No qualitative analysis software was utilized during this procedure.

## Ethic committees approval

All work was conducted with the formal approval of the Unity of Ethics and Safety in Research at Pontificia Universidad Católica de Chile, and the Bioethics Advisory Committee of FONDECYT (National Research Funding Agency).

## Results

### Descriptive analysis

Following the procedures of qualitative content analysis (Cáceres 2003) the obtained data are first presented

as descriptive results (Strauss and Corbin 1998). Three large categories emerged from the analysis: (1) Language use and past communicative experiences, (2) Past reading experiences, (3) Current reading experiences.

### Language use and past communicative experiences

The students' social and linguistic environment as they were growing up was quite diverse. A few of them had deaf relatives in their nuclear or extended family, but most of them were the only deaf person in a hearing family. Most of their school trajectories were marked by frequent changes of school. Students reported that they have been in regular schools without mainstreaming projects, regular schools with mainstreaming projects and special schools for the deaf. School contexts tended to privilege the development of one language – Spanish or ChSL – over the other. Some of the experiences accounted for oralist teaching methods, or mainstreaming in regular schools without the necessary accommodations. In contrast, other students attended institutions that privileged early development of sign language competence.

There was also a great variation of knowledge and use of sign language in their families and school environments. Some of them had teachers that knew sign language, but 46.5% were in school contexts where nobody signed, at least during part of their schooling. Because of that, while some participants had communicative experiences with sign language early in their lives, others did not have this opportunity before attending their present school. These experiences produced different levels of proficiency in sign language. Some students said they preferred using oral Spanish to communicate with others, in comparison to a larger group of students who felt more comfortable with sign language communication.

### Past reading experiences

While some students said that they learned to read thanks to their parents, 58.7% stated that they had not had experiences with written language before entering school:

Before, in [name of school] they taught me words, and I went on understanding them. If I didn't know, I asked the teacher. (Interview 219, Paragraph 42, Male, 21 years old, Mainstream, 11th grade)

Experiences of shared reading with their parents were scarce, therefore the teacher was highlighted as a figure that compensated the lack of family experiences with print. However, more than half of them stated difficulties in the process of learning to read (54.3%). The

<sup>1</sup>Since there are no regulations or standardized criteria to define interpreters' competencies in Chile (González and Pérez in press), we used their work experience as a criteria to select ours interpreters.

reasons they reported included problems derived from finding many unknown words that continuously hindered their reading (58.7%), and the use of abstract words in texts. Some students (24%) tended to associate learning to read with memorizing words, and emphasized the difficulty involved in such a process:

Some words I knew, other words I didn't and I went on asking what those words meant, they taught me, and I memorized them to never forget them. I memorized them well. (I112, P59, Male, 19, School for the deaf, 12th grade)

Past experiences reading books also varied. Some students declared having read complete books at least once. In turn, 50% of them had never faced a complete book, either because they chose not to do it, or because they had always been exposed to book summaries made by their teachers or parents.

It is interesting to mention that in both, past and current reading experiences, there were not relevant distinctions between students with different preferred modes of communication.

### *Current reading experiences*

As a result of their past experiences, D/HH students' attitudes towards reading can be divided in two broad categories.<sup>2</sup> The first one includes students which not only affirmed they did not enjoy reading but also experienced it as an external imposition linked to school work (39%):

Reading is hard, I don't like it, it is hard. (I237, P158, Male, 17, Mainstream, 10th grade)

The other includes students that reported a general taste for reading, or at least did not express clear rejection to it (45.6%). Nonetheless, it was not an undifferentiated taste for all reading material. It rather was a global positive appraisal that varied according to the type of text, the condition of being an imposed or voluntary reading, and the text's topic. In a general sense, we can say that students liked the type of texts they can understand. Within this group, we find reading formats that were labelled as 'favorites'. Some students (54%) preferred comics because words were supported with images and because its structured format makes reading easier:

I read and, thanks to pictures and expressions, I understand. (I222, P100, Male, 17, Mainstream, 11th grade)

Magazines were also chosen as favourites because they have more reading content than other formats but not as much as a book. Some students reported reading the newspaper to get information on topics of interest. Very few students mentioned book titles as favourite readings. Most students did not mention it spontaneously as a type of reading, but when asked about

internet use 69.6% reported using it frequently to find information or to look up for unknown words, and 30.4% stated that they preferred it over other types of reading. Motives to use this modality were: finding a way to complement other readings, explore topics in which they were interested, or finding summarized material that allowed them to avoid reading larger books:

Sometimes [I read] books but I get bored, so internet turns out easier for me. (I216, P118, Female, 17, Mainstream, 10th grade)

Places chosen for reading included public transportation, school, or home. Those last two tended to be preferred, as they allowed having different supports at hand, like asking for help from teachers or family members, or searching for unknown words in dictionaries or internet. Reading practiced at home was more related to leisure and family environments that stimulate reading:

I also [read] while I'm resting at my house and I take the opportunity to read in my bedroom. (I235, P112, Female, 16, Mainstream, 10th grade)

In contrast, reading in school was limited to the classroom, has academic objectives and was often done through summaries of texts. Reading for studying was usual in D/HH students, but it was always done through photocopies or some other reading material different from books. This kind of reading tended to be experienced as a burden associated to school obligations. A large number of participants (39%) said that they felt their reading abilities were not good and, in a more general sense, 56.5% experienced reading as a difficult process. Reasons given for this were similar to those associated to learning to read: problems to memorize the content of what is being read; unknown topics in which they lack previous learning; difficulties related to finding too many unknown words:

When there are words I don't know, I take them and I search them, I'm very slow at reading. (I239, P180, Male, 18, Mainstream, 11th grade)

It is noteworthy that students complained because of the memory effort required for reading, probably narrowing the act of reading to retrieving words from memory or assigned meaning to each word in the text:

When I read books I must use my memory, and that is hard. Because of that I can't do it. (I240, P44, Male, 19, Mainstream, 12th grade)

Students had developed a variety of strategies for coping with these difficulties. The most frequently reported is asking a teacher or parent when they did not understand (74%), or looking up the word in the dictionary or internet, immediately or later on:

<sup>2</sup>There is also a small group of students whose answers reflected a large amount of ambiguity or were not clear regarding their attitude towards reading.

When I read something that I don't know what it means, I ask to my mom, she helps me, and I understand. (I104, P192, Male, 18, School for the deaf, 8th grade)

Other strategies included asking for help to classmates, repeating reading, inferring the meaning of unknown words according to their position in the sentence, or stopping reading for switching to a less difficult text.

### Relational analysis

Analysis of interviews led to the construction of a synthetic scheme that would give an account of experiences of D/HH students with reading. Results showed two different types of experiences: those associated to school related tasks, and those that included reading activities that take place in non-academic contexts. It is interesting to notice that when asked about reading, the students tended to think of activities of the first type; it was not until other examples of reading material were given to them that they started referring to the second type of practices.

A few students read material that could be associated with conventional reading (e.g. novels), but since they did it by their own choice, this reading activity took the form of non-school like activities.

In order to show the results of this analysis, we used the general Expectancy-Value Model (Wigfield and Eccles 2000), framing it within a sociocultural view of literacy and the role it may play in this population (see Figure 1).

Considering school-related reading on the one hand, and other types of reading activities, on the other, we found some differences between them with regard to both the expectancy and value components of the model.

School-like reading was viewed as a difficult task at which most students did not expect to be very successful. Most of them described themselves as readers who need support from a more experienced reader (a parent or teacher) to be able to understand texts:

With my mother is sometimes easier, because she explains it to me, but if I read it by myself I am not going to understand. (I231, P150, Male, 15, Mainstream, 9th grade)

At the same time, they reported that they did not have the opportunity to do a lot of reading at school:

[I read] here in my school, but it is a summary, it is different from hearing students who read a book at home. We don't; a summary, they give me three or four pages and I read them. (I219, P76, Male, 21, Mainstream, 11th grade)

We can talk about a vicious circle here, in which students' prior experiences and their perceptions about

the level of difficulty of this type of tasks promoted low expectations about text comprehension. D/HH students then tended to avoid school related reading, and got easily discouraged when they faced comprehension problems, which in turns gave them less opportunities to practice and improve their reading skills.

When I see that a text has many new words that I do not know, I put it aside and take one that has words I can understand, because the other one is too difficult. (I238, P149, Male, 20, Mainstream, 11th grade)

At the same time, participants reported that they valued this type of activities. However, school-like reading seems to be valued, basically, for its utility in achieving goals that are important for the students in the future. As a group, they did not seem to assign a lot of importance to being successful at this type of reading, aside from its utility for getting better grades or achieving further goals:

In general I do not like reading that much, I am not interested, but if I have to study then I read, but reading outside of school, I am not interested. (I219, P72, Male, 21, Mainstream, 11th grade)

Clearly, they did not find it particularly enjoyable and perceived that there was a high cost involved in it, especially because of the large amount of effort it demanded. Nevertheless, it is interesting that the importance they attached to this type of reading pushed some of them to keep investing effort. However, this effort seems to be vague, indicating they were not clear in terms of how to get better at this task:

When I do not understand something, I still try to read it. (I229, P72, Female, 14, Mainstream, 9th grade)

The situation looks very different when we focus on other types of reading activities in which D/HH get involved. As we have already shown, most students reported reading other type of materials. Texts found in internet seem to be among their preferred reading, as well as comics, newspapers and magazines. They tended to feel more competent at this type of reading, and therefore the expectancy component of the model was higher:



I understand better sports' stuff because I like it a lot. (I213, P169, Male, 16, Mainstream, 10th grade)

My favorite comic is *Condorito*.<sup>3</sup> That one I like because it is easy to understand because it follows an order. Other books are harder to understand because they are messy. (I240, P66, Male, 19, Mainstream, 12th grade)

In the Internet I find things more summarized, in books things are longer. (I216, P118, Female, 17, Mainstream, 10th grade)

The value attached to these non-school readings was different too. Reading for fun, or because they are

<sup>3</sup>A popular Chilean comic.

<b>SCHOOL-LIKE READING</b> <ul style="list-style-type: none"> <li>Narrative text (novels)</li> <li>Part of the curriculum</li> <li>Mandatory</li> <li>Evaluated</li> <li>Plain text (no pictures)</li> </ul>	<b>Task and self perceptions:</b> <ul style="list-style-type: none"> <li>Reading is a difficult task</li> <li>I do not know enough words</li> <li>I am not good at reading</li> <li>Reading is boring</li> </ul>	<b>EXPECTANCY</b> <ul style="list-style-type: none"> <li>I am not going to understand it</li> <li>I can not read this</li> </ul>	<b>LOW ENGAGEMENT</b> <ul style="list-style-type: none"> <li>Task avoidance</li> <li>Low persistence</li> <li>Performance goals</li> <li>Preference for easy-short text</li> <li>Reliance on others for comprehension (word meaning)</li> </ul>
	<b>VALUE</b> <ul style="list-style-type: none"> <li>Reading will help me find a job</li> <li>Reading will get me better grades</li> <li>I do not enjoy reading</li> <li>Reading takes a lot of effort</li> </ul>		
<b>OTHER READINGS</b> <ul style="list-style-type: none"> <li>Text from Internet</li> <li>Newspaper/Magazines</li> <li>Comics</li> <li>Self-chosen</li> <li>Voluntary</li> <li>Non-evaluated</li> <li>Images and other graphic resources</li> </ul>	<b>Task and self perceptions:</b> <ul style="list-style-type: none"> <li>Reading can be fun</li> <li>I can understand text that includes images</li> </ul>	<b>EXPECTANCY</b> <ul style="list-style-type: none"> <li>I will be able to understand it at some level</li> <li>I can read this</li> </ul>	<b>HIGH ENGAGEMENT</b> <ul style="list-style-type: none"> <li>Voluntarily chosen task, based on interests</li> <li>Varied goals (information, learning, entertainment)</li> <li>Others may help, but are not required</li> </ul>
	<b>VALUE</b> <ul style="list-style-type: none"> <li>What I am reading is important for me right now</li> <li>I enjoy reading this</li> <li>Reading this material does not involve too much effort</li> </ul>		

**Figure 1.** D/HH students' engagement in school-like reading tasks and other type of reading activities, in line with the expectancies and values associated to them.

interested on getting some specific information had an intrinsic value, and did not demand that much effort. On the other hand, in contrast to school-like reading, it seemed to have some importance in itself but was not perceived as having a utility value with regard to some long-term goal.

## Discussion

The results evidenced deaf students' difficulties with reading, particularly with regard to more conventional readings, such as books, in general, and particularly those they find at school. Although the students themselves attributed these difficulties to individual characteristics, such as their limited knowledge of Spanish vocabulary, it is important to consider reading as a cultural practice, which develops within social contexts in which that practice has meaning (Baquero 2009). As such, reading acquisition requires social interaction in particular contexts.

Deaf students' difficulties to acquire the language spoken in their country do not explain, by themselves, the low levels of reading achievement typically reported in the literature (Albertini and Mayer 2011). The results of this study evidence how the contexts in which these D/HH students were participating restricted their access to this cultural tool. At the same time, limited early experiences with reading, communication barriers, deficient school practices, and limited exposure to meaningful reading experiences in the classroom, have contributed to a restrictive view of what reading means, and of what is required to become more competent at it. In other words, we could say that for many of these adolescents, early development contexts – in the family and at

school – have not provided the right experiences to promote literacy development. Family practices that promote literacy acquisition have been previously described in families that use sign language (Andrews and Zmijewski 1997, Padden 1998, Mounty *et al.* 2014), an experience that was not very common for these students. Looking at our results from a historical-cultural framework (Vygotski 1989, Baquero 2009) we could assume that for these Chilean D/HH students, just as for those in Herzig's study (2009), internalization of reading as a social activity implies a restrictive view of it as 'identifying words in school-like texts'. It also seems that with regard to reading comprehension they held an all-or-nothing kind of view, and the belief that there is only one way of reading and comprehending a text. D/HH students' self-efficacy to deal with this type of texts was considerably low. Nevertheless, D/HH students valued conventional reading as a tool that gives them greater educational and occupational opportunities.

In spite of all the difficulties they reported in connection with conventional reading, they engaged in activities that, although they did not consider as reading, involved interaction with diverse types of texts, different from those typically found in school.

Therefore, two types of practices involving texts emerged from the analysis: school-like and non-school like reading practices. Both seemed to relate to two activities of very different nature. When faced with activities of the second type, D/HH adolescents would have positive success expectancies, they would expect to understand the texts well enough to reach the goals they set for themselves. The value they attached to these two types of activities was also very different. While for those of the first type, value was

associated to school achievement and future success, for those of the second type value was more intrinsic to the activity. This would explain why students engage more frequently in non-school like reading activities and the fact that they report better comprehension of that kind of texts (Parault and Williams 2010).

Students tended to avoid school-like activities and preferred doing them when an adult was available for help, which basically involves asking them the meaning of unknown words. Although it can facilitate comprehension at some points, this type of help does not contribute to internalization of strategies, or development of skills for approaching written text, because the latter requires participation in dialogic practices (Bagga-Gupta 2002, Mayer *et al.* 2002).

As the results show, it is not only that D/HH students avoid conventional reading. Just as it has been found in previous research, our students reported they did not have many opportunities of meaningful interaction with written texts at school (Kelly 2003, Marschark *et al.* 2012).

It is interesting that readings students chose -such as comics, magazines, internet text- included pictures and images, which can be important to enhance comprehension, and were usually not present in the books they have to read for school. This is consistent with previous findings, in which students show preferences for online material (Gentry *et al.* 2004/2005, Donne and Rugg 2015).

Summarizing, D/HH students choose to read text they find interesting and which they anticipate being able to understand. This is consistent with Wigfield and Eccles (2000) theory of motivation, however it is important to go a step further and ask ourselves how are both, interest and expectancy, developed. It is again useful to consider the social dimension of reading activity, and therefore the possibility of developing interest and self-efficacy through participation in shared reading activities. When we 'read with others' a context is generated in which the expectancy of getting to understand printed material is enhanced, making possible to access texts that could be of high interest to the reader, but which he or she would not choose to approach alone because of the difficulty entailed on reading them.

Developing skills for autonomous reading requires shared reading spaces that allow for a progressive appropriation of written language (Vygotski 1989, Baquero 2009). However, the reading opportunities provided for these students do not offer the needed scaffolding, since the participation of parents, teachers, and more competent peers is limited to providing word meaning, and they do not engage in actions that could promote a more autonomous approach to reading and a progressive internalization of strategies.

## Implications

On the first place, our results support the claim that more reading practice is needed in schools that educate D/HH students (Kelly 2003). This practice should not be threatening or boring, therefore authentic texts with different levels of difficulty should be used, and not just summarized versions of them. Second, besides narrative texts, which are commonly assigned as school reading, D/HH students need to be encouraged and supported to read expository texts, given their need for information they do not get from oral or signed communication, and due to its importance in higher education contexts. Increasing the variety of reading material by promoting the use of graphic novels, educative comic books, movies based on books, and so on, could also be useful, because these formats are more familiar to D/HH students and more appealing to them since images can support text comprehension. Third, beliefs associated to an all-or-nothing view of reading comprehension should be conflicted and transformed. Reading different types of texts with different purposes, and therefore different comprehension expectations could help in this process. Fourth, appropriate scaffolding to promote the acquisition of reading strategies in D/HH students should be ensured. Teaching cannot be limited to giving the 'right' meaning of a word to students or making univocal connections between signs and words, but must be focused on developing strategies for progressively assigning meaning to texts, considering comprehension beyond the word level. Considering D/HH students already use some basic strategies, more sophisticated ones could be promoted. Language classes could include the correct use of internet search engines for clarifying the meaning of unknown words. Fifth, a deeper knowledge of sign language would help teachers and students use this language effectively in the process of improving their competence in Spanish as a second language. Also, from the early school years schools could more actively support parents' acquisition of sign language skills, which could facilitate shared reading activities.

## Limitations and suggestions for further research

This study provides some interesting insights about reading experiences and practices of Chilean D/HH adolescents, a topic that had not been studied before and that should now continue to be developed with further research. One of the main limitations of the study was the large variability of the students' competence in both sign language and oral Spanish. Some of them have limited communication skills in both languages, which had negative effects on the extension and depth of the interview material. Future studies should take this into account and maybe

include other types of data gathering to complement the interviews. For example, in order to get a more in depth comprehension of reading practices outside the school it could be interesting to get a closer look to social contexts in which deaf adolescents interact with print, from a more ethnographic perspective.

### Conclusion

Deaf adolescents' difficulties with reading are well known and profusely reported in the literature. Many factors, mostly related to their limited knowledge of the language used in written texts, have also been reported as causal variables for this situation. However, the results presented here emphasize that for many students, early experiences lived at home and school experiences have not contributed to the development of a sense of themselves as readers. Our results also highlight the importance of considering the different contexts in which deaf adolescents participate, some of which could offer opportunities for them to get involved in meaningful and enjoyable reading activities. These contexts and experiences can influence the values students attach to reading, their self-perceptions as readers, and their engagement in different reading tasks.

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### References

- Akamatsu, C.T., Mayer, C., and Farrelly, S., 2005. An investigation of two-way text messaging use with deaf students at the secondary level. *Journal of deaf studies and deaf education*, 11 (1), 120–131.
- Albertini, J. and Mayer, C., 2011. Using miscue analysis to assess comprehension in deaf college readers. *Journal of deaf studies and deaf education*, 16 (1), 35–46.
- Andrews, J.F. and Zmijewski, G., 1997. How parents support home literacy with deaf children. *Early child development and care*, 127 (1), 131–139.
- Bagga-Gupta, S., 2002. Explorations in bilingual instructional interaction: a sociocultural perspective on literacy. *Learning and instruction*, 12, 557–587.
- Baker, L. and Wigfield, A., 1999. Dimensions of children's motivation for reading and their relations to reading activity and reading achievement. *Reading research quarterly*, 34, 452–477.
- Baquero, R., 2009. *Vigotsky y el Aprendizaje Escolar* [Vigotsky and school learning]. Buenos Aires: Aique.
- Bourgeois, É., 2009. Apprentissage et Transformation du Sujet en Formation. In: J.-M. Barbier, É. Bourgeois, G. Chapelle, and J.-C. Ruano-Borbalan, eds. *Encyclopédie de la Formation*, 31–71. Paris: PUF.
- Cáceres, P., 2003. Análisis Cualitativo de Contenido: Una Alternativa Metodológica Alcanzable [Qualitative content analysis: a reachable methodological alternative]. *Psicoperspectivas*, 2, 53–82.
- Cunningham, A.E. and Stanovich, K.E., 1998. What reading does for the mind. *American educator*, 22 (1-2), 8–15.
- Diakidoy, I.-A., Mouskounti, T., and Ioannides, C., 2011. Comprehension and learning from refutation and expository texts. *Reading research quarterly*, 46 (1), 22–38.
- Donne, V. and Rugg, N., 2015. Online reading practices of students who are deaf/hard of hearing. *Deafness & education international*, 17 (3), 144–154.
- Donne, V. and Zigmund, N., 2008. Engagement during reading instruction for students who are deaf or hard of hearing in public schools. *American annals of the deaf*, 153, 294–303.
- Flick, U., 2002. *An introduction to qualitative research*. London: Sage.
- Fox, E. and Alexander, P., 2011. Learning to read. In: R. Mayer and P. Alexander, eds. *Handbook of research on learning and instruction*. New York: Routledge, 7–31.
- Garberoglio, C.L., Cawthon, S., and Bond, M., 2014. Assessing English literacy as a predictor of postschool outcomes in

- the lives of deaf individuals. *Journal of deaf studies and deaf education*, 19 (1), 50–67.
- Gentry, M.M., Chinn, K.M., and Moulton, R.D., 2004/2005. Effectiveness of multimedia reading materials when used with children who are deaf. *American annals of the deaf*, 149 (5), 394–403.
- González, M., and Pérez, A. (in press). La lengua de Señas Chilena: un recorrido por su proceso de desarrollo desde una perspectiva multidimensional [Chilean sign language: a journey through its development process from a multidimensional perspective]. *Revista espaço*.
- Herrera, V.M., 2010. Estudio de la Población Sorda en Chile: Evolución Histórica y Perspectivas Lingüísticas, Educativas y Sociales [Study of deaf population in Chile: historical evolution, linguistic, educational, and social perspectives]. *Revista Latinoamericana de Educación Inclusiva*, 4 (1), 211–226.
- Herzig, M.P., 2009. *Understanding the motivation of deaf adolescent Latino struggling readers*. Thesis (PhD), University of California, San Diego.
- Jitendra, A.K., Burgess, C., and Gajria, M., 2011. Cognitive strategy instruction for improving expository text comprehension of students with learning disabilities: the quality of evidence. *Exceptional children*, 77 (2), 135–159.
- Kelly, L.P., 2003. Considerations for designing practice for deaf readers. *Journal of deaf studies and deaf education*, 8 (2), 171–186.
- Krause, M., 1995. La Investigación Cualitativa: Un Campo de Posibilidades y Desafíos [Qualitative research: a field of possibilities and challenges]. *Revista temas de educación*, 7, 19–39.
- Kyle, F. and Cain, K., 2015. A comparison of deaf and hearing children's reading comprehension profiles. *Topics in language disorders*, 35 (2), 144–156.
- Lissi, M.R., et al., 2003. Literacidad en Escolares Sordos Chilenos: Evaluación y Desafíos Para la Investigación y la Educación [Literacy in Chilean deaf students: assessment and challenges for research and education]. *Psykhé*, 12 (2), 37–50.
- Lluch, G., 2010. Las Nuevas Lecturas Deslocalizadas de la Escuela. In G. Lluch, ed. *Las Lecturas de los Jóvenes. Un Nuevo Lector Para un Nuevo Siglo* [The readings of the young. A new reader for a new century]. Barcelona: Anthropos, 105–128.
- Marschark, M., et al., 2012. Print exposure, reading habits, and reading achievement among deaf and hearing college students. *Journal of deaf studies and deaf education*, 17 (1), 61–74.
- Maxwell, M., 1985. Some functions and uses of literacy in the deaf community. *Language in society*, 14 (2), 205–221.
- Mayer, C., Akamatsu, C.T., and Stewart, D., 2002. A model for effective practice: dialogic inquiry with students who are deaf. *Exceptional children*, 68, 485–502.
- Miller, P., 2013. Similarities and differences in the processing of written text by skilled and less skilled readers with pre-lingual deafness. *The journal of special education*, 46 (4), 233–244.
- Morrison, C., et al., 2013. Deaf students' metacognitive awareness during language comprehension. *European journal of special needs education*, 28 (1), 78–90.
- Most, T, Wiesel, A., and Blitzer, T., 2007. Identity and attitudes towards cochlear implant among deaf and hard of hearing adolescents. *Deafness and education international*, 9 (2), 68–82.
- Mounty, J.L., Pucci, C.T., and Harmon, K.C., 2014. How deaf American sign language/English bilingual children become proficient readers: an emic perspective. *Journal of deaf studies and deaf education*, 19, 333–346.
- Padden, C., 1998. Early bilingual lives of deaf children. In: I. Paransis, ed. *Cultural and language diversity and the deaf experience*. Cambridge: Cambridge University Press, 99–116.
- Pakulski, L.A. and Kaderavek, J.N., 2012. Reading intervention to improve narrative production, narrative comprehension, and motivation and interest of children with hearing loss. *The volta review*, 112 (2), 87–112.
- Parault, S.J. and Williams, H.M., 2010. Reading motivation, reading amount, and text comprehension in deaf and hearing adults. *Journal of deaf studies and deaf education*, 15, 120–135.
- Reichenberg, M., 2010. Deaf adults and comprehension of expository text. *L1: educational studies in language and literature*, 10 (2), 19–39.
- Sebastián, C. and Moretti, R., 2012. Profiles of cognitive precursors to reading acquisition. contributions to a developmental perspective of adult literacy. *Learning and individual differences*, 22, 585–596.
- Strauss, A. and Corbin, J., 1998. *Basics of qualitative research. Techniques and procedures for developing grounded theory*. Thousand Oaks: Sage.
- Traxler, C.B., 2000. The Stanford achievement test, 9th edition: national norming and performance standards for deaf and hard-of-hearing students. *Journal of deaf studies and deaf education*, 5 (4), 337–348.
- Vygotski, L.S., 1989. *El Desarrollo de los Procesos Psicológicos Superiores* [The development of higher psychological processes]. Barcelona: Crítica.
- Wigfield, A. and Eccles, J.S., 2000. Expectancy-value theory of achievement motivation. *Contemporary educational psychology*, 25, 68–81.