

ATTITUDES TOWARD LITERACY IN THE BLIND COMMUNITY

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Introduction

Literacy has always meant power power to preserve one's thoughts, consult reference material and perform any number of everyday activities This undisputed tenet has fueled and inspired innumerable literacy campaigns in the United States and abroad The result is a steadily increasing literacy rate world wide and a literacy rate in developed nations of over 95% (depending on the specifics of how one defines the concept of literacy (UNESCO, 1990)) Unfortunately, this high literacy rate is not enjoyed by all members of our society Among blind people, the braille literacy rate in the United States is between 1% and 25% (Joseph Sullivan, personal communication 1996, Wittenstein, 1994) Though they may disagree on the solution to the problem and what has caused it in the first place, professionals in the field of blindness education, rehabilitation specialists, and members of both consumer groups of the blind (American Council of the Blind and National Federation of the Blind) agree that the low literacy rate among blind people is a serious concern (CEARSVH, 1990, Jerrugan, 1988, 1990, Nemeth, 1988, Schroeder, 1989, Stephens, 1989, Wittenstein, 1994) Although there is disagreement on this point, many activists in the blind community feel that the literacy rate is, in fact, decreasing despite their attempts to encourage reading This has kindled a sense of near panic in some circles, and agencies of all stripes are searching for remedies

The purpose of this pilot study is to set the stage for a comprehensive survey of attitudes toward and assumptions about literacy within the blind community With an eye toward that goal, this preliminary investigation focuses on pinpointing issues relevant to members of that community when choosing whether to learn and then whether to utilize braille To date, researchers have assumed along with Stephens (1989) that braille is a 'viable equivalent of the print medium' [emphasis mine] This should not be a foregone conclusion What has not been investigated is what role reading and writing play in the life of the blind person who is braille literate and how that may differ from the role ink print plays in a literate sighted person's daily life What are the results of literacy and illiteracy, and how does braille literacy affect identity?

About Braille

Braille is a structured medium designed as a means for the creation of tactile orthographies. Based on a system of 'finger reading' invented by Louis Braille in France in the mid 1700s, braille consists of a series of two-by-three matrices of raised dots. Within each of these six-dot 'cells', characters, which can represent alphabetic letters, syllabary characters or even musical notes, are written by choosing which combinations of dots will be used. This cross-language uniformity of the system ensures that all languages written in braille can be transcribed using the same physical equipment. Thus, if a person acquires the basic apparatus for writing braille, s/he can use this equipment to write any language, just as a sighted person can use a single pen to write English, Hebrew, or Mandarin Chinese. One of the interesting results of this uniformity is that an untrained individual would detect no difference (except perhaps in format) between pages of English, Japanese, or even music written in braille. This does not mean, as many assume, that braille is in any way a 'universal language'. What Louis Braille created was simply an elegant system for recording characters that can be easily read with the fingers.

English braille, standardized only in the early 1930s, has three levels of complexity. The simplest, called grade one braille, consists of a representation of the roman alphabet, arabic numbers and basic symbols for English punctuation. Note the pattern wherein the first ten letters, a-j, are repeated with an additional dot at the lower left corner of the cell to form the next ten letters, k-t. The final letters are made by adding a dot on the lower right of the cell. Presumably, 'w' does not fit in this system because, when braille was created in France in the mid 1700s, 'w' was not used widely enough to be considered part of the French alphabet. Grade one braille is used primarily by adult beginners.

a	b	c	d	e	f	g	h	i	j
·	·	·	·	·	·	·	·	·	·
k	l	m	n	o	p	q	r	s	t
·	·	·	·	·	·	·	·	·	·
u	v	x	y	z		w			
·	·	·	·	·		·			

Grade two, or literary braille, adds contractions for commonly occurring sequences of letters and rules for their employment. Some examples are shown below. Note that some contractions occupy two adjacent cells.

ch	·	gh	·	sh	·	th	·
ong	·	dis	·	ance	·	er	·

Some signs take on different meanings depending on their position within a word. In the example that follows, the underlined three-dot symbol can mean either 'dis-' '-dd-' or '- ' depending on its position within the word.

dismay ⠠⠠⠠⠠⠠⠠ ladder ⠠⠠⠠⠠⠠⠠ pan ⠠⠠⠠⠠⠠⠠

Some words are 'outlined' in standard ways by writing only representative consonants as shown below.

receive	written	rcv	⠠⠠⠠⠠
rejoice	written	rjc	⠠⠠⠠⠠
together	written	tgr	⠠⠠⠠⠠

Whole-word signs occupying either one or two cells are also included. Some of these reflect the fact that braille was once primarily used for the transcription of religious texts. Though braille is now much more widely used, there is little enthusiasm within the community for large-scale changes, practical as some of the changes might well be.

go	⠠⠠	and	⠠⠠	lord	⠠⠠
know	⠠⠠	day	⠠⠠	spirit	⠠⠠

This system reduces the physical size of braille texts to about four fifths of their original bulk by making it necessary to write fewer symbols. It also increases reading speed to some extent. Nearly all books published in braille by the Library of Congress and other sources are printed using this system.

Grade two braille is 'an aggregate of individual preferences rather than a set of scientific symbols, as no extended study had been made to demonstrate their value . . . selected largely on the basis of personal observation as to their usefulness and frequency of recurrence in English' (Irwin 1996: 49). Though the Braille Authority of North America makes occasional incremental changes in the system, it remains, as orthographies do, a window into the idiosyncratic past.

Grade three braille, which is little used, is a more chaotic, personal note-taking system which increases the number of conventionalized contractions used. It permits and even encourages wild innovation on the part of the individual writer. Few if any texts are published in grade three braille, and there is no guarantee that a text written in grade three braille by one person will be wholly intelligible to another. It is both the most playful and the most complex of the three levels.

Both adults and children can successfully learn to read braille. According to Hadley School for the Blind, the process can take around three months for a dedicated adult. Though some readers with diabetes may suffer from neuropathy which deadens sensation in the extremities, adults without neuropathy can learn to read tactually and can achieve very high reading speeds. Evidence suggests, however, that congenitally blind children's brains adapt to the specialized task early on, making reading braille potentially quite different neurologically for these two groups (Sadato et al, 1996)

Background of the Literacy Problem

Practically all blind people today know how to type that is, everyone can produce written forms even if they cannot read. *Read* in this sense implies direct visual or tactile input of written characters, as opposed to alternative methods of accessing texts such as tape recordings or computer speech synthesis.

This means that even those who cannot read either print or braille do have familiarity, even expertise, in producing written language with the basic knowledge of spelling and punctuation. Though this knowledge may be affected by a lack of the usual reinforcement that comes from reading, this does not mean that these individuals are unfamiliar with the concepts involved in literacy itself. This is one way in which the issue of braille literacy differs dramatically from that of print literacy.

Perhaps 1% of print books eventually are transcribed into braille. Though this number seems shockingly low, it is a historical high. The advent of computer technology has made the process of translating uncontracted texts into grade two braille and then embossing them easier than ever before. It is no longer necessary for highly-trained transcribers to carefully type and proofread each page of text by hand (Joseph Sullivan, personal communication 1996).

Though it is a more lengthy task these days to read a book aloud, books recently added to the Library of Congress collection for the blind and physically handicapped contained far more recorded than embossed texts.

<u>Type of Book</u>	<u>Br</u>	<u>Tape</u>
Adult nonfiction	28	108
Adult fiction	27	181
Children nonfiction	4	24
Children fiction	14	73
Spanish	0	7

Books added to the Library of Congress collection for the blind and physically handicapped for Sept-Oct 1996

Suggested Reasons for Low Literacy Rate

There are as many possible reasons for the low rate of literacy in the blind community as there are investigators studying the problem. The truth, no doubt, lies in a complex interaction of what is listed here and perhaps other factors not yet brought to light. What follows is a brief analysis of the factors discussed in the braille literacy literature.

Slow Reading Speed Some have suggested that reluctance to learn to read braille comes from the fact that reading speeds for competent braille readers are much slower than speeds attained by print readers or books read aloud. Koestler (1976) reports that many braille users read at 60-80 words per minute while the average Library of Congress recorded book proceeds at 160-180 words per minute. Jernigan (1970), on the other hand, reports anecdotally that many blind children can reach speeds of up to 400 words per minute.

Complexity of the Braille Code The complexity of the braille system itself has also been blamed for low literacy rates. Many feel that the grade two contractions are too numerous and rules for their application are too complex. However, many sighted people around the world successfully learn to read orthographies that are much more complicated, such as that of Japanese. The Japanese orthographic system includes two separate syllabaries and thousands of ideographic characters. The literacy rate in Japan is above 95% (UNESCO, 1990), on a level comparable with other developed nations. Clearly, social factors play a more important role in literacy rates than the orthography itself. Note the illiteracy rates for Spanish in Spain (1986) of 4.2%, Spanish in Ecuador (1982) of 16.1% and Spanish in El Salvador (1980) of 32.7%.

Counting of population of blind people Many multiply-handicapped children, for whom reading is not appropriate at all, are counted as 'blind' when blindness is only one of their difficulties. This may artificially deflate the literacy figures (Mullen, 1990).

Emphasis on utilizing vision Only a tiny minority of 'blind' people are completely without sight. Most have some vision, and in these 'borderline' cases instructors tend to choose to utilize the remaining sight by selecting print as the medium of reading, even if it is slower or requires cumbersome magnification technology (Spungin, 1989). These students might have been able to read more quickly and easily if taught braille, but teachers occasionally choose, for various reasons, to emphasize remaining sight even at the cost of slow, difficult reading.

Limited teacher time Lack of funding and high case loads mean that teacher time with newly blinded clients is extremely limited (Mullen, 1990). A rehabilitation teacher may have only one or two brief meetings per month with a client. During this time, that teacher must teach skills of daily living, advise the client on professional matters and assist with some aspects of emotional adjustment.

to blindness The time for careful braille instruction is simply not available to many

Teachers' negative attitudes toward braille Resistance toward braille may lie with the instructors themselves. Jernigan (1988) reports a visit to a classroom wherein a teacher said 'This little girl reads print, but this little girl has to read braille.' Mullen interprets the situation thus way 'To read badly is better than to read braille, according to some teachers, so they do not teach braille.'

Lack of training Because of the incredible number of subjects a rehabilitation or special education teacher must master, teachers often take only a single college course in braille. They are never, once this class is successfully completed, required to turn in work written in braille or read texts of any significant length. Sighted teachers are never required to learn to read tactually. The message in this context is clear: braille is a second-class, weak, make-do alternative to print. Pierce (1991: 390) reports 'The teachers in my county's program today don't know braille or believe in it. So, even if they were compelled to teach a child to read using the code, they would make a mess of it.' In response, Wittenstein (1994) surveyed over 1,600 teachers of the blind. Contrary to other reports, as a group, they reported positive feelings toward braille. Those who had more training in braille pedagogy were more likely to teach it and reported more positive views both of the system and of their own abilities. Wittenstein himself notes that these data were all self-reported, and must be viewed as such.

Negative attitudes toward blindness Some activists feel that braille is not taught because 'braille equates to blindness and print equates to sight. If a teacher does not believe that a blind child can compete in terms of true equality then the teacher will settle for, and even praise, inferior performance' (Mullen, 1990). The political battles over perceptions of blindness and who will control the rehabilitation industry are on-going and occasionally intense (Vaughan, 1993; Jernigan, 1988, 1990).

Less stigma associated with being a 'non-reader' Much of the difficulty in organizing print literacy campaigns involves the problem of getting illiterate citizens to 'admit' they cannot read. This social sanction is mitigated for a blind person who does not read braille (Vaughan, 1993). Blind people seem to have 'social permission' to choose not to read. No high school, college or university makes the ability to read an entrance or graduation requirement for blind students. A blind person can say that he or she simply 'does not read braille' without the shocked reaction a sighted person might get when saying he or she cannot read print.

Method

In-depth interviews were conducted with four blind braille readers and three blind people who cannot read print and do not read braille. Three sighted subjects were also interviewed. All of the subjects were college educated, some pursuing advanced degrees. Issues raised by one interviewee were used as a basis for beginning the next interview. When later interviews suggested new themes, interviewees were occasionally contacted again to further discuss these ideas and issues. Representative quotes or (in some cases) paraphrases were selected from transcripts or notes of the conversations. As far as possible, questions were open-ended and interviewees were encouraged to talk freely on the topics of braille, reading, and illiteracy. This was done in an attempt not to bias the interviewee in any direction and to allow a free flow of ideas.

After the interviews, subjects' responses were sorted into categories for presentation. The data are presented as completely as possible here. Most subjects seem to consider the issue in terms of speech synthesis/recordings vs braille access to texts and computers.

Results: variables affecting literacy

Reading speed Although it is one of the first issues mentioned by experts as contributing to the problem of illiteracy, reading speed does not seem to be important to readers. Non-readers had no comment on the subject of reading speed or even how fast they might be able to read if they used braille.

(Braille readers)

- DG Speech is much slower. Even if you adjust the tape recorder so the person sounds like Mickey Mouse on helium, it's still slower than braille.
- EF I have braille access on my computer, but it's very slow. As far as the speech is concerned, speech is much faster access.

Independence and Privacy Braille readers volunteered that they felt access to braille was key to independence. They tended not to want sighted help or to minimize it when it was absolutely necessary. Non-readers did not feel they were making compromises. They also valued personal autonomy, but did not see literacy as a means to that end. They possess the means to accomplish the same goals as sighted or reading peers so their overall sense of mastery remains intact. AM in particular expressed a sense of inter-dependence as opposed to what he sees as the 'rugged individualism' of his reading or sighted peers. Note however that he by no means lacks a strong sense of self-determination as evidenced by his vehement reaction to a local rehabilitation agency that he views as overly paternal.

- (Braille readers)
- DG If you don't know the system, you would have to have a sighted person to help you do it.
- EF It's that independence that it gives you to do your job as well as a sighted person
- RF I put labels on papers and stuff I don't want to depend on people or wait and wait I hate having other people read my mail having someone I don't know know my damned business I like to depend on people as little as possible It's less frustrating Especially volunteers
- (non-Braille readers)
- PT I don't feel like I'm letting down independence
- AM I'm in a particularly good position because they pay someone to do all that stuff and he's there and is responsible
- AM From the perspective of vision, (there are) all kinds of things you can't do if you can't see I maximize the amount of control I can have given not seeing There's a lot of people who treasure what they think is their independence what I think they're missing is they don't see how dependent they are all along Do they grow their own food? Kill their own prey? There's a whole network of thousands of people
- AM [talking about a local rehabilitation agency] They like totally revamp you and it's kind of despicable They don't have any provision for somebody working it into their life plan They want to totally remold you It's infantilization Think of you as a child who has to be retrained like potty training, how to cook and take care of your clothing It's so patronizing in its fundamental attitude

Which is more 'blind'? Readers of braille feel that the ability to read braille makes them, in some way, more like their sighted peers Non-readers on the other hand, feel that braille increases the gap between them and the sighted world, evoking stereotypes of blindness

- (Braille reader)
- DG I suppose braille does make me feel more like a sighted person in a sighted culture This is in part, I think, because reading is reading, whether it be braille or print I view feeling like a sighted person in a sighted culture positively, though I know some would disagree This is not because I want to deny my blindness, but because I don't feel a need for my blindness to be a

primary identifier If I'm not wasting time wading through a bunch of 'cross-cultural' dynamics pertaining to being blind, I can spend more time dealing with professional concerns, making friends, just going about the business of life I guess I think that I want to minimize the time that I and others have to spend paying attention to blindness as difference Also, there are times when it's important to pay attention to the ways in which blindness makes us different, so it's kinda nice, I suppose, that reading doesn't have to be one of them

(non-Braille reader)

- AM It is true that I have an image of braille as making me more like a blind person ugly associations that are standard From when I was sighted and younger and saw how some blind people acted It seemed kind of pathetic, some of it Barely progressing along, tapping clumsily, and unclean and . who knew what, and I think I associate braille with some of those negative images It's true that I tend to think of thick, funny-looking books as part of a negative gestalt image of blindness Braille is a musty old-world image about blind people stuck away and that sort of thing [Tape] seems more sleek and high-tech

Braille = 'adjusted to blindness'? Many readers feel in general that failure on the part of a blind person to learn braille reflects an underlying lack of adjustment to the loss of sight Non-readers, understandably, object to this interpretation, seeing the issue of reading media as a choice between valid alternatives Braille is simply one method of accessing the printed word not necessarily the best one

(Braille reader)

- MM [in response to the question of why a particular person didn't learn to read braille] Maybe that person wasn't comfortable with their vision loss

(non-Braille reader)

- AM [in response to MM's statement] Sounds like someone's got some kind of school marmish It reeks to me of some kind of protestant, 'ethicky', prejudiced way of thinking It's a normative way of thinking They like their blind people to be a certain way They like their blind people to be nice disabled persons If I met this person I'd probably knock her lights out

Braille as Conformism to Sighted Mainstream Rather than seeing braille as a barrier between them and the sighted world, braille readers object to non-reading because it sets them apart from sighted people—all of whom can and do read. The emphasis here is on fitting in seamlessly so that no one need know there is a visual loss involved. Non-readers focus attention on the complexity and peculiarity of finger reading.

(Braille readers)

EF If I had to do it from memory or from a tape prompt I just think that'd be kind of klutzy.

EF That's what concerns me a lot. They'll be with an earphone or headphones and the tape might have their outline on it, and they'll be speaking, but you could tell. It's very obvious. There's a break in the flow. Some of those things are kind of obvious in some people.

MM Before my life here, I was in law school. I took a course called 'trial technique' where our final exam was we had to try a case in front of a group of jurors and I had my braille notes there, and I was giving my opening, and it was smooth because I had read it over. I had rehearsed it in my mind. I had practiced it before. And I think if I had to rely on a tape recorder there would've been a lot of stops and starts. It would have been jerky and I would have lost the jury's attention.

EF And also to a sighted audience I think that would be a distraction if they see somebody fiddling with a tape machine or listening or knowing that they have an earphone in. I mean, to me that would be obvious. If you're reading from a card that would look a little bit more natural even though you've got one hand on the card.

Definition of Literacy and Need for Reading Again, understandably, the groups differ dramatically in their functional definition of literacy. Readers take the 'hard line' equating literacy with unmediated visual or tactile reading. Non-readers take a more complex stance. They tend to define literacy in terms of the ability to manipulate text or to freely use the register of written English. Some feel the technology in the form of voice synthesis has obviated the need for reading. They emphasize intellectual ability to 'do the job' over direct perception of written characters as a defining feature of literacy.

(Braille readers)

RF If you don't have vision and don't read braille you're illiterate.

MM If you don't have access to the props then you are illiterate Only you will know if you can't walk the walk, and everyone else will know that you can't walk the walk if they take away your props [referring to computers with voice output, and spelling and grammar checkers, as 'props']

(non-Braille readers)

PT I know how to spell I'm Braille-illiterate maybe That's fair to say to an extent

AM I come on the scene at a time when I can leapfrog past braille I don't need it to take notes with because I've got that covered with my little tape recorder I don't need it to read because now I have a scanner and one of those Kurzweil things [a Kurzweil reading machine combines optical character recognition with voice synthesis output] and tapes and talking computers I just don't need it I 'sort of' need it for labeling things I wish some technology could leapfrog on that, too

AM Do I feel illiterate? It's an interesting, funny question hmm I don't feel illiterate because I feel I can manipulate text I guess the feeling is that there's such an easy connection between manipulation of keystroke on computer and doing things with words and letters Of course I'm not illiterate, I type How does that apply to reading? I'm so skilled at manipulating the reading aloud of the words I can go one word at a time and have it spelled The connections between doing that and the visual process of reading are so strong that it feels like literacy

Relationship to and Control of the Hardware Non-readers must daily use tape recorders and computer equipment How they see their relationship with this equipment is important Readers feel that braille gives them 'a more direct connection' to the text and the ability to move at their own pace through the written work, permitting contemplative pausing Technology in the form of tapes and discs is a barrier to this freedom At least one non-reader reports feeling a connection with the instrument of reading itself (the tape player) akin to the relationship between a musician and a musical instrument

(Braille reader)

DG Not only is speech slower when you want it to go faster, but you have less flexibility in varying the speed with which you read a given bit of text, and to control the speed, you can't simply let your hands or eyes stop or slow down, but you have to begin pushing buttons and changing knobs When a word is spoken, it evaporates into the air, and is forever gone. One can linger over a written word, savoring it, pondering it, fitting it into context,

and so on While one can go back and replay a tape, this involves added activity, and repetition rather than contemplative pausing Perhaps this is a literary thing, but often when reading a text, I will be struck by the author's choice of a given word, and sort of hang there for a moment, thinking about why s/he might have chosen that particular word or phrase

(non-Braille reader)

- AM I manipulate tapes so easily I can pause over the word that way I've been known to replay a phrase five times if I want to get exact words. I can slow down Some people are natural musicians They just meld or merge with their instruments They don't experience the barrier that they're working with bulky, mechanical objects Their own energy flows and continues on over the instrument . and I feel relatively like that with cassette recorders

Interpretation of and 'Distance from' Texts In addition to resenting the 'barrier' of the tape recorder, readers express the idea that silent reading puts them in a more intimate relationship with the text and its author. Non-readers either welcome the narrator's interpretation or ignore it without noticing

(Braille reader)

- DG To me, there is greater distance between text and reader, there is a go-between, the person reading, or the speech output software Some of those readers are dreadful I guess that's part of it too, speaking implies at least some level of interpretation I have refused to read [i.e. listen to recordings of] certain books just because I didn't like the tone of a reader's voice or the way s/he dealt with questions of phrasing But when I'm reading, I'm the one in charge of interpreting, and the only voice I have to deal with is the one inside my own imagination It seems so exciting and limitless'

(non-Braille reader)

- AM I find it enriching There's enough room in my mind to accommodate both the author and reader as people I'm visiting Whatever the reader is doing doesn't affect my interpretation of what the author is saying It adds a dimension. I can extrapolate from the reader what the author is saying, including punctuating it differently I'm doing an extra thing in my mind Sometimes, I get the same book read by the Library of Congress and by RFB or you know the way RFB books are typically read by a string of readers It's fun to have them switch

What does it mean to 'read'? It was noted during the course of interviews that blind and sighted people may have quite different notions of what *literacy* and *reading* mean, and different levels of awareness of the role of reading and writing in their daily lives

When sighted interviewees were asked whether they would learn braille if they went blind, their responses focused mainly on the relative desirability of being able to read books and magazines. Braille readers, when asked what they used Braille for, produced more extensive lists with books and magazines not featured especially prominently. In addition to literature of various sorts, braille readers mentioned labeling CDs and canned goods, writing down and looking up telephone numbers, and writing to-do lists or notes to themselves. Sighted people seem less aware of their own use of literacy for such mundane tasks.

Blind and sighted people also seem to use the word *read* somewhat differently. Sighted people typically use *read* to refer to deliberate intake of information which is then stored for later use. *Look at* is used for incidental, automatic, or cursory 'reading'

- (1) Craig looked at all the boxes of cereal, and decided to buy the Fruity Pebbles
- (2) Kean read all the boxes of cereal, and found out which one had the least fat and sodium
- (3) Jordan looked at the lid of the McDonald's cup, it said 'DIET - OTHER'

For at least some braille readers, the usage of *read* is much more general. It can refer to any utilization of written forms

- (4) Berit read the lid of the McDonald's cup, it said 'DIET - OTHER'
- (5) Hali read the elevator buttons, and pressed 6.
- (6) Jason read his watch, it was nine o'clock
- (7) With her left hand, Sheri read the phone number off the card in her pocket, and with her right she dialed the pay phone

This 'Whorfian effect' might be important. If newly blind people are using the sighted community's definition of *read*, they might not feel compelled to learn Braille. If 'reading' is only for books, then books on tape may suffice. Many blind people share the metaphorical use of *look at* in a restricted sense, encompassing only things that are read in a cursory way. Such speakers are able to use *read* for any information that will be acted upon, like the label of a CD, or the time on a watch.

Harman (1987) and Street (1992) talk about 'different literacies' By thus, they mean the various genres in which a particular reader might be expected to perform well For example, some homemakers who have difficulty with other reading tasks may possess what Harman calls 'domestic literacy' an ability to easily read within the confines of recipes, instructions or other domestic activities Perhaps the at-a-glance intake of knowledge is an example of a little-noted 'mundane literacy'

Conclusions

The purpose of this study was to investigate what sorts of issues are important to those who consider learning to read braille It has yielded some interesting directions for future research into literacy in the blind community Much of what was gleaned from the initial interviews seems self-explanatory the natural reaction of human beings justifying choices they have made Still, the issues they chose to mention reveal aspects of the complex interplay of social forces and individual differences that come into play when choosing a reading medium It is hoped that, with the acknowledgement that braille literacy is not entirely the same as print literacy, this sort of research will be useful someday in the successful implementation of a more effective braille literacy campaign

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